

October 7, 2019

PROPOSAL

TRANSMITTED VIA EMAIL ONLY

- To: Zoe Rodriguez del Rey Water Resources Manager Coachella Valley Water District ZRodriguezdelRey@cvwd.org
- From: Edwin Lin, PG, CHG, Principal Hydrogeologist
- Re: Proposal for Indio Subbasin Alternative Plan Five-Year Update for Submission to the California Department of Water Resources in Accordance with the Sustainable Groundwater Management Act

INTRODUCTION

Todd Groundwater (Todd), in partnership with Woodard & Curran (W&C), is pleased to submit this scope of work and cost estimate to prepare the Indio Subbasin Alternative Plan five-year update (Plan Update) for submission to the California Department of Water Resources (DWR) in accordance with the Sustainable Groundwater Management Act (SGMA). Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), and Indio Water Authority (IWA) collectively represent the Indio Subbasin Groundwater Sustainability Agencies (GSAs). In January 2017, the GSAs submitted to DWR the 2010 Coachella Valley Water Management Plan (2010 WMP), accompanied by a Bridge Document, as an Alternative to a Groundwater Sustainability Plan (GSP).

On July 17, 2019, DWR approved the Alternative Plan with a requirement to submit a Plan Update by January 1, 2022. The purpose of the Plan Update is to assess the implementation status of the Alternative Plan and, consistent with the goals of the 2010 WMP, evaluate whether current and future water demands in the Indio Subbasin are being reliably met in a cost-effective and sustainable manner. To comply with SGMA, the Plan Update must be completed in accordance with GSP regulations and address DWR recommendations presented in the Indio Subbasin Alternative Assessment Staff Report.

This proposal presents proposed services to complete the Plan Update. The scope of work includes thirteen tasks that include the following components:

- Task 1: Project Management
- Task 2: Assessment of the Alternative Plan (2010 WMP)
- Task 3: Development of a Work Plan to complete the Plan Update
- Task 4: Development / Implementation of a Stakeholder and Public Outreach Plan
- Task 5: Description of Hydrogeologic Conceptual Model / Groundwater Conditions
- Task 6: Update of Water Demand Projections and Water Supplies
- Task 7: Re-Evaluation of Projects and Management Actions
- Task 8:Groundwater Modeling (to support Water Budgets, Project Impacts
Evaluation, and Sustainability Criteria)
- Task 9: Establishment of Sustainability Goals and Criteria
- Task 10: Establishment of a Monitoring Plan
- Task 11: Update of Emerging Issues (including Salinity Management, Climate Change, Salton Sea Restoration, and other challenges)
- Task 12: Update of the Implementation Plan
- Task 13: Development and Submittal of the Plan Update to GSAs, public, and DWR

Estimated costs for each of the proposed thirteen tasks are subdivided into discrete subtasks to facilitate project coordination, scheduling, and budget tracking to ensure timely completion of interim and final deliverables. As presented in the project schedule, the scope of work culminates in the preparation and submittal of the Final Plan Update to DWR by January 1, 2022, incorporating public comments following a 45-day public review period of the Draft Plan Update.

The scope of work will be performed by the GSAs' On-Call SGMA Support consultant team, Todd and W&C. The project will be directed by Edwin Lin, Principal Hydrogeologist with Todd and a California Professional Geologist (PG) and Certified Hydrogeologist (CHG). His team includes the following senior team members:

- Rosalyn Prickett, Principal and Senior Water Resources Planner with W&C, will lead the public and stakeholder outreach development and implementation and supervise development of water demand projections and supply;
- John Ayres, Technical Manager with W&C, will provide SGMA guidance and support;
- Iris Priestaf, President with Todd, will serve as Technical Supervisor to ensure the technical competence and quality of the data collection and analysis, conclusions, and all deliverables;
- Daniel Craig, Senior Hydrogeologist with Todd, will lead groundwater modeling tasks.

In addition to internal staff, Todd and W&C will be supported by two subconsultants, Graham Fogg and Associates (GFA) and David J. Ringel Consulting Engineer (DJR). GFA is the original developer of the Coachella Valley groundwater model and brings valuable institutional knowledge of the groundwater model development and its application to water planning in the Indio Subbasin. DJR led the planning and water demand projection efforts for the 2010 WMP and has been recently involved with improving estimation of water demand and

irrigation return flows in the Indio Subbasin. GFA and DJR will provide needed documentation of the existing model and water demand and return flow assumptions used in the 2010 WMP. They will also provide technical review of the groundwater model update and simulations completed by Todd.

The Plan Update approach and scope of work by task and subtask is presented below. The proposed schedule of charges and schedule are provided as attachments at the end of this proposal.

PLAN UPDATE APPROACH

Our goal is to develop a Plan Update guided by the 2010 WMP goals and objectives and providing compliance with SGMA. To do so, we will leverage the institutional framework, evaluation approaches, communication channels, and other successful processes developed for the 2010 WMP. We recognize the Plan Update must also consider existing water management programs, including CVWD's Replenishment Assessment Charge (RAC) program and the Coachella Valley Integrated Regional Water Management (IRWM) planning process, as well as coordinate with neighboring basins. Specifically, the objectives of the Plan Update are as follows:

- Bring forward the knowledge and successful planning and evaluation approaches developed for the 2010 WMP
- Comply with GSP regulations, incorporating BMPs as applicable
- Make best use of data and analysis tools/methods
- Identify and evaluate relevant projects and management actions
- Establish meaningful sustainability criteria
- Coordinate with participating GSAs and adjacent GSAs
- Provide transparency through comprehensive technical documentation and effective stakeholder and public outreach and communication

The Plan Update is intended to provide a framework to provide maximum benefit to local groundwater users. Accordingly, our goal is to develop a "fit-for-purpose" Plan Update that meets the needs of the Indio Subbasin first, moves forward with a level of detail commensurate with available data and basin issues, and considers a long-term view of adaptive management. Implementing high-value projects and management actions that meet local sustainable criteria is a key objective. In compliance with the regulations, analyses must demonstrate how these projects achieve and maintain sustainability. We will evaluate new projects and management actions as well as those currently being implemented or under consideration by the GSAs and stakeholders.

A key component of the Plan Update is the update and application of the Coachella Valley (Indio Subbasin) groundwater flow model (model) developed originally by CVWD. The model will be used to simulate groundwater response to historical, current, and future conditions, evaluate the impacts to groundwater from changing land use, projects, and management actions, and support the establishment of sustainability criteria. The model was originally developed in the late 1990s and was adapted to support the 2010 WMP and other basin management programs. However, physical coverages and data sources needed to develop model inputs (e.g., recharge and pumping) need to be updated. Additionally, the data sources, tools and methods used to analyze the data and prepare model input files, calibration, and simulation results have to be documented to allow current users to update and apply the model and offer basin managers the transparency needed to understand the model's accuracy and performance. Accordingly, this proposal includes a step-wise approach to assess the existing model, improve its performance (as needed), and apply the model to simulate future conditions to support the Plan Update.

The proposed Plan Update also considers emerging issues, such as the status of the SNMP. It will also identify a groundwater monitoring program that leverages existing monitoring programs in the Indio Subbasin to reliably track groundwater level, storage, and water quality response over time. A key well network and monitoring and reporting program will be developed to ensure SGMA compliance.

Assembling the technical information for the Plan is relatively straightforward, but obtaining stakeholder buy-in on the Plan Update can be a challenge. Accordingly, this proposal recognizes the importance of working collaboratively with stakeholders to develop a common understanding of hydrogeologic and water supply/demand conditions, define sustainability criteria, and evaluate and prioritize existing and new projects and management actions.

SCOPE OF WORK

A description of the proposed scope of work, divided into thirteen tasks, is presented below.

Task 1. Project Management

This task will cover project administration and communication between the consultants (Todd, W&C, GFA, DJR) and GSAs for the duration of the project. Three tiers of project coordination/communication are envisioned. This includes consultant team coordination calls (between consultants only), project coordination calls (between CVWD and consultants), and GSA meetings. The GSA meetings are intended to function as workshops to facilitate exchange of information and results, encourage discussion and feedback on analysis results and completed draft deliverables, and provide guidance on future analyses and deliverables.

Task 1.1. Consultant Team Coordination Calls

Weekly one-hour phone calls between Todd and W&C staff are included to coordinate staffing, task schedule and progress, and meeting preparation for the entire 115-week duration of the project. Coordination calls will be used to facilitate data and information exchanges, to discuss progress, and address items requiring action to ensure tasks progress smoothly. Conference calls may be split into 30-minute segments to allow for additional key staff to participate on a given call or to reserve time for more intensive periods when more coordination is required. Conference calls between Todd and GFA/DJR are also included to coordinate model-specific activities.

Task 1.2. Project Coordination Calls

It is envisioned that project coordination calls between Todd and CVWD (and other GSAs) would occur on a bi-weekly basis on average. The purpose of the project coordination call is to discuss project progress, data and information needs, meeting coordination, outreach, and other exchanges to ensure the project scope, schedule, and budget remain on track. The Todd and W&C team will obtain feedback from CVWD on components of the Plan Update including technical memos, assessment of current Alternative Plan, work plan for Plan Update, SGMA projects and management actions, sustainability goals, and management criteria. Costs for up to fifty-eight (58) one-hour project coordination calls are included.

Task 1.3. Kickoff and GSA Meetings

We will facilitate and attend in-person the project kickoff meeting, assumed to occur soon after approval by the GSAs (assumed to occur on October 22, 2019). Project objectives, scope of work, schedule and expectations regarding project management will be reviewed with the GSAs. Additionally, the core representatives for each of the four GSAs (GSA Core Team) will be identified during the kickoff meeting.

We will participate and facilitate in twenty-six (26) monthly meetings with the GSA Core Team, tentatively scheduled to occur on the 4th Wednesday of each month. The GSA meeting schedule is offset from the IRWM planning meetings that occur on the second week of the month. Costs assume attendance in-person once a quarter (for a total of 9 meetings). Webenabled conference calls are assumed for the other two monthly meetings per quarter (for a total of 17 conference calls).

GSA meetings are envisioned as workshops to discuss data collection, review progress, identify data gaps, present technical conclusions, and make recommendations for proposed tasks and prior to preparation of key deliverables. We will develop agendas, handouts, and meeting notes. The GSA Core Team will provide written and verbal feedback on all Plan Update information and contribute to decisions about technical methodologies, data, and analyses.

Task 1.4. Budget Tracking, Invoicing, and Progress Reports

Invoicing, budget and schedule tracking, and progress reporting will occur on a monthly basis extending over the 27 months of the project.

Task 1.5. Call with DWR

We will support the GSAs in scheduling and will participate in a one-time phone conversation with DWR to seek guidance and understand the DWR's expectations for Plan Updates for Alternative Plans. The phone conference is expected to last two hours. Preparation time is included in the cost.

Task 1 Deliverables:

- Monthly progress reports and combined invoices
- Notes and action items from GSA Meetings and Project Coordination conference calls

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Task 2. Assess Existing Alternative Plan

The initial task for this project includes data collection and the assessment of the status and performance of the Alternative Plan. We will review growth and water demand and supply projections, evaluation methods, and implementation assumptions used to develop the 2010 WMP. This work will be led by W&C staff. Additionally, we will document the existing groundwater model, methods/assumptions used to simulate future conditions and projects for the 2010 WMP, and existing model performance through WY 2018-2019. This work will be coordinated by Todd, with most of the work to be completed by GFA with assistance from DJR. Findings and recommendations will be documented in a technical memorandum (TM), providing the basis for development of the Work Plan for the Plan Update (Task 3).

Task 2.1. Collect Data

Following contract approval and receipt of a notice-to-proceed, we will prepare and submit to the GSAs a formal data request identifying the key datasets needed for the Plan Update. Responsible agencies and the preferred method for data sharing and tracking will be identified to ensure efficient and coordinated efforts. At a minimum, the data request will include the following:

- DWR well completion reports (for supply/irrigation wells and monitoring wells)
- Well construction information
- Groundwater elevation
- Groundwater extraction
- Groundwater quality
- Surface water quality
 - o Imported SWP, CRW, recycled water
 - o WWTP effluent discharges
- Surface water deliveries
- Water use by type
- Conservation studies/status reports
- GIS coverages of:
 - o Land use
 - o Annual crop reports
 - o Jurisdictional boundaries
 - o Wells, agricultural drains
 - o Replenishment facilities
 - o Treatment plant discharge locations
 - o Septic tanks
 - o Geology and faults

For water monitoring data, we will work with the GSAs to identify the appropriate time periods for individual data types to be collected to allow for evaluation and documentation of historical trends.

Task 2.2. Assess Water Demand and Supply Projections

We will review then-existing land use and growth and associated water demand and supply projections in the 2010 WMP and compare with actual changes in land use, growth, and water demand and supply conditions that have occurred since the WMP was developed.

Projected versus actual project implementation related to water conservation, new supply sources, groundwater recharge, source substitution, and water quality protection will also be evaluated.

Task 2.3. Document WMP Model Simulation Assumptions, Inputs and Results

The existing CVWD Indio Subbasin groundwater model (model) will be used to support the Plan Update with the following specific objectives:

- Development of historical, current, and future water budgets
- Evaluation of groundwater response to proposed projects and management actions
- Simulation of future groundwater conditions (including groundwater levels, storage and water budgets through WY 2069-2070) in response to future baseline conditions, with-project/program scenarios, and consideration of climate change
- Prediction of future groundwater conditions to support establishment of sustainability goals and criteria

Prior to applying the model to simulate baseline historical and future conditions, a thorough documentation is needed of the existing model input source data, key assumptions, preprocessing databases, spreadsheets, programs, and GIS files used to develop the recharge and pumping model input files. The existing model documentation will provide needed transparency to identify (1) the appropriate steps to incorporate more current land use data and water demand estimates, well coverages, and observation data through WY 2018-2019 in a cost-effective manner and (2) adjustments to improve the model's predictive performance for the Plan Update.

This task includes an all-day meeting that we envision will be a "hands-on" workshop stepping through the input data pre-processing procedures, using the spreadsheets, databases, and programs used to construct the MODFLOW input files.

GFA and DJR will work collaboratively to prepare a TM describing the existing model inputs, including source data, pre-processing tools/methods, and assumptions on future conditions/projects incorporated in the model for the 2010 WMP Update and other updates performed since 2010.

Todd will collate electronic copies of all spreadsheets, databases, data files, programs, and GIS files used to pre-process and post-process the model simulations.

Task 2.4. Document Current Model Calibration Results

Results of the model runs for the 2010 WMP will be evaluated to verify model performance through WY 2018-2019. Todd will provide GFA with simulated water levels and drain flows to

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use as observations to compare model performance from WY 1996-1997 to WY 2018-2019. GFA will prepare a TM documenting current (baseline) model calibration that includes observed-simulated water level hydrographs and contour maps and observed-simulated drain flow charts. Recommendations will be provided in a TM identifying an appropriate strategy to incorporate measured (or more current estimates of) water level, pumping, water use, and return flows in the model.

Task 2.5. Prepare TM – Alternative Plan Assessment and Recommendations

Findings and recommendations from Tasks 2.2 to 2.4 will be documented in a Draft TM to be circulated to the GSAs for review. Comments will be incorporated in a Final TM. This TM will provide the basis for development of the Work Plan for the Plan Update (Task 3).

Task 2 Deliverables:

- TM Alternative Plan Assessment and Recommendations
- TM Calibration Results of Existing Model

Task 3. Develop Work Plan for Alternative Plan Update

Following the completion of Task 2, we will develop a refined Work Plan that incorporates recommendations in the Alternative Plan Assessment and Recommendation TM.

Task 3.1. Evaluate Options and Identify Preferred Approach

We will identify and discuss the pros the cons of Plan Update report structure and contents. We will work closely with the GSAs to identify the preferred methods to revising water demand and supply projections, updating the groundwater model, and addressing DWR Staff Assessment of the Alternative Plan.

Task 3.2. Establish Project Milestones and Deliverable Schedule

Project milestones and deliverable and meeting schedules will be developed based on the agreed-upon approaches to items in Task 3.1 and confirmed with the GSAs prior to finalizing.

Task. 3.3. Develop Schedule/Protocols for Internal, Project, and GSA Deliverable Review

We will confirm the protocols for coordinating conference calls, GSA meetings, public workshops, and tribal outreach communications. Review periods for the GSAs for proposed deliverables will be identified on a TM-specific level, given the variability in the volume, sensitivity of content, and interrelationships between certain deliverables.

Task 3 Deliverables:

• TM Work Plan for Alternative Plan Update

Task 4. Develop and Implement Stakeholder and Public Outreach Plan

Successful development of the Alternative Plan Update will depend on efficient outreach, education, and communication, and facilitation between the GSAs and local stakeholders. Stakeholder engagement includes efforts made to understand stakeholder concerns, educate

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stakeholders on SGMA efforts, and involve stakeholders in the activities and decision-making process. W&C will lead this effort for the consultant team.

Task 4.1. Develop Communication Plan

The consultant team will initiate the Communication Plan with the GSAs (hereafter the "Core Team"), identifying and describing the activities necessary to engage stakeholders and the public. The Communication Plan will be developed consistent with the Scope of Work proposed here, within the framework of the Alternative Plan Update outline that incorporates GSP components.

The Communication Plan will address outreach challenges including: building trust between residents, agricultural interests, and environmental interests; language barriers and the need for translation; relation to ongoing tribal litigation; and the need for strong but transparent facilitation.

The Communication Plan will address:

- Explanation of the GSAs decision-making processes
- Identification of opportunities for public engagement
- Discussion of how public input will be used
- Descriptions of how GSAs will encourage active involvement of diverse social, cultural, and economic elements of the population
- Descriptions of the methods used to inform the public about GSP implementation
- Development of a project schedule
- Data review and evaluation
- Discussion of public access to existing and future monitoring data

Draft and final versions of the Communication Plan will be developed for review and approval by the Core Team.

Task 4.2. Develop and Maintain Stakeholder List

We will develop and maintain a stakeholder outreach list for the Alternative Plan update process. This includes drafting email notifications at project milestones and announcing workshops.

Task 4.3. Develop Website and Outreach Materials

We will develop bilingual website text and layout for the Alternative Plan Update. This scope assumes that CVWD will host the website with information (text and graphics) provided by W&C.

A Fact Sheet will be developed to explain the purpose and regulatory requirements for GSPs, as well as how the 2010 WMP serves as the basis for the Alternative Plan. This task includes development of up to three additional handouts or flyers explaining key information for the project. We will work with the Core Team so that handouts and flyers are distributed effectively. The engagement strategy will produce documents in English and Spanish.

Task 4.4. Public Workshops

Nine (9) public workshops will be held on a quarterly basis, coinciding with in-person GSA meetings. The public workshops are intended to inform stakeholders of the Plan Update progress and solicit input on key decisions made throughout the process. Public workshops to address the Plan Update will include outreach to, at minimum, tribes, DACs, and agricultural and golf sectors. Draft and final agendas, presentations, handouts, and meeting notes will be prepared by W&C to encourage public engagement and provide workshop documentation. For costing purposes, it is assumed the public workshops will be two hours in duration and occur the day after the GSA meeting to minimize travel costs.

Task 4.5. Targeted Outreach to Tribes

Targeted outreach to the tribes within the Indio Subbasin will be conducted to ensure that the technical assumptions and approach used in the project are understood. This outreach includes up to five semi-annual meetings with tribal representatives and will occur on the same day as the public workshops (assumed to occur the day after in-person GSA meetings to reduce travel costs). Draft and final agendas, presentations, handouts, and meeting notes will be prepared to encourage tribal participation and ensure proper workshop documentation. For costing purposes, it is assumed the tribal outreach meetings will be two hours in duration and occur the same day as a public workshop to minimize travel costs.

Task 4.6. Outreach and Communication Documentation

This task documents the outreach, education and communication performed during GSP development. Documentation will include identification of participants, the nature of consultation with parties affected by the GSP, a list of public meetings held where the GSP was discussed or considered by the GSA, and a collection and posting of comments received regarding the GSP. Meeting summaries and/or presentations will be compiled and included in an appendix of the GSP. All outreach documents and presentations will be provided in both English and Spanish to accommodate the primary languages of community members. This task will also be used to maintain the interested parties' list that documents people or entities who express interest in the GSP.

Task 4 Deliverables:

- Draft Communication Plan
- Stakeholder List
- Development of a Bilingual Website
- Fact Sheets and up to 3 Flyers/Handouts
- 9 Public Workshops
- 5 Tribal Outreach Meetings
- Meeting materials, agendas, and summaries
- Compilation of all outreach performed for submittal with Plan Update

Task 5. Develop Hydrogeologic Conceptual Model and Groundwater Conditions

The Indio Subbasin has been described briefly in the 2010 WMP; our approach to Task 5 is to build on this previous work and the Bridge Document to update and document the institutional, land use, hydrologic, and geologic setting of the Indio Subbasin Plan Area. Documentation in this task will support definition of historical, current, and future study periods for the water budget; the water budget will be assessed using the numerical model and will be documented in Task 8.

This task will provide consistency with GSP Regulations and—more importantly—will provide a comprehensive context for the sustainability analyses. This task will be coordinated with Task 4 outreach and will involve systematic presentation of the institutional and physical context for everyone to have a chance to consider and comprehend.

Task 5.1. Develop Introduction to Basin Setting

This task will build on and summarize Plan Area information from the 2010 WMP and the Bridge Document. It will include description of the Plan Area as needed to introduce the Basin Setting (Hydrogeologic Conceptual Model and Groundwater Conditions in subsequent tasks) and to provide relevant information for later evaluation of sustainability criteria, monitoring, and management actions. This will include provision of updated information on land use, water demand, water supply sources, and water management projects. Maps will be provided as needed for example showing institutional boundaries and service areas, major surface water features, replenishment facilities, well distributions, agricultural drains, water reclamation plants, septic tank distributions, and updated land use.

Task 5.2. Describe Basin Geometry

This task will build on hydrogeologic information from the 2010 WMP and the Bridge Document. Using text, cross-sections, and maps, this task will summarize and update the description of the hydrogeologic conceptual model including local geologic setting, lateral basin boundaries, definable basin bottom, geologic features influencing groundwater flow, and principal aquifers and aquitards in the Indio Subbasin Plan Area.

Task 5.3. Construct Detailed Hydrogeologic Cross Sections

Two detailed hydrogeologic cross-sections of the Indio Subbasin will be developed. Detailed cross-sections will provide insight into the regional geologic and structural setting of the Indio Subbasin and provide geologic context for regional and local groundwater flow, groundwater quality distribution, and groundwater/surface water interactions. The cross sections will help communicate the spatial relationships between regional and localized aquifers, aquitards/aquicludes, and groundwater extraction that have been incorporated in the groundwater flow model. A detailed cross section of hydrogeologic conditions in the East Valley near the Salton Sea is particularly valuable for explaining the complex relationship between groundwater extraction, surface water deliveries for agricultural use, groundwater replenishment at the Thomas E. Levy facility, capture of shallow groundwater in agricultural drains, and subsurface flows between the Indio Subbasin and the Salton Sea over time.

Task 5.4. Document Historical and Current Groundwater Conditions

Groundwater elevation data, hydrographs, and water quality data will be used to describe historical and current groundwater conditions. Consistent with DWR regulations, groundwater recharge and discharge areas will be delineated. Maps and figures will be used to describe (1) groundwater response to WMP elements, including groundwater recharge, source substitution, water conservation, and other programs over time and (2) surface water-groundwater interactions and, in turn, support the evaluation of Groundwater Dependent Ecosystems (Task 5.5).

Our emphasis is to characterize the groundwater system to set the stage for evaluation of undesirable results, minimum thresholds, and measurable objectives with regard to groundwater levels, groundwater in storage, land subsidence, interconnection with surface water, salt water intrusion, and groundwater quality. These evaluations will rely primarily on the water level databases maintained by DWR and the GSAs. Groundwater contour maps prepared for the GWMP and annual reports for the Alternative Plan, along with other reports, will illustrate groundwater flow and water levels over time. Appropriate study periods will be defined to examine the aquifer response to trends of wet and drought cycles as evidenced in hydrographs and historical maps.

<u>Groundwater Levels</u>: Current groundwater elevation contour maps for each principal aquifer will be developed to aide in the assessment of current groundwater conditions including flow directions and gradients, and seasonal highs and lows. Hydrographs at representative monitoring sites will be updated or developed for each principal aquifer to document longterm trends, historical high and low water levels, and hydraulic gradients between principal aquifers and increase understanding of interconnected groundwater/surface water systems, land subsidence and groundwater dependent ecosystems.

<u>Groundwater Quality</u>: Understanding the vertical and horizontal distribution of target chemicals in groundwater is essential for establishment of sustainability criteria related to groundwater quality. Accordingly, we will identify and map key constituents of concern (COCs). We will develop regional-scale maps showing the ambient well concentration for target chemicals. We will work with the GSAs to determine the appropriate concentration statistic to show on each map (e.g., recent average, median, or other upper percentile, or detection frequency for organics). Depending on the number of wells with historical organics detections, grouping may be warranted. To the extent data are available, the maps will utilize aquifer assignments (shallow or deep) for evaluated wells already completed as a part of the 2015 Draft SNMP. The new maps will then be compatible with the already constructed shallow and deep aquifer maps for TDS and nitrated presented in the SNMP.

To illustrate contrasts in groundwater quality by depth, we will utilize vertical water quality cross sections covering the Indio Subbasin previously developed for CVWD, IWA, and CWA for various studies. The cross sections show the screen interval depth of wells, color-coded based on chemical concentration ranges. These have been developed using available well construction and groundwater quality data. Groundwater information will also be used to prepare plan-view maps showing representative concentrations of COCs with time-concentration plots for selected wells. Vertical hydrogeologic cross sections will be prepared

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for COCs that have a sufficient distribution of sampling/analysis and frequency of detection above respective reporting limits. Based on review of historical water quality, we assume that the target COCs for water quality cross sections will include only hexavalent chromium, total dissolved solids (TDS), and nitrate. Additional COCs for plan-view maps may include arsenic, PFOS/PFOA, and perchlorate.

An updated map showing locations of known areas of groundwater contamination will be included in the Plan Update.

<u>Groundwater Pumping</u>: Annual volumes and snapshots of spatial distribution of groundwater pumping over time will be documented in annual bar charts and maps. Historical pumping by water use sector will be depicted to the degree that data will allow to identify recent trends.

Land Subsidence: Text and maps will be developed describing the current extent, cumulative total, and annual rate of land subsidence. We will check for updates to the TRE Altamira InSAR Dataset, provided by DWR through the SGMA Data Viewer, currently showing vertical ground surface displacement from June 2015 to June 2018. Land surface elevation data for the three USGS stations identified in the WY 2017-18 Annual Report – Palm Springs Airport, College of the Desert - Palm Springs, and Thermal Airport – will also be used to update the status of land subsidence in the Indio Subbasin. Additionally, we will incorporate findings from an ongoing USGS study of local land subsidence conditions based on data collected from 2010 to 2017.

Task 5.5. Prepare Draft Chapters - Plan Area, HCM, and Groundwater Conditions

We will prepare administrative draft and draft chapters describing the Plan Area, HCM components, and groundwater conditions (including water levels, storage, and water quality). Comments received on administrative drafts will be incorporated into Draft Chapters for inclusion in the Administrative Draft Plan Update.

Task 5.6. Identify Groundwater Dependent Ecosystems (GDEs)

Methodologies to assess connected surface water and groundwater and to identify GDEs were relatively undeveloped at the time of Alternative Plan submittal and DWR maps of Natural Communities Commonly Associated with Groundwater (NCCAG) were not yet available. However, our team has developed a comprehensive and meaningful approach that includes desktop study, field assessment, reporting in a GDE Technical Memorandum (TM), and summation in the Alternative Plan Update document. W&C will take the lead on this effort.

<u>Preliminary Desktop GDE Assessment</u>: Using GIS, we will conduct a preliminary desktop analysis of the DWR (NCCAG) geospatial data set. We will also review other readily available, public information, literature, and geospatial data resources that may be used to characterize the existing natural resources, vegetative communities, threatened and endangered species, hydrology, hydrogeology, ecological setting, and water quality of the proposed project area. Data resources include, but are not limited to, the following:

 Aerial photography, including USDA-NRCS National Agricultural Imagery Program (NAIP) data and Microsoft Bing aerial imagery

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- United States Geological Services (USGS) 7.5-minute topography
- USGS Geological Survey Hydrologic Atlas: National Hydrography Dataset (NHD) and USGS Hydrologic Unit Code (HUC) 8-digit maps
- USDA-NRCS Soil Surveys
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data
- USFWS Critical Habitat mapper
- National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) mapper
- NRCS land use/land cover and conservation plan data
- California DWR list of impaired (303d/305b) waters (latest approved)
- United States National Vegetation Classification (USNVC) data
- USFWS Information for Planning and Consultation (IPaC) online data
- California Department of Fish and Wildlife (CDFW) Biogeographic Information and Observation System (BIOS)
- CDFW California Natural Diversity Database (CNDDB)
- LIDAR (as available for the project counties)

If the data resources above are sufficient, we will develop a basin-wide geospatial data set and mapping of "probable GDEs" and "probable non-GDEs" within the Indio Basin. The data set and mapping will be used to assess potential impacts to GDEs and state and federal protected species resulting from management decisions related to the Alternative Plan Update.

<u>GDE Field Assessment</u>: We will complete a preliminary field assessment of GDEs based on the results of the GIS analysis of NCCAG and other geospatial data sets. The field study will be conducted only on publicly accessible lands (including road right-of-way, parks, state/national forests, etc.) where the NCCAG data set indicates potential presence of GDEs. The field study will include general observation and documentation of the following ecological information:

- Plant communities
- Aquatic or semi-aquatic wildlife
- Indicators of surface and subsurface hydrology
- Presence of hydric soils
- State and federal protected species habitat(s)
- Other relevant ecological and hydrological data

Photographs will be taken at GDE field assessment locations to document the ecological setting and hydrologic regime. Global Positioning System (GPS) points will be collected at the field assessment locations. Areas of known or potential protected terrestrial and aquatic species habitat(s) and migratory bird habitat will be incorporated into the field assessment as appropriate. Preliminary determinations will be made at field assessment locations as to whether an area would be classified as a GDE.

<u>GDE Report Preparation</u>: We will develop a GDE Technical Memorandum documenting the project description and purpose, GDE study methods, results, and discussion. The report will include a project narrative, GIS figures, photographic appendix, and references. It is

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anticipated that this report will be include as an appendix and summarized in the Update document.

Task 5 Deliverables:

- GDE Technical Memorandum (to be attached as an appendix)
- Administrative Draft and Draft Chapter for Plan Area
- Administrative Draft and Draft Chapter for Hydrogeologic Conceptual Model
- Administrative Draft and Draft Chapter for Groundwater Conditions

Task 6. Water Demand/Water Supply

This task provides assessments of water demand and water supply; this is consistent with the established water management planning approach of the 2010 WMP Update that provided water demand and supply projections with five-year intervals out to 2045. This task will provide similar comparison of water demand and supply into the future, will inform Task 7 identification and evaluation of projects and management actions, and will inform consideration of water budgets and future conditions for numerical modeling. W&C will take the lead on this task.

Task 6.1. Update Water Demand Projections

The WMP Updates have used 35-year projections in its last two plans, thus a 2020 Update could project through 2055. However, SGMA only requires water demand projections for 20 years, through 2042. We will work with the Core Team to identify a final projection end date and then will use a data-driven approach to update demand projections based on anticipated changes in land use and urban growth. We will compile historical population and housing growth data, identify vacant lands slated for development, and work with Southern California Association of Governments (SCAG) and Coachella Valley Association of Governments (CVAG) to establish likely growth scenarios. Those scenarios will be validated against historical growth trends. Water production and billing data will be compiled for the water agencies within the Indio Subbasin. Water demands will then be calculated based on unit factors for each use sector, assuming both active and passive conservation savings. Water demand projections will consider forthcoming AB1668 indoor and outdoor water use standards. This proposal assumes data available through end of water year 2019 (September).

Task 6.2. Update Conservation Goals

The 2010 WMP presents water conservation as a management plan element, including discussion of goals and projections of water conservation savings. We will provide updates on water saving goals and performance, including consideration of upcoming reports such as the Urban Water Management Plan.

Task 6.3. Update Water Supply Projections

This task will provide an update of the Water Supply discussion in the 2010 WMP; we will evaluate water supply availability for current conditions and for the future (as defined in Task 6.1). W&C will evaluate State Water Project (SWP) reliability per DWR's *SWP Delivery Capability Report* and Colorado River reliability per the *Lower Basin Drought Contingency*

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Plan. W&C will coordinate with Todd to establish update projected water supply based on available imported water for recharge. W&C will also evaluate projected supply from local surface water diversions and other supplies such as water purchases or transfers from water agencies in the Central Valley. We also will document recycled water supply from local water reclamation plants, including the uses of recycled water for irrigation of landscaped areas and for replenishment of groundwater. Future potential water recycling (for example from City of Coachella and Valley Sanitary District) will be discussed.

Groundwater supply will be addressed in this section, commensurate with the discussion of other water supply sources; a detailed water budget for the groundwater basin will be documented in Task 8.4 as part of the update of the groundwater flow model. That discussion in Task 8.4 will provide details on groundwater inflows, outflows, and change in storage on an annual basis for historical, current, and future periods, consistent with GSP Regulations. For this Task 6.3, current average inflows and outflows (for example, over a ten-year period) will be compiled into a summary table along with projected groundwater inflows and outflows. Potential overdraft will be discussed in Task 8.

Water use data will be summarized by water use sector and water source type including method and accuracy of measurement and reported in a table.

Task 6.4. Evaluate Effects of Climate Change on Supply Reliability/Vulnerability

We will evaluate the effects of climate change on supply reliability and vulnerability, identifying each of the Indio Subbasin supply sources (current and future) and characterizing the relative risk profile of each source. This task will characterize each source's expected disruption under each risk element and will evaluate conceptually the magnitude of the impact on each source.

Task 6.5. Identify Future Shortfalls in Water Supply

The project team (Todd and W&C) will provide an overall assessment of water demand and supply. Completion of this task will be pending results of Task 8 modeling and will incorporate findings of the numerical model analysis to identify shortfalls in future supply and the groundwater balance.

Task 6 Deliverables:

• Administrative Draft and Draft Chapter for Water Demand / Water Supply

Task 7. Identify Projects and Management Actions

This task includes the evaluation of projects and management actions (previously referred to in the 2010 WMP as Plan Elements). We will evaluate new projects and management actions as well as those currently being implemented or under consideration.

Task 7.1. Re-Evaluate Projects and Management Actions

We will identify and prioritize projects and management actions that are being implemented or may be implemented (as well as identifying those projects/actions that are no longer

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technically or economically feasible). This will also include adaptive management actions that might be implemented should groundwater conditions not adequately respond to implementation of the Alternative Plan Update.

Projects and management actions to be considered will be solicited as part of the outreach strategy, and will potentially include, but will not be limited to, these identified options:

- Demand management and water conservation programs
- Method or framework for water accounting
- Improved managed aquifer recharge capabilities
- Groundwater banking of CRA and SWP supplies
- Groundwater banking and/or non-potable use of Coachella Canal supplies
- Water exchanges between sub-basins
- Purchase of new supplies
- Non-potable reuse of wastewater
- Education on and subsidies for agricultural water conservation
- Capture of local stream flood flows for recharge of the groundwater basin
- Development of a groundwater storage and recovery program

Task 7.2. Evaluate Project Feasibility, Concept Design, and Costs

This task will identify projects and management actions for consideration as part of Alternative Plan implementation. Each project or management action will be collected, described, and analyzed for effectiveness. Projects deemed as sustainable and reliable sources of water will be identified by stakeholders and compiled. This task will identify the benefits and limitations of each project option. Analyses will include evaluation of water supplies added (average yield, reliability, and variability), estimated project and unit water costs, project schedule, potential challenges, and water quality components. For each project, we will develop project descriptions, maps of project facilities, order of magnitude cost estimates, and other relevant documentation as needed to accurately describe each option. This task will assess up to six potential projects focused on contributing toward a longterm water supply solution for the Indio Subbasin.

In performing this task, it is expected that the groundwater model updated in Task 8 will be used when appropriate, and other analysis methods will be used in areas where the model is not appropriate. Benefits of each alternative will be quantified to the degrees possible. For example, increases in groundwater levels and storage may be determined based on with- and without-project model simulations. The description of each project and management action will include, but will not be not limited to:

- Detailed description, per regulations
- Cost estimates and funding mechanisms
- Public notice and outreach process
- Summary of permitting and regulatory process
- Explanation of benefits

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- Explanation of regional and project economic benefits and/or impacts
- Explanation of how the project will be accomplished
- Explanation of the source and reliability of water if imported supplies are a part of the project
- How the project is supported by the best available science
- How uncertainty is considered
- CEQA/NEPA considerations
- Overall acceptability

This task will culminate in a list of projects to be further analyzed and prioritized.

Task 7.3. Prioritization of Projects and Management Actions

We will perform an assessment of numerous alternative water management scenarios projects, programs, and management actions or strategies—for managing groundwater use sustainably. Prioritization methodology will be discussed with stakeholders and a ranking system will be developed. The prioritization will consider at a minimum, water supply, water quality improvement, environmental components, and regional and economic benefits. Once the prioritization process is established, projects will be scored and ranked. As part of this process, each of the projects and management actions identified above will be prioritized. Projects meeting the most objectives and ranking the highest will be recommended for implementation.

Task 7.4. Develop Management Program

We will develop the management program that documents and plans the implementation of projects and actions in the plan area. The objective of the management program will be to achieve the basin's sustainability goal by including projects and management actions that will allow the basin to avoid undesirable results for each of the sustainability indicators in the future. The management program will identify management options, research and vet the management options, and select management options for implementation. The management program will identify implementation hurdles and provide a program summary. The program summary will describe how the program will meet sustainability targets and forecast the effectiveness of the program, as well as provide a list of management options.

Task 7 Deliverables:

- Management Program
- Assessment of up to six potential projects
- A prioritized list of projects and management actions
- TM Administrative Draft and Draft Chapter Projects and Management Actions

Task 8. Groundwater Flow Modeling

The Coachella groundwater flow model (model) will be used to simulate groundwater response to historical, current, and future conditions, evaluate the impacts to groundwater

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from changing land use, projects, and management actions, and support the establishment of sustainability criteria. The existing model was previously adapted to support the 2010 WMP and other basin management programs. However, physical coverages and data sources needed to develop key model inputs such as recharge and pumping have not been comprehensively updated in the model since 1996. Accordingly, this proposal includes a stepwise approach to update the model through WY 2018-2019 and use it to simulate historical and future baseline and with-project scenarios.

Task 8.1. Complete model update revisions - update datasets using new GIS pre-processors

Upon completion of the existing model review (Task 2), Todd will prepare a new GIS-based source data management and pre-processing system and prepare the updated recharge, pumping, and boundary condition data sets and MODFLOW input files. Prior to simulating future conditions, assumed recharge and discharge rates in the historical model since 1996 will be updated with actual rates or improved estimates to provide a valid historical simulation through WY 2018-19. Todd will work with GFA to update the database GIS and MODFLOW input files.

Task 8.2. Perform Updated Historical Simulation through WY 2018-2019

For this task, Todd will run and post-process the updated model for the period from WY 1996-1997 through WY 2018-2019. GFA will provide technical review the updated model calibration and water budget output, as compared with the baseline model results to assess the effects of changes in recharge, pumping, and boundary condition inputs. Todd and GFA will jointly provide recommendations on any additional changes to the input data sets needed to improve model validity.

Task 8.3. Perform Limited Local Improvements

Following Task 8.2, we will compare simulated and observed water levels and drain flows through WY 2018-2019. If deemed appropriate, we may perform limited adjustments to selected model inputs to improve model performance. Improvements may include adjustment to (1) consumptive use and irrigation return flow factors applied to specific land use types, (2) lateral model boundary conditions, or (3) localized model layer elevations to better distribute pumping. Basin-wide changes to model geometry, layering, or aquifer hydraulic property distributions are not included, nor anticipated to be needed. GFA will provide technical guidance on model adjustments proposed by Todd, review revised model simulation results, and provide recommendations for the future simulations.

Task 8.4. Develop Historical and Current Water Budgets

The historical and current model water budget through WY 2018-2019 will be evaluated to assess local and regional groundwater storage changes, identify areas of depletion, and quantify benefits of managed aquifer recharge and other water management programs. Amounts of recharge and discharge, flow between subareas, surface water features, and drains will be tabulated. Historical water balance results will provide a baseline for simulation of future conditions and effects of management actions.

Task 8.5. Simulate Future Conditions through WY 2069-2070

Hydrologic data and assumptions of future hydrologic and land use conditions will be developed (Task 8.5.1) and predictive model input data sets constructed for the period WY 2019-2020 through WY 2069-2070. These will include future land use, projected water use and return flows, future groundwater development and pumping, future boundary conditions including Salton Sea levels, potential effects of climate change, and existing or planned projects and management actions.

We will work with the GSAs to develop implementation assumptions for prioritized projects and management actions evaluated in Task 7 for inclusion in future model simulations. The model will be applied to analyze these strategies individually and/or in combination to provide a basis for development of sustainability criteria and minimum thresholds. The groundwater model will analyze these strategies against a baseline future scenario, following guidance in the regulations on future water budgets. As per the regulations, various climate change scenarios, currently under development by DWR, will also be considered in the analysis. Predictive simulation results will be compared with the established sustainability goals (Task 9) for basin water levels, storage, subsidence, and surface water/GDEs. Model results will also be used to inform predicted future water quality conditions, as compared with water quality sustainability criteria.

Estimated costs for this task assume up to five future model simulations. Assumed scenarios include one (1) Future No-Project (Baseline) Scenario, three (3) with-Project Scenarios, and one (1) with-Project Scenario incorporating the effects of climate change.

Task 8 Deliverables:

• TM Administrative Draft and Draft Chapter – Groundwater Modeling Documentation and Water Budgets

Task 9. Establish Sustainability Goals and Management Criteria

Existing information from the WMP and CVWD Engineering Reports will be used as the foundation for understanding the monitoring needed to detect future undesirable results, and to identify how to establish sustainable management criteria for the Indio Subbasin. Each of the sustainable management criteria will be developed with significant input from the Core team and interested parties. If management area-specific criteria are developed, a specific rationale will be provided.

Task 9.1. Establish Sustainability Criteria and Goals

The sustainability goals for basin water levels, storage, water quality, subsidence, and surface water/GDEs will be defined. As appropriate, sustainability goals for individual management areas and subareas will be developed. An explanation of how the sustainability goal is likely to be achieved and maintained through the planning and implementation horizon will be developed.

Task 9.2. Evaluate Undesirable Results

An undesirable result narrative will be developed for each sustainability indicator. Conditions

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in the Indio Subbasin will be evaluated to determine if undesirable results are currently occurring. The evaluation of undesirable results will include a description of the potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results. Documentation will include a description of methodology used to identify undesirable results, and maps of the locations of any undesirable results that are occurring, based minimum thresholds.

Task 9.3. Assess Minimum Thresholds

Minimum thresholds for each sustainability indicator will be established directly using representative monitoring or proxy monitoring to detect conditions indicating undesirable results. The methodologies used to set minimum thresholds will be documented and will explain how the thresholds selected will prevent the occurrence of undesirable results. Minimum thresholds will be presented using maps, graphs, and tables.

Task 9.4. Identify Measurable Objectives and Interim Milestones

This task will develop the measurable objectives, interim milestones and a margin of operational flexibility, in conjunction with the minimum threshold task. These sustainability criteria will be established directly on representative monitoring or proxy monitoring to cover each sustainability indicator. The methodologies used to set the sustainability indicators will be developed and documented. Objectives and indicators will be presented using maps, graphs, and tables.

Task 9 Deliverables:

Administrative Draft and Draft Chapters – Sustainable Management Criteria

Task 10. Establish Monitoring Plan

A representative monitoring network will be developed by selecting a subset of the monitoring network for the Indio Subbasin. The representative monitoring network will be developed for water levels and water quality; an analysis will be conducted to identify the appropriate representative networks or identification of proxy monitoring for storage, groundwater quality, seawater intrusion, subsidence, and surface water interaction.

Task 10.1. Establish Representative Groundwater Monitoring Network

We will update the monitoring network and monitoring protocols with the collection of data of sufficient quality, distribution, and frequency to characterize groundwater and related surface water conditions and to track changes, including short-term, seasonal, and long-term trends, in accordance with GSP regulations. We assume that the existing monitoring networks and protocols used by the GSAs will provide a strong starting point for the Plan Update. Monitoring will likely need to be expanded beyond current programs to include the ability to monitor for each of the minimum thresholds or to address technical deficiencies and/or data gaps.

Groundwater and surface monitoring in the Indio Subbasin Plan area have been conducted for decades. Accordingly, historical and current monitoring programs provide many

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opportunities for designation of representative sites, including wells that have been long monitored and deemed suitable for the CASGEM program with appropriate well construction information. Consistent with GSP Regulations, these will be evaluated and documented in terms of distribution (areal and vertical) and density, suitability to monitor sustainability indicators, and representation of general conditions in an area.

Task 10.2. Establish Surface Water, Drain, and Land Subsidence Monitoring Plan

Surface water, drain, and land subsidence monitoring will support assessment of progress toward measurable objectives for sustainability indicators. Thirteen USGS gaging stations measure streamflow in the Indio Subbasin with one measuring flow into the Salton Sea and two measuring inflow of Colorado River Water (CRW) for groundwater replenishment (GWR).

Land subsidence in the Coachella Valley will continue to be monitored in cooperation with the USGS. The four-year study started in 2014 by CVWD and USGS is analyzing changes in the land surface from 2010 to 2017. The available GPS data collected at the Palm Springs Airport (PSAP), College of the Desert (COTD), and Thermal Airport (TMAP) will be used to establish a land surface elevation change map which will be included, evaluated, and discussed in the Plan Update. DWR mapping of land surface displacement also will be reviewed.

Task 10 Deliverables:

Administrative Draft and Draft Chapter of Monitoring Plan

Task 11. Update Emerging Issues

Potential challenges to water management in the Indio Subbasin were identified in the 2010 WMP. These include water quality challenges (salinity management and new COCs), Salton Sea restoration, climate change, and subsidence, among others. This task will include review of previously identified emerging issues and new issues with the GSAs and development of approaches and narratives to address these concerns.

Task 11.1. Assess SNMP Status and Approach to Address RWQCB Findings

We will work with the GSAs to review the current state of the Coachella Valley Salt and Nutrient Management Plan (SNMP), including the current perspective and anticipated actions of the Regional Water Quality Control Board – Colorado River Region. We will confirm whether groundwater quality mapping proposed in Task 5 may be useful in demonstrating progress by the GSAs in addressing salinity management concerns.

Task 11.2. Identify Additional Emerging Concerns

We will work with the GSAs to address additional emerging issues, such as changes in water quality regulations related to hexavalent chromium and PFOS/PFOA compounds. Groundwater quality concerns expressed by DWR in the Staff Plan Assessment report will be addressed in the HCM (Task 5).

Task 11 Deliverables:

Administrative Draft and Draft Chapter – Emerging Issues

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Task 12. Update Plan Implementation

We will develop the Introduction and Executive Summary chapters of the Plan Update. The Introduction will include:

- A list of references and technical studies relied upon for development of the update
- Agency information for the GSAs, including points of contact, legal authority to update the plan, and the management structure of each agency.

The Executive Summary will include summaries of the contents of the Alternative Plan Update, including:

- Administrative information,
- Basin setting,
- Sustainable management criteria,
- Monitoring networks, and
- Projects and management actions.

Draft version of the Introduction and Executive Summary chapters will be developed and circulated to the Core Team.

Task 12.2. Plan Implementation

Following on the evaluation of past plan performance, the project team will develop/update the Plan Implementation chapter for the CVWMP Update. This scope assumes that Projects and Management Actions chapter will remain stand-alone and the Implementation chapter will focus on policy or programmatic decisions relative to plan implementation.

The Plan Implementation chapter documents how implementation actions will be performed and work together to maintain compliance with the regulations and to achieve sustainability. The implementation plan will include the management program, implementation schedule, GSP costs and funding, data management updates, model updates, and other GSP implementation activities. The Plan Implementation will include the following activities:

- Implementation Schedule and Reporting Develop the GSP's implementation schedule, which will document when various GSP components will be conducted. Describe the activities and timing of activities needed to prepare the annual GSP report and the 5-year update reports required by regulations.
- Implementation Costs and Funding Prepare cost estimates to determine the expected costs of GSP implementation. The cost analysis will consider monitoring activities, data management activities, implementation of projects and management actions, GSAs management (staff costs and overhead costs), as well as reporting costs for the annual reports and 5-year updates and reporting required by regulation. It will describe how the GSAs will fund GSP implementation. Potential funding mechanisms may include the use of grants, assignment of fees and fines, income from water market management (if used), and other methods as identified during analysis. The

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description of funding will be developed with input from GSA representatives and will consider legal limitations and hurdles (such as Proposition 218) to funding options.

- *Parties Affected by GSP* Identify and describe the parties potentially affected by the GSP and the nature of consultation with those parties. The description will include the land uses and property interests affected, and the types of parties affected.
- Effects of Undesirable Results on Beneficial Uses Evaluate the potential effects of undesirable results on beneficial uses in the basin. Evaluation will consider all six undesirable results, and their effects on beneficial uses of groundwater such as: domestic uses, municipal uses, irrigation uses, industrial uses, federal lands, disadvantaged communities, and other uses including property interests. Disadvantaged communities will be especially considered as the GSP has potential to affect many aspects of the communities, from employment to the availability of health care. If undesirable results are thought to be currently occurring, this task will evaluate the effect of these undesirable results on beneficial uses.
- Groundwater Model and Data Management System Implementation Document how the groundwater model will be used and updated during future GSP implementation, especially at the 5-year updates. Include data updates, future model runs and calibration, and how model use will be documented. Planning will also guide the GSP's use of the DMS during implementation. This task will describe the methodology to be used to collaborate and collect data from other agencies, and state and federal agencies. DMS maintenance activities and quality assurance/quality control (QA/QC) planning for data to be entered into the DMS will also be documented.

Draft and final versions of the Plan Implementation chapter will be developed and circulated to the Core Team.

Task 12 Deliverables:

- Draft Introduction Chapter
- Draft Executive Summary Chapter
- Administrative Draft and Draft Chapter for Administrative Information
- Administrative Draft and Draft Chapter Implementation Plan

Task 13. Develop and Submit Alternative Plan Update

Draft chapters of the Plan Update developed under the previous tasks will be compiled in an initial Plan Update document. Time for review and comment by the GSAs and incorporation of comments received are included. For costing purposes, we assume that an initial Administrative Draft and three revisions (Screencheck Draft, Public Draft, and Final) are needed. An Administrative Draft will be prepared for the Indio Subbasin GSAs staff to review and provide comments. These comments will be incorporated into a Screencheck Draft subject to an additional internal review to ensure that comments were appropriately managed. A Public Final Draft will be prepared to allow sharing with stakeholders and general public. Comments received will be incorporated in a Final Plan Update. For costing purposes,

electronic submittal of all draft documents is assumed. Final delivery of 10 hard copies of the Final Plan Update is assumed.

Task 13.1. Outline, Style Guidance & Administrative Record

Based on the Plan Assessment TM, Project team will develop a GSP outline that will be used for the GSP document development. This task will also prepare a GSP report style guide for distribution to authors during GSP development. The style guide is valuable for guiding report authors during report writing to ensure report sections are formatted similarly and use consistent terminology when describing GSP components.

This task will also include tracking references used during GSP preparation in the form of an Administrative Record. GSP regulations require that a copy of every reference used in GSP preparation that is not easily available be included with the GSP submission. This task will collect copies of all references used in the report for compilation and submittal along with the completed GSP.

Task 13.2. Prepare Administrative Draft Alternative Plan

Project team will prepare an administrative draft of the GSP and supporting appendices. The administrative draft will be reviewed by the Core Team staff and other stakeholders involved in the GSP development process. After comments on the administrative draft are received, they will be compiled and a response to comments will be prepared. Comments incorporated into the GSP will be used to prepare the public draft of the GSP.

Task 13.3. Prepare Screencheck Draft Alternative Plan

Project team will incorporate all Core Team comments on the Draft Alternative Plan and provide a track version for their review, to confirm correct incorporation of all comments.

Task 13.4. Prepare Draft Alternative Plan

Project team will incorporate GSA comments on the Screencheck Draft Alternative Plan and prepare a public draft of the Alternative Plan and supporting appendices. The Draft Alternative Plan will be circulated for public review and comment.

Task 13.5. Prepare Final Alternative Plan

Project team will prepare a Final Alternative Plan and supporting appendices. After comments on the public draft are received, they will be compiled and a response to comments document will be prepared. Comments on the Draft Alternative Plan will be used to prepare the Final Alternative Plan. Once finalized, the Final Alternative Plan will be adopted by the GSAs and submitted to DWR by January 31, 2022.

Task 13 Deliverables:

- GSP outline and style guidance
- Administrative Record
- Response to comments matrices (3)
- Electronic version (PDF format) of Administrative Draft Alternative Plan

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- Electronic version (PDF format) of Screencheck Draft Alternative Plan
- Electronic version (PDF format) of Public Draft Alternative Plan
- Electronic version (PDF format) of Final Alternative Plan
- 10 printed copies of the Final GSP
- Appendices for GSAs and DWR submittal

COST ESTIMATE

The estimated costs by task are summarized below.

Estimated Project Costs

	Task	Total
1. Projec	t Management	\$277.725
2. Assess	Existing Alternative Plan	\$174,044
3. Devel	pp Work Plan for Alternative Plan Update	\$13,981
4. Devel	pp and Implement Stakeholder and Public Outreach Plan	\$102,977
5. Const	uct Hydrogeologic Conceptual Model and Describe	\$117,562
Grour	dwater Conditions	
6. Water	Demand / Water Supply	\$85,782
7. Re-Ev	aluate Projects and Management Actions	\$77,134
8. Grour	dwater Flow Modeling	\$394,995
9. Establ	ish Sustainability Goals and Management Criteria	\$82,427
10. Estab	ish Monitoring Plan	\$19,049
11. Updat	e Emerging Issues and Plan SNMP Update	\$12,216
12. Updat	e Plan Implementation	\$28,343
13. Devel	op and Submit Alternative Plan Update	\$94,953
	Total Costs	\$1,480,186
	Contingency	\$75,000
	Total Costs (+ Contingency)	\$1,555,186

A schedule of charges by labor category along with a budget breakdown showing estimated hours by subtask is provided as an attachment at the end of this proposal.

A project contingency of \$75,000 (roughly 5% of total project costs) is included to account for additional levels of effort not possible to foresee at this time. The contingency may be applied to accommodate additional public workshops, tribal meetings, and/or stakeholder coordination. Additionally, for the groundwater modeling tasks, we have estimated levels of effort in updating and predicting land use, recharge parameters, and future scenarios to be simulated. Contingency may be useful for additional modeling efforts associated with analysis and simulation of complex land and water use scenarios and simulation of additional management actions and, in turn, future scenarios beyond the 5 scenarios assumed in Task 8.

SCHEDULE

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The proposed project schedule is attached at the end of this proposal. As shown in the schedule, we assume the project will commence upon receipt of a notice-to-proceed following Board approval on October 22, 2019. We have sequenced tasks to allow for the progressive build-up of technical knowledge leading to the submission of the Plan Update to DWR by the January 1, 2022 deadline.

We appreciate the opportunity to provide a proposal on this interesting project and stand ready to initiate the project on your approval. Please feel free to contact us with any questions or comments that you may have.

Job Name: Alternative Plan Update - Task Order 2 Client: Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority Date: 107/7219

Job	Number:	PROPOSAL

						2019			-			5.00	10.00					- 22						-		2020	-					1							10	
TASKS / SUBTASKS	Frequency /	Time Commitment	T,	1 2	3 4	5 6	7 8	9 1	0 11	12 13	14	15 1	6 17	18 19	9 20	21 22	2 23 2	24 25	26	27 21	8 29	30 31	32 3	33 34	35 36	37 3	3 39 4	10 41	42 43	44 45	45 47	48 4	9 50	51 52	53 54	55 56	57	58 59	60 61	62 63
	Duration	(not me. prep time)	07 14	21 28	04 11	18 25	02 09	16 2	3 30	06 13	20	27 0	3 10	17 24	4 02	09 16	5 23 3	30 06	113	20 2	7 04	11 18	25 3	00 10	15 22	29 0	13 2	20 27	01 10	17 24	31 07	14 2	1 28	ST 12	19 26	02 09	16	23 30	07 14	21 28
CVWD Board Approval (Oct 22, 2019) / Finalize Contract								Π			Π								Π																		Π			\square
Task 1 - Project Management																_																							_	
1.1 Consultant learn coordination call	weekly / 1-hr	115 calls = 115 hrs											1		-					-			H												-	F				
1.2 Project coordination call - consultant and CVWD (Monday)	bi-weekly / 1-hr	58 calls = 58 hrs		_					-			_				-	-	-						-	_										-					
Kickoff meeting	Once / 4 hr	1 mtg = 4 hrs		1												-						_																		
In-person meeting	quarterly / 3-hr	9 mtgs / 27 hrs				2					-			5							~		8							11							14			
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1.4 Budget tracking, involcing, and progress reports	Once / 2-hr	27 periods = 61 hrs		+ +		+ + -		+ +	+		+ +			-		-	+ +			-		+													-		++	+		++-
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2.1 Collect data										-																		-		-										
2.2 Assess water demand and supply projections											-									_					_										_	F		_		
2.2.1 Compare projections and alsoumptions									+		+ +	-	+-+		++	+	++	+	+	+	+	+	+ +	-	-		++	++	++	+		++	+-+	-+-+	-	++-	+	+ +		++-
2.2.3 Compare projected and actual project implementation														_		_								-				_												
2.3 Document WMP model simulation assumptions, inputs, and results															TT	_								-	_			_							_					
2.3.1 Provide detailed documentation of model inputs and pre-processing tools									+		+	-	+	-	+		++	+	+	-	+ $+$	-	+	+	-		++-	+	++			++	+ $+$			++	++	+ +		-+
2.4 Document current model calibration results										_						-																-			-					
2.5 Prepare TM - Alternative Plan Assessment and Recommendations																								_	_		_													
Deliverable TM Alternative Plan Assessment and Recommendations				++	++	++	++	+		•	+ +		+ +	+	+ +	+	++	+	+	+	+ $+$		+-+		-		+	+ +	+	-+		++	++	++	-	++-	+	+ +		++-
GGA ROYAW AND FORDAUCK											LI																1													
Task 3 - Develop Work Plan for Alternative Plan Update									_		-			_				_																	_					
3.1 Evaluate options and identity preferred approach	-				+ +	++	++	+ +	+	-			++	+	+-+		++	+	+	+	+	+	+ $+$	+	-	++-	++	+++	++	++	+	+ +	+++	-++	-	\vdash	++	++		
3.1.2 Demand and supply projection update								-			-					_																								
3.1.3 Model update																				_					_			_			_				_					
3.1.4 DWR Alternative Plan comments																														_										
3.3 Develop schedule/protocols for internal, project, and GSA deliverable review																																	++				+			
3.4 Prepare TM - Work Plan																									_															
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Task 4 - Develop and Implement Stakeholder and Public Outreach Plan									_					_		_						_								_				_						
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4.2 Develop and maintain stakeholder list													-		1					-	1 1			-																
4.3 Develop website and outreach materials	Quadath (2 hr	D mins x 18 bra						1 +	-		1 1	-	1 1				1 1-	-	1-1		1 1						11	+ +	-1-1	- 1		1 1	+ +	1 1	-		1 1	1		
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4.6 Outreach and communication documentation	Age of the second second second second second												1		1.1						1 1							-	1		1.1		1	11						
Task 5. Construct Hydromeologic Concentral Model and Describe Groundwater Condition														_						_	- -	_												_			+ +			
5.1 Develop introduction to basin setting	ens								-		+ +	-	++	+	+	+	+ +-		+	-+-	++	+	++	+			++	++	++	-+-+	-	++	++		+ 1	\vdash	++	-+-+		<u>++</u> -
5.2 Describe basin geometry																-		_				-																		
5.3 Construct detailed hydrogeologic cross sections											1					_	-	_		-				_					_			+ +			_					
5.4.1 Groundwater levels										-			+-+		+ +	+	++	+	+	+	+-+	+	++	+ 1			++	+ +	-++		-	++	++	++		+	++	+ +	-	++-
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5.5 Prepare Draft Chapters Plan Description, HCM, and Groundwater Conditions	· · · · · · · · · · · · · · · · · · ·					++	++	+			1 1		+ +		1-1	+	++	+	+		+-+		++	+	-		++	++	++	-+-+		++	++	++		iπ the second s	++	+ +		
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5.6 Identify Groundwater Dependent Ecosystems (GDEs)													1																											
5.6.1 Preliminary desktop GDE assessment												_		_				_						-		-														
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6 3.3 Groundwater									1					-							1-1-			-			++	++												
6.4 Evaluate effects of climate change on supply reliability/vulnerability														-						-									-										-	
6.5 Identify future shortfalls in water supply			_											-				_		-		_												-	_			-	_	
Deliverable TM Draft Chapter Water Demand and Supply										_									-	-			1-1-																	

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Job Name: Alternative Plan Update - Task Order 2 Client: Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority Date: 10/7/2019 Job Number: PROPOSAL

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IASKS / SUB IASKS	Duration	(not inc. prep time)	04 1	Jan 1 18	25 01	Feb 08 1	5 22	01 08	Mar 15	22 29	05	Apr 12 19	26	03 10	May 17 24	31 0	7 14	Jun 21 28	05	Jul 12 19	26	02 0	Aug 9 16	23] 3	30 08	Sep 13	0 27	0411	Oct	25 0	1 08	Nov 15 2	29	06 1 13	Dec 3 20	27 7	03 1 10	Jan 17	24	31
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COWD Board Approval (Oct 22, 2013) / Pinanze Contract				11																																		1.1		
Task 1 - Project Management				-	_			_		-	1 1	-	1 1	-			+	1	+ +	-		-					-				+ +	-	+ +	-		-				-
1.1 Consultant learn coordination call	weekly / 1-h	115 calls = 115 hrs			-		11		1	-	1 1		1				-			-	1 1					-							1 1	-		-	-		1-1	-
1.3 Kickett and GSA meetings (4th Wednesday of month)	monthly / 3-t	27 mtns = 81 hrs																									-		-										1	
Kickoff meeting	Once / 41	1 mtg = 4 hrs	5		_			_				_	-				-			_		_				-			-								_	1		_
In-person meeting	quarterly / 3-h	9 mtgs / 27 hrs	-		-		17								20									23								26				_		1		
Web-enabled conference call	twice quarerty / 3-h	17 mtgs / 51 hrs	5		16					18			19					21			22						24		_	25				_	27					
1.4 Budget tracking, invoicing, and progress reports	monthly / 3-h	17 27 periods = 81 hrs								-		-	-						+	-			-			-	-		+			-	+			_	4	+	+	_
1.5 Call with DWR	Once / 2-h	11						-		-	+ +				_		-		+ +	_		_			_							_								-
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2.2 Assess water demand and supply projections	1			+ +	-		1	-	++	+	+ +	+	+ +				-	+	+				-									-					+	-		-
2.2.1 Confirm 2010 WMP projections and assumptions				-	_							_		-	_																									
2.2.2 Compare projected and actual land use, growth, and water demand												_										_																17		_
2.2.3 Compare projected and actual project implementation																				-			-		-	-			-				+ +	_		-	+	-		_
2.3 Document WMP model simulation assumptions, inputs, and results				_	-			_		_							_		-			-	_				_		_				+ - 1		-			'		_
2.3.1 Provide detailed documentation of model inputs and pre-processing tools				+	-		+ +	-	+	-	+	_	+	-			+	+ +	+ +		+ +		+	+	++	-	+		+	++	+ +	-	+ +	-+-	+-+	-+-	+	+-'	+ +	_
2.3.2 Meeting to review current model assumptions and pre-processing methodologies					_			_			1-1																													_
2.4 Document current model calibration results			++	++		+	+		++		+		+			++	-	++	++	-	+	-+-	+		+ +	-	+		-	+	+ +		+ +	-	+ +	-	+	+	+ +	_
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Task 3 - Develop Work Plan for Alternative Plan Update																													_							_	_			
3.1 Evaluate options and identify preferred approach								_		_		_			_		-			-		-	-		-	-	-		-	11	-	-	+ +	_	+ 1	-	+	-	+	_
3.1.1 Report structure / contents					_						-	-		_			_						_						-				-			-		'		_
3.1.2 Demand and supply projection update					-		-	-		_	-						_						_						-				+ +	-				+	++	-
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Task 4 - Develop and Implement Stakeholder and Public Outreach Plan										_				_			_	-		_			_					_				_		_	-					_
4.1 Develop Communication Plan				-	_		-	_		_	-			_			_				$ \rightarrow $		_		_				_				-	_			_		++	_
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Task 5. Construct Hydrogeologic Conceptual Model and Describe Groundwater Condit	ions		+	+	-	\vdash	+-+	-	+		+ $+$		+			\vdash	+	+ +	+ +	-	+	+	+		+ +	-	+	-	+	+	+ +	-	+		+ +	-+-	+	+	+	_
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5.4. Document historical and current groundwater conditions	1		1				11			-													-						-				1				-	1		_
5.4.1 Groundwater levels																			T																					_
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5.6.2 GDE field assessment and validation				-	_					-		-			-					_								_			_			_				-	1	
5.6.3 GDE report preparation												_																						_				1		
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Task 6 - Water Demand / Water Supply					_			_		_		-	-	_					-			_	-				-		_					_			-	+-'		_
5.1 Update water demand projections							+	-	+ +			_	-				_		-									-					++		1	-		+	+	_
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6.5 Identify future shortfalls in water supply																																								
6 6 Prepare TM Draft Chapter Water Demand / Water Supply				-				_	-			_		_			_						_	_		_		_	-		-					-		1		_
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Job Name: Alternative Plan Update - Task Order 2 Client: Coachella Valley Water District, Coachella Water Authority, Deseri Water Agency, Indio Water Authority Date: 1077/2019 Job Number: PROPOSAL

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TASKS / SUBTASKS	Duration (not inc. prep th	(a) Oct Nov Dec Jan 07 14 121 28 04 111 14 25 02 09 16 231 30 06 14 12 127 05 11	Feb Mar Apr May Jun Jul Aug 1 17 124 127 128 161 21 120 127 104 111 161 25 101 101 151 22 129 105 131 201 27 103 130 177 24	Sep Oct Nov Dec
GSA Review and Feedback				
Test 7. Dr. Evolutio Descriptioned Management & Key				
7.1 Re-evaluate projects and management actions		╉┼┽┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼		
7.2 Evaluate project feasibility, concept design, and costs				
7.3 Phontuzation of Projects and Management Actions				
7.4 Develop Management Program				
7.5 Prepare TM Draft Chapter Projects and Management Actions				
GSA Revenue and Freedback			┼┼┼╂┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼	
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Task 8 - Groundwater Flow Modeling				
8.1 Complete model update revisions - update datasets and use new GIS pre-processors				
8.2 Perform updated historical model simulation through WY 2018-19				
a 3 Perform limited local improvements		┉┫━┥═┼═┼═┟═┟═┟═┟═┟═┟═┟═┟═┟═┟═┨═┨╼┠═┠═┟═╢═	┥╾┼╾┼╾┼╾╿╾╿╴╎╴┼╾┥╾┥╾╎╴╎╸┦╸┨╸╢╺┽╶┼╶┦╍┼╸┫╴┥╴┥╴┦╸	★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
8.5 Simulate future model simulations through WY 2069-2070			┥╾┧╾┧╾┧╾┧╾┧╾┧╼┧╼┧╼┧╴┧╶╅╍╅═╽╾┧╍╬╼╢╍╡╼┨╼╡╼┨╼┨┱┨╌┨╼┨╼┨╼┨╼┨	
8.5.1 Define and incorporate future hydrologic and land use conditions				
8.5.2 Define and incorporate future projects and implementation schedule				
6.5.3 Simulate future baseline and with-projects scenarios				
8.5.4 Simulate effects of climate change				
8.6 Prenare TM Draft Chapter Groupduater Modeling Documentation			╶┨╼┨╼╂╼╫╶╢╼┠╼╫╾╫╴╢╶╢╼╢╼╫╼╢╶╢╼╢╼┨╼╢╴╢╴╢╴╢╸╢╼╢╼╢╼╢╼╢╼╢	┈╢╌╢╌╢╌╢╌╢╌╢╌╢╌╢╴╋╋╋╋╋╋╋
Deliverable TM Draft Chapter Groundwater Modeling Documentation and Water Budgets			╶╎╾╎╾┼╌┼╌╎╼╎╾┝╼┽╶┤╶┧╌┾┈┼╾╣╾┼╴┼╌┽╾┼╾╎╌╎╴╴┨╼╢╼╢╾╢╴┼╶┼╸┼╸╢╼╢╼╢	
GSA Review and Feedback				
Task 9 - Establish Sustainability Goals and Management Criteria				
9.1 Establish sustainability criteria and goals				
9.2 Evaluate undesitable results				
9.4 Identify measurable objectives and interim milestones				
9 5 Prepare TM Draft Chapter Sustainability Goals and Criteria				
Deliverable TM Draft Chapter Sustainability Goals and Criteria				
GSA Review and Feedback		╉┼┼┼┼┼┼╎┤┼┼┼╢╉┽┼╎┼┼┼		
Task 10 - Establish Montoring Plan			▞ᡖ╄╼┨╼┨╼┨╼╂╼┨╼┨╶┨╼┨╼╢╼╢╼╫╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╶╢╶╢╶╢	
10.1 Establish representative groundwater monitoring network (levels and water quality)		╺╉┼╍┽┽┼┼┼┼┽┽┽┼┼┼╂┾╍┼┼┼┼		
10.2 Establish surface water, drain, and land subsidence monitoring plan				
10 3 Prepare TM Draft Chapter Monitoring Plan				
Deliverable TM Draft Chapter Monitoring Plan				
GSA Review and Feedback		╺┎┫╴┥╌┥╼┥╼┥╼┥╼┥╼┥╼┥╼╿╌┥╼┨╼┥╼┫╼╷╎╌┥╼╽╍┼╍┤╴		
Task 11 - Undate Emerging Issues		╶╉┾╎╎┼┼┼┼┉┼┥┼┼╎┈┼╉┼┼┤┼┼	* * * * * * * * * * * * * * * * * * * *	─ ───────────────────────────────────
Task 11.1 Assess SNMP status and approach to address RWQCB findings				
Task 11.2 Identify additional emerging concerns				
Task 11 3 Prepare TM Draft Chapter Emerging Issues				
Deliverable TM Draft Chapter Emerging Issues				
GSA Review and Feedback		╺╴┠╾┼╌╎╼┼╼┼╼┼╼┼╼╎╼╎╼┝╼┼╼┠╾┼╸┠╌╎╼┼╼┝╸┼╴╎╴	╶╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼╢╼	
Task 12 - Update Plan Implementation				
12.1 Plan Introduction & Executive Summary				
12.2 Plan Implementation				
12.3 Prepare TM Draft Chapter Plan Implementation				
Deriverable TM Draft Chapter Implementation Plan				
GOA REVIEW and Feedback			┽╌╂╍╂╍╂╍╂╍╂╍┨╍┨╍┨╍┨╍┨╼┨╼╂╼╂╼╂╼╂╼╂╼╂╼╂╼┨╼┨┲┨┲┨╼┨╼	
Task 13 - Develop and Submit Alternative Plan Update				
13.1 Outline. Style Guidance & Administrative Record			: 2 · 2 · 2 · 2 · 2 · 2 · 2 · 2 · 2 · 2	
13 2 Prepare Administrative Draft Atternative Plan				
Deliverable Administrative Draft Alternative Plan				
USA Keview or Administrative Draft Alternative Plan			* * * * * * * * * * * * * * * * * * * *	
13 3 Propare Screencheck Draft Alternative Plan				╍┼╌┼╍╂╾┨╌╂╌╂╼╂╼╂╼┠╴╂╼╂╼╊╶┠╴╊╍╂╼┨╌┨╼╴
GSA Review of Screencheck Draft Alternative Plan	l	╶╂╌┞╶╄╌╄╼┞═┠╌╂╌╄╶╄╌╋╼╋╼╄╶╄╌┼╴┼╸	┼┼╁╂╀╀╀╀┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼	-++++++++++++++++++++++++++++++++++++++
13 4 Propare Draft Alternative Plan			╅╌┧╾╂╾┧╌┧╌╂╼┧╸┧╼┟╌┨╼┨╼┨╼┨╌┨╌┦╼╿╼┟╴┧╶┧╼╽╼┧╴┧╶┧╼╽╼╽╴┧╴┧╶┤	
Deliverable Draft Atternative Plan				
Public Review of Draft Alternative Plan (45 days + 45-day schedule contingency)				
13 5 Prepare Final Alternative Plan				
Deliverable Final Alternative Plan				
Adoption Resolution		-1	┨╾┟╴┠╌┧╼┟╼┟╴┼╶┠╼┧╼┿╍╢╼╀╶╎╼┦╼┿╍╿╴╀╶╢╼╋╼╋╴┨╼╽╼╿╼╢╶╢╶╢╼╢╼╢	
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Job Name: Alternative Plan Update - Task Order 2 Client: Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority Date: 10/7/2019 Job Number: PROPOSAL

	TABLE / BURTABLE	Frequency /	Time Commitment	64 65	66 6	7 68	69 70	71 7	2 73	74 7	5 76	77 7	8 79	60 8	81 82	83 8	4 85	86 1	87 88	202	90 91	92 93	94 95	96 9	7 98	99 100	101 102	103 104	105 1	06 107	106 109	110 111	112	13 114	115 1	2 16 117	022	120
10.4000 10.40000 10.4000 10.4000	IASKS / SUBINSKS	Duration	(not inc. prep time)	04 T 11	an 1 18 T 2	5 01 1	Feb 08 15	1 22 0	1 06	Mar 15 T 2	2 29	0511	Apr 2 19	26 3	03 1 10 1	May	4 [31	07 1	Jun 14 T 21	128	05 1 12	19 26	02 09	Aug 1 16 1 2	3 30	Sej 06 [13]	20 27	04111	Oct	25 01 1	Nov	T 22 T 29	06 T	Dec 3 20	27 0	3 1 10 1	Jan 17 24	131
	GSA Review and Feedback	1							-				-																							+++		+
	Task 7 Ba Evaluate Dreamber and Management Artigons						-		-								_				_		_		_					_							-	
	7.1 Re-evaluate projects and management actions				+	++	+	+	+		-	++	+		+ +		+ +	+ +	+	+ +	-			++	+ +	++	-+-+	-	+	+ +		++-	+ +	-		++	-	+
	7.2 Evaluate project leasibility concept design and costs								-								-		-														+ +					+
	7.3 Prioritization of Projects and Management Actions						-		+		-						-		+	+	-				+ +	-++		-	+			++				++	+-	+
	7.4 Develop Management Program								-										-					-												+ +		
Data of the function of the f	7.5 Prepare TM Draft Chapter Projects and Management Actions						-																													TT		
10.10000000000000000000000000000000000	Deliverable TM Draft Chapter Projects and Management Actions							٠																		_												
M1 M2 M3	GSA Review and Feedback						_		-				_	-	-				_	-	_			-		_		_			_		-					
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1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	6.1 Complete model update receiper , undate datasete and use peur CIS pro processore		· · · · · · · · · · · · · · · · · · ·																	++	_			+ +				-	+-+-				+ +					+
	6.2 Perform undated historical model simulation through WY 2018-19				++	++	-	++		++			+ +	+	+ +		-	++	+	++	-			+ +-	++	++		-	++	+ +	\rightarrow	++	+ +	-		++	-+-	+
4 Original and Carlow Cash Signing Cash S	8.3 Perform limited local improvements						_								-		-								-			_					1	_		-		
	8.4 Develop historical and current water budgets								-																						_			_			-	-
a b low of the state of equations of the state of the state of equations of the state of eq	8.5 Simulate future model simulations through WY 2069-2070												_																								Competition and succession.	
	8.5.1 Define and incorporate future hydrologic and land use conditions																																			-		
	8.5.2 Define and incorporate future projects and implementation schedule						_														_																	
	8.5.3 Simulate future baseline and with-projects scenarios								_					-						-														_				
	0.0.4 Simulate enects of climate change					-1			_				_	-			-								-			_		-		+		_				-
	8.5 Druppe ruture water rever and now puoper results							1	-								-			+	_											1-1	+					+
	Delverable TM Draft Chanter Groundwater Modeling Documentation and Water Burnets		-		1.1.																															-		-
11.1 1.1	GSA Review and Feedback																													-	_		-					
Table 3. Marchally Gale 3. Marc									-																			-	1-1-									
9 1 0 100 100 100 100 100 100 100 100 10	Task 9 - Establish Sustainability Goals and Management Criteria																								-	_					_			_	-			
31.04 31.04 34.04	9.1 Establish sustainability criteria and goals					_																									_			_				
	9.2 Evaluate undesirable results																																			T		
At low in the interview of index of the methods and of the control index of the methods in the interview of index of the methods in the met	9.3 Assess minimum thresholds								-						-		-																					
1) month 1) month 1 <th>9.4 Identify measurable objectives and interim milestones</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>_</th> <th></th> <th>-</th> <th>_</th> <th>-</th> <th></th> <th>-</th> <th></th> <th>-</th> <th>_</th> <th></th> <th></th> <th></th> <th></th> <th>_</th> <th></th> <th></th> <th>_</th> <th>_</th> <th></th> <th></th> <th>_</th> <th></th> <th></th> <th></th> <th>_</th> <th></th> <th></th> <th>_</th> <th></th>	9.4 Identify measurable objectives and interim milestones								_		-	_	-		-		-	_					_			_	_			_				_			_	
	9.5 Prepare TM Dran Chapter Sustainability Goals and Chiena					1 1	-		-	++	+ +		+ +		+ +	-	+ +	+	+-	+				++	+	++	-		+			++	+	-		++	-	4
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10.1 Existing upper lange 10.1 <td< th=""><th>Task 10 - Establish Monitoring Plan</th><th></th><th></th><th></th><th></th><th></th><th>_</th><th></th><th>-</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>_</th><th></th><th></th><th></th><th></th><th>-</th><th></th><th></th><th></th><th></th><th></th><th></th><th>1-1-</th><th>-</th><th></th><th></th><th>-</th><th>-</th></td<>	Task 10 - Establish Monitoring Plan						_		-												_					-							1-1-	-			-	-
10.2 2.3 2.4 </th <th>10.1 Establish representative groundwater monitoring network (levels and water quality)</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>11</th> <th></th> <th>-</th> <th></th> <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th>++</th> <th>-</th> <th></th>	10.1 Establish representative groundwater monitoring network (levels and water quality)								-										-							11		-			-					++	-	
10 Proper Monde IN Under Chapter Monterory Pro 0 <th>10.2 Establish surface water, drain, and land subsidence monitoring plan</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>_</th> <th></th> <th>_</th> <th></th>	10.2 Establish surface water, drain, and land subsidence monitoring plan								_		_																											
Debugging Monitory Par Debugging Monitory Par Image 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	10.3 Prepare TM Draft Chapter Monitoring Plan			_			-																															
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Tax 11.3 Month 2 Address RVCCB Indig Image: 11 J Angene TM Draft Chapte Emerging Issues Image: 11 J Angene TM Draft Chapte Institutes Image: 11 J Angene TM	Task 11 - Undate Emerging Issues				++	+		++	+	+	+ +		+	++	-+-+		+-+	+ +	+	+-+	-		-	+-+-	++	++	++		++	+		++-	+			++	+	+
Taxk 11.2. Jonating and store in a grant 1.2. Jonating and the integrant is	Task 11.1 Assess SNMP status and approach to address RWC/CB findings	and production of the					_																							_	_	1-1-						+
Tat 11 2 hair barger M tord Chapter Emerging issue Image: A market of the second of	Task 11.2 Identify additional emerging concerns					+ +	+	++	+		+ +		+ +		+ +				-	+	-				++	++	+ +	-	++	++	-	1-1-		+ +		++	+-	
Delevable IM Draft Chapte Emerging Issue Image: Delevable IM Dra	Task 11.3 Prepare TM Draft Chapter Emerging Issues						-									-			-							-					_						-	
SAR Revenue and Feedback. Image: Contraction Science Sci	Deliverable TM Draft Chapter Emerging Issues																																					
Table 12: (Jobate Plan Inglementation 12: 3 Physics Microscope 13 Physics Microscope 13 Physics Microscope 14 Physics Mi	GSA Review and Feedback			_																	_							_										
13.1.1	Test 40. Lindet Disclosed and the								-		_								-				_			-		_	I					-			_	
1.2 Pain implementation 1.3 Phone Marcales Pain Implementation 1.4 Phone Pain Impleme	12 1 Plan Infrastruction & Execution Summany					++-	-												_		_										_							
13 Physer 10 Drat Chapter MD and Chapter memorization Plan Image: MD and MD and Plan Image: MD and and Plan Image: MD and Plan Ima	12.2 Plan Implementation																		-	-									+-+-									
Deliverable M Drial Chipper Impanyestation Part Deliverable M Dr	12.3 Prepare TM Draft Chapter Plan Implementation			1		1 1	1		+																			_			_							
GSA Review and Feedback Image: Comparison of the compa	Deliverable TM Draft Chapter Implementation Plan						_		1		•								-							-											_	
Tail 13 - Develop and Submit Alternative Plan Image A found status of the Attractive Plan Image A found status of the Attr	GSA Review and Feedback															_															_					-		
Tak 12-Develop and Glumd Aternative Plan (polate 13-Double: Sylve Outpark Aternative Plan (Silve Outf Aternative Plan Diversale Aternative Plan (3-Double: Sylve Outpark Aternative Plan (3-Double																																						
1.1 Outline: Style Outline: A domination long Advances Plan Image: Control outline: Control outl	Task 13 - Develop and Submit Alternative Plan Update						-			_																												
13 / Progeo Administrative Carl Alternative Plan GSA Review of Administrative Data Attenuative Plan 13 Progeo Science/Lock Data Attenuative Plan GSA Review of Science/Lock Data Attenuative Plan GSA Review of Science/Lock Data Attenuative Plan Devicable Cost A	13.1 Outline, Style Guidance & Administrative Record					1	-		-										1											-							_	
GSA Review of Advantation Data Notification Contraction Notification Notification Notification Contraction Notification Notifica	13.2 Prepare Administrative Drait Aternative Plan			-					-		-		-					-	-	-								_									_	
USA Network of Administrative Flam Deversation Cost Attenuative Flam Dever	Deliverable Administrative Draft Alternative Han						_				-	_	-						_			_					-	_		_							_	
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GSA Review of Sciencheck Draft Abenative Plan Deliverable Order Aternative Plan Deliverable Contractive 1.15 Proper Final Aternative Plan Deliverable Contractive Deliverable Contractive Deli	Delearable Screencheck Drait Alternative Plan								-	-									-		_													-		-		+
1) 4 Phopuro Draft Alternative Plan Delivenable Oral Alternative Plan 1) 5 Phegaa Christ Alternative Plan Delivenable Final Alternative	GSA Review of Screencheck Draft Alternative Plan					++	+	++	+		+ +	+	-		+ +		+		+*	+++				+ +	++	++	++	+	+-+	+ +	-	++	+-+	+ +	-	++		+
Deversibility Control	114 Propage Dest Allocation Dian							1-1-			-									-								_								+-+	-	+
Pable Reverse of Draft Alternative Plan (45 stays + 45-day schedule contingency) 13 5 Prepara Final Alternative Plan Deliverative Plan (Atternative Plan Update to DWR (Jan. 1, 2022)	Delverable Draft Alternative Plan			-		++			+		+ +		+ +		-+-+	-	+		+	++				++	++	++	+ +	-	+ +	+ +	+	++-	++	+ +	-	+++	+	+
115 Progato Frai Atlantative Pan Deleverable Final Atlantative Pan Adepton Resultant	Public Review of Draft Alternative Plan (45 days + 45-day schedule continnency)						-				-												100		-		1											-
Deliverable Final Attentive Plan Image: Control of the c	13 5 Prepare Final Alternative Plan						-									_	1									11		-					-			-		
Adeption Resultant	Deliverable Final Alternative Plan					-														1								_			-				_	++		
Submit Final Alternative Plan Update to DWR (Jan. 1, 2022)	Adaption Resolution											_							-	-	_		-								_				-	1-1-		
	Submit Final Alternative Plan Update to DWR (Jan. 1, 2022)			_																															٠	1		

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Job Nama: Allernativa Plan Update - Task Order 2 Client: Coschells Valley Water District, Coschella Water Authority, Desert Water Agency, Indio Water Authority Dele: 10/72/18 Job Nomber: PROPOSAL

	. Ma	Faula	Dea	Kata	Mauran	1 11-	haven	TOD	O GROUNDW	ATER	Tedd	*		0	-		
	Priestaf	Lin	Craig	White	Reilly	Elilott	Gurdak	Ritchie	Maroney	Wettrich	Labor	Tode	Comm.	Obuchi	Direct	10% Markup	Total
2019 Hourly Rates	\$245	\$235	\$230	\$225	\$225	\$225	\$180	\$170	\$145	\$125	Hours	Laber	Fee	\$115	Cests	Fee	Costs
Task 1 - Project Management																	
1 1 Consultant team coordination call							<u> </u>										
1 2 Project coordination call - consultant and CVWD (Monday)											139	3 34,545	\$ 051				5 33,190
1 3 GSA meetings (4th Wednesday of month)			•			-	1				0	3	2 309				3 15,779
1 4 Budget tracking, invoicing, and progress reports	51	100	34								253	5 59,795	\$ 1,190		\$ 8,000	5 000	\$ 07,591
1 5 Call with DWR		40									40	5 9,400	\$ 188	\$ 776		5 .	\$ 10,384
Task 1 Estimated Cost	2	4					-				6	\$ 1,430	\$ 29			5 -	\$ 1,459
Task 1 Esimated Cost	53	385		0	0	0	0	.0	0	0	504	\$ 118,640	\$ 2,373	\$ 776	\$ 6,000	5 600	\$ 128.389
Task 2 - Assess Existing Alternative Plan																	
2.1 Collect data		12			4			18	0	16	58	5 9,000	\$ 192			5.	\$ 9,792
2.2 Assess water demand and supply projections																	
2.2.1 Confirm 2010 WMP projections and assumptions		2									2	\$ 470	\$ 9			s -	\$ 470
2.2.2 Compare projected and actual land use growth, and water demand		2			2						- 4	\$ 920	\$ 18			s -	\$ 938
223 Compare projected and actual project implementation		2									2	\$ 470	s 9			s .	\$ 479
2.3 Document WMP model simulation assumptions, inputs, and results																	
2.3.1 Provide detailed documentation of model inputs and pre- processing tools		4	12		a				4		28	\$ 5 630	\$ 113			5	\$ 5,743
2.3.2 Meeting to review current model assumptions and pre- processing methodologies		6	a		8				4	4	32	\$ 0.000	\$ 132			s .	\$ 6,732
2 4 Document current model calibration results		4			2						14	\$ 3,230	\$ 65			5 .	\$ 3,295
2.5 Prepare TM - Alternative Plan Assessment and Recommendations	2	12	8		2						24	\$ 5 600	\$ 112			5	5 5712
Task 2 Estimated Cost	2	46	36	0	24	0	0	16	16	20	160	\$ 32.520	\$ 650	s .	5 .	8 -	\$ 33,170
THE REPORT OF THE PARTY OF THE	1.000	20.00	2000321	10011-002	12.232	S. 1924	840.03	6423.03	100	N. Sector	19478	THE REAL	50.71	2330			
I ask 3 - Develop Work Plan for Alternative Plan Update																	
3.1 Evaluate options and identify preferred approach			-						-					<u> </u>			
3.1.1. Report structure / contents		4									4	\$ 940	\$ 19			٤	\$ 950
3.1.2 Demand and supply projection update		_2				I					2	<u>\$</u> 470	s 9			5 -	\$ 479
3 1 3 Model update		2	2		2						0	\$1,380	\$ 28			<u>s</u> .	s 1,408
3.1.4DWR Alternative Plan comments	2	4									6	\$1,430	\$ 29			s	5 1,450
3 2 Establish project milestones and deliverable schedule		4									4	S 940	\$ 10			s .	s 959
3.3 Develop schedule/protocots for internal, project, and GSA deliverable (eview		2									2	\$ 470	s 9			5 -	s 479
3.4 Prepare TM - Work Plan	2	12									14	\$ 3,310	\$ 66			s .	\$ 3,378
Task 3 Estimated Cost	4	30	2	0	2	0	0	0		0	38	\$ 8.940	\$ 179	s -	s .	s .	5 5,119
	19100	-	10000	214		1.1.1.1.1.1.	1.5	200	1000000	11000	1000	1.50	Report.	1. 19.94	200.00	1000	10.250
Task 4 - Develop and Implement Stakeholder and Public																	
Outreach Plan																·	
4.1 Develop Communication Ptan		1									1	\$ 235	\$ 5			<u>s</u> .	\$ 240
4 2 Develop and maintain stakeholder list											0	5 .	s .			<u>s</u> .	<u>s</u>
4 3 Develop webste and outreach materials		16	16			2		·	6	16	58	\$ 11,050	\$ 221			<u>s</u> .	5 11,271
4 4 Public workshops (quarterly - 9 meetings)		38									44	<u>\$ 10,420</u>	5 208		\$ 1,950	\$ 195	<u>\$ 12,773</u>
4.5 Targeted outreach to tribes (semi-annual - 5 meetings)											28	\$ 6,660	5 133			<u>s</u> .	\$ 6,793
4.6 Outreach and Communication Documentation		2									2	\$ 470	5 9			s -	\$ 479
Task 4 Estimated Cost	16	75	16	0	0	2	0	. 0	8	16	133	\$ 28.835	\$ 577	8 -	\$ 1.950	\$ 195	\$ 31,557
Tack & Construct Hudenroolasts Concentual Model and		2000				-			-	1	100		1.1.1.1		1000		
Describe Groundwater Conditions																	
5 1 Develop introduction to basin setting	6	2							6		14	\$ 2,810	s 58			5 -	\$ 2,000
5 2 Describe basin geometry		2							4			\$ 1,050	5 21			s -	\$ 1,071
5 3 Construct detailed hydrogeologic cross sections		8				32		32		32	104	\$ 18,520	\$ 370			5	\$ 18 590
5.4 Document historical and current proundwater conditions							1									Ċ	
5.4.1 Groundwater levale		20							37	24	78	\$ 12340	\$ 747				\$ 12687
6.4.2 Groundwaller mulde		74					1	74	74		104						
6.4.3 Grouphenter quarky		14					1			32	104	a 17,200	3 <u>344</u>				3 17,544
5 4 3 Groundwarer pumping		10				1				10	40	5 6,920	\$ 138				\$ 7,058
544 Lang subsidence		-				1					12	5 2,000	5 41				5 2,101
3.5 Prepare 1M praticinalities Plan Area, HCM, and Groundwater Condu		32					12				- **	\$ 17,300	\$ 348			3	5 17,648
5 4 1 Palanese deplete CDC	-				1	-	1			-	-						
5 4 5 CDC 5 LL	2	2										960	3 19				a 979
5 4 3 CDE most excention	2	2				1					- 1	3 900	3 19			3	» 979
So 3 GDC report preparation	2		-			1						2 990	5 19			5 .	5 979
Task 5 Estimated Cost	16	114	0	4		36	12	54	104	106	456	\$ 81,080	\$ 1,622	8 .	8 .	5 ·	\$ 82,702
		-				-						-					
Task 6 - Water Demand / Water Supply																	
6 1 Update water demand projections		2				1					2	s 470	s ø			s -	\$ 479
6 2 Update conservation goals		2								1	2	\$ 470	\$ 9	1		s -	\$ 479
6 3 Update weter supply projections												1					
6.3.1 Imported surface water (SWP, CRW, Transfers)		2									2	\$ 470	s p			s .	5 479
632 Recycled water		2									2	\$ 470	s 9			s .	\$ 479
8 3 3 Groundwater		2							2		4	\$ 780	\$ 15			s .	\$ 775
6 4 Evaluate effects of climate change on supply reliabelty/vulnerabelty	2	2					8				12	\$ 2,400	5 45			5 .	\$ 2,448
6.5 Identify future shortfalks in water supply	2	2									4	s 960	S 19			s .	5 979
6 6 Prepare TM Draft Chapter Water Demand / Water Supply	4	0		4							14	\$ 3,290	\$ 66			s .	\$ 3,358
Task 6 Estimated Cost		20	0	4	0	0	8	0	2	0	42	\$ 9,250	\$ 186	s .	8 -	5 -	\$ \$.476
		10000				1.57	1. 6 1/		Val 1	CALCON.	62.0.6				11/2/10		
Task 7 - Re-Evaluate Projects and Management Actions								I									
7 1 Re-evaluate projects and management actions	4	12	4								20	\$ 4,720	\$ 94	<u> </u>		5	\$ 4,814
7.2 Evaluate project feasilidity, concept design, and costs	8	.16	4								28	\$ 0,640	\$ 133			s	s 6,773
7.3 Prioritization of Projects and Management Actions		16	4								- 28	\$ 0,640	5 133	<u> </u>		5 .	\$ 6,773
7 4 Develop Management Program	- 4	20			<u> </u>						24	\$ 5,660	\$ 114			s .	\$ 5,794
7.5 Prepare TM Draft Chapter Projects and Management Actions				2							10	\$ 2,330	\$ 47			s .	\$ 2,377
Task 7 Estimated Cost	24	72	12	2	0	0	D	0	0	0	110	\$ 26.010	\$ 520	8 .	s .	8 -	\$ 26.530

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Job Name: Alternative Plan Update - Task Order 2 Clenct: Coachells Valley Water District, Coachells Water Authority, Desert Water Agency, Indio Water Authority Dates: IM7040544 Job Number: PROPOSAL

WOODARD AND CURRAN Nicole Software Publications Mitty Asst. Peletta Eng 1 Specialist Orphc Art. \$187 \$147 \$123 \$118
 William
 Warren
 Micah
 Martha de

 Mediin
 Orecos
 Eggleton
 Martia y Campes

 \$165
 \$221
 \$187
 \$187
 W&C Total W&C Total Rosalyn Prickett Erica Wetski Proj. W&C 10% Markup John Ayres Other 2019 Hourty Ra \$282 \$266 \$110 Fee Task 1 - Project Management 1 1 Consultant team coordination call 75 40 115 31,790 s 31,790 1.2 Project coordination call - consultant and CVWD (Monday) 58 29 87 \$ 24,070 s 24 070 1 3 GSA meetings (4th Wednesday of month) 168 66 234 \$ 84,932 \$ 3,800 \$ 380 \$ 69,112 1 4 Budget tracking, invoicing, and progress reports 16 16 45 S 9,264 \$ 9,284 5 1 5 Call with DWR 1,650 1,660 Task 1 Estimated Cost 321 137 0 . 0 . 16 . . . 490 5 131,716 \$ 3,800 \$ 380 \$ 135,896 . Fask 2 - Assess Existing Alternative Plan 2 1 Collect data 2 6 \$_____1,890_ s . 1,690 2 2 Assess water demand and supply projections 2.2.1 Confirm 2010 WMP projections and assumptions 2.2.2 Compare projected and actual land use, growth, and water 2 24 28 5,868 s . 5,868 40 42 \$ 9,404 s . \$_____ 9 404 demand 2 2 2 3 Compare projected and actual project implementation 16 4,100 5 4,100 3 Document WMP model simulation assumptions, inputs, and results 2 3.1 Provide detailed documentation of model inputs and pre- 2.3.1 Provide seases becomeration or model seases are pre-processing tools
 2.3.2 Meeting to review current model assumptions and pre-processing methodologies
 4 Document current model calibration results 5 5 5 s 5 Prepare TM - Alternative Plan Assessment and Recommendations 2.4 \$ 2,422 Task 2 Estimated Cost 10 2 0 92 23 684 \$ 104 \$ 23,684 Task 3 - Develop Work Plan for Alternative Plan Update 3.1 Evaluate options and identify preferred approach 3.1.1 Report structure / contents 2 5 2 3.1.2 Demand and supply projection update 2 5 3 1 3 Model update 2 3.1.4DWR Atternative Plan comments 2 3.2 Establish project méestones and deliverable schedule 3.3 Develop schedule/protocols for internal, project, and GSA deliverabli /iew 4 Prepare TM - Work Plan Task 3 Estimated Cost . 2 . . 0 16 8 4.262 \$ 4,252 . . . Task 4 - Develop and Implement Stakeholder and Public Outreach Plan 4.1 Develop Communication Plan 24 2 4 2 Develop and maintain stakeholder list 16 4 3 Develop website and outreach materials 8 2 24 20 32 4.4 Public workshops (quarterly - 9 meetings) 45 36 16 4 5 Targeted outreach to tribes (semi-annual - 5 meetings) 20 . 25 46 Outreach and Communication Documentation
Task 4 Estimated Cost 30 2 75 20 344 5 ic Conceptual Model and lop setting D geom by /drogeologic Decument current or nelweter conditions quality pumping pa apters Identify roundwater Dependent Ecosystems (GDEs) mary desktop 2. 2 port prep Task 5 Estimated Cost / ppły pdate projections 30 Upda goals 30 Update supply projectors Imported (20 ecycl change supply liability/vuin birty ntly supply par hapte Supply Proj projects gem Projecta gem lop gem Progr pa splar Proj gom

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Job Name: Alternative Plan Update - Task Order 2 Client: Ceachalls Valley Whiter District, Ceachella Water Authority, Desert Water Agency, Indie Water Authority Marker: 197/2018 Job Namier: PR/OF SIAL

		GRAHAN	FOGG AND A	SOCIATES		DAVID	J RINGEL	
	Graham	Eric	Gerald	GFA	GFA	David	DJR	Tatal
2019 Hourly Rates	\$475	\$250	\$180	Hours	Costs	\$300	Cests	Costs
Task 1 - Project Management								
1 1 Consultant team coordination call	5	4	15	30	\$ 8,040	12	\$ 3,000	\$ 78,626
1 2 Project coordination call - consultant and CVWD (Monday)				0	s	a	\$ 1,800	\$ 41,649
1 3 GSA meetings (4th Wednesday of month)				0	5		s .	\$ 136,703
1.4 Budget tracking, invoicing, and progress reports				0	• · · ·		s .	\$ 19.675
1 5 Call with DWR								
				- 0	3		3	3 3,119
Task TEstimated Cost	-	4	18	30	\$ 8,040	10	\$ 5,400	\$ 217,725
					-			
Task 2 - Assess Existing Alternative Plan								
31 C-V-14 data							1 1 200	10.000
					2		3 1,200	3 12,002
2 2 Assets water demand and supply projections								
2.2.1 Confirm 2010 WMP projections and assumptions 2.2.2 Compare projected and actual land use growth, and water				0	5	8	\$ 2,400	\$ 8,747
demand				0	<u>s</u>	4	\$ 1,200	5 11.542
2 2 3 Compare projected and actual project implementation				0	s		<u>s</u> .	\$ 4,579
2.3 Document WMP model simulation assumptions, inputs, and results						~~~~		1.0
2.3.1 Provide detailed documentation of model inputs and pre- processing tools	28	68	216	310	\$ 68 230	40	\$ 12 000	\$ 85 973
2.3.2 Meeting to review current model assumptions and pre-		17	16		5 0.080	12	\$ 3,000	\$ 20.017
2 4 Document current model calibration results	Ÿ.	14				- 14	3.000	20,072
	- 8	16	58	60	\$		<u>s</u>	<u>\$ 21,175</u>
2.5 Prepare TM - Alternative Plan Assessment and Recommendations				0	ş .	_	5 .	\$ 8,134
Task 2 Estimated Cost	42	96	288	426	\$ 95,790	68	\$ 20,400	\$ 173.044
		1. 2. 1.	199		2014			
Task 2 - Develop Week Blag for Alternative Blag Hading								
Teas a - Develop work Flan for Alternative Plan update								
3.1 Evaluate options and identify preferred approach								
3.1.1 Report structure / contents				0	5 .		<u>s</u>	\$ 2,055
3 1 2 Demand and supply projection update				0	5 .	. 2	\$ 600	\$ 2,085
3 1 3 Model update				0	5 .		s .	s 1,940
3.1 4DMR Alternative Plan commands					5		5	\$ 1000
1 Cathlet annet whet				0				e
3.2 Establish project milestones and deliverable schedule 3.3 Develop schedule/protocols for internal, project, and GSA deliverable				0	s		3	5 959
review				0	5		<u>s</u>	\$ 479
3 4 Prepare TM - Work Plan				a	5 .		s .	\$ 4,472
Task 3 Estimated Cost	0	0	0	0	1 .	2	\$ 600	\$ 13,981
		3		1.1	1151123	1000		
Task 4 - Develop and Implement Stakeholder and Public								
Outreach Plan								
4 1 Develop Communication Plan				0	<u>s</u>		5 .	5 0.388
4 2 Develop and maintain stakeholder list				0	5		5 .	\$ 3 274
4 3 Develop website and outreach materials				0	s .		5	\$ 25.283
4 4 Public workshops (suarterly - 9 meetings)				0	5		s .	\$ 38,302
4.5 Tarrahul adapath is takes (cami sanus) . 5 masters)								E 10.234
								E 10.517
4.6 Outpach and Communication Documentation					3 · ·	-		a 10,513
Task 4 Estimated Cost		0	0		1 .	0	5 .	\$ 102.977
Task E. Construct Hudrogeniasis Concentual Model and								
Describe Groundwater Conditions								
5 1 Develop attractures to basis setting						-		\$ 2.60
5 2 Describe basin geometry	<u> </u>				5 .			1,0/1
5 3 Construct detailed hydrogeologic cross sections				0	5		5	\$ 18,890
5.4 Document historical and current groundwater conditions								
5 4 1 Groundwater levels	<u> </u>			0	5		5	\$ 12,587
5 4 2 Groundwater quality				0	5		s .	5 17,544
5 4 3 Groundwater pumping				0	5		s .	\$ 7,058
6 4 4 and subsidence								e 2101
5 4 4 Cane seusence								-
2 2 Prepare TM Draft Chapters Plan Area, HCM, and Groundwater Condit			1	0	· · · ·		, .	19.606
5 0 Identify Groundwater Dependent Ecosystems (GDEs)				<u> </u>				
5 6 1 Preiminary desktop GDE assessment				· · ·	5		5 -	\$ 13,039
5 8 2 GDE field assessment and validation	l			0	s .	l	5	s 9,554
5 8 3 GDE report preparation	-			0	5		s	\$ 13,039
Task 5 Estimated Cost	0	0	0	0	s .	0	s .	\$ 117,562
	12 - 12 - 0		1. 1. 1. 1	1.1.1	1000073			1000
Task 6 - Water Demand / Water Supply	I		-	<u> </u>				
6 1 Update water demand projections	<u> </u>			0	s .	- 4	s1,200	\$ 20,653
8 2 Update conservation goals				0	5		s1.200	\$ 20,653
6 3 Update water supply projections								
6 3 1 Imported surface valier (SVID CDU/ Transfers)					5		5 1.000	5 0.141
Contraction and a second a sec	1	-		- · ·		· · · ·	1.	
0.3.2 Hecycled water	<u> </u>		-	0	· · ·		· ·	4,703
6 3 3 Groundwater	<u> </u>		-		5		s .	\$ 775
8 4 Evaluate effects of climate change on supply reliability/vulnerability		-		0	5		5	\$ 11,034
8.5 Identily future shortfalls in water supply				0	s .		5 .	\$ 7,395
6 6 Prepare TM Draft Chapter Water Demand / Water Supply				0	s .		s .	s 11,30
Task 6 Estimated Cost	0	0	0		8 -	12	\$ 3,600	\$ 85,78
A SAUGUST STATE	1.000		1200	100	100000	200.00	1.000	129 8 6 9
			1					1
Task 7 - Re-Evaluate Projects and Management Actions								
7 1 Re-evaluate projects and management actions	-			0	s ,	4	\$ 1,200	\$ 13,28;
7.2 Evaluate project feasibility, concert design, and costs					s ,		s .	\$ 23 373
7.3 Providzation of Projects and Management Artistics					5		5	5 1354
7 d Develas Management Baseram	-							
	<u> </u>	-			i.	<u> </u>	Ľ.	15,174
7.5 Prepare TM Draft Chapter Projects and Management Actions	<u>t</u>		-	† °	<u> </u>	<u> </u>	1 ³	\$ 11,757
Task 7 Estimated Cost	(.						1 5 1 200	18 77 134

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Job Name: Alternative Plan Update - Task Order 2 Cillent: Coschelle Vulley Water District, Coschella Water Authority, Desert Water Agency, Indio Water Authority Desi: 07/2781 Job Number: PROPOSAL

					1			TOD	O GROUNDW	ATER	-			_	14. 19.243		
2019 Hourly Roles	tris Priestaf \$245	Edwin Lin \$235	Dan Craig \$230	Kate White \$225	Maureen Reilly \$225	Liz Elikott \$225	Jason Gurdak \$180	Amber Ritchia \$170	Cindy Maroney \$145	Mike Wettrich \$125	Tedd Labor Hours	Todd Total Labor	2% Comm. Fee	Cynthia Obuchi \$115	Other Direct Costs	10% Markup Fee	TODD Tetal Cests
								1.203						0.50			
Task 8 - Groundwater Flow Modeling 8 1 Complete model update revisions - update datasets and use new OIS pre-processors		24	150		140			24	32	90	430	\$ 67,860	5 1,757			s 1	\$ 89 617
8.2 Perform baseline historical simulation through WY 2018-19		12	40		8			16	18	16	108	\$ 20,660	\$ 417			s :	\$ 21,277
5.3 Perform limited local improvements (if needed)		12	40		32						84	\$ 19,220	\$384			5 -	\$ 19,004
6 4 Develop historical and current water budgets			10						10		32	\$ 6,000	\$ 120			s .	\$ 8,120
8 5 Simulate future consistons	1.15											-					
8 5 1 Define and incorporate future hydrologic and land use conditions		20	40		80				24	40	204	\$ 40,380	\$808			5 -	\$ 41,188
8 5 2 Define and incorporate future projects and implementation schedule		40	40		24				16	24	144	\$ 29,320	\$ 586			s .	s 29,906
8 5 3 Semulate future baseline and 3 with project scenanos (5 scenarios)		40	80		40				24	24	208	5 43,280	5 800			<u>s</u> .	5 44,148
8 5 4 Simulate effects of climate change (1 scenario)		5	20				16		20	20	84	\$ 14,760	\$ 295			s .	\$ 15,055
8 5 5 Output future water level and flow budget results		24	40						24	40	132	\$ 24,220	\$ 484			5 .	\$ 24,704
8 6 Prepare TM Draft Chapter Groundwater Modeling Documentation	2	32	50	4	32				18	20	158	5 32,430	5 649			s .	\$ 33 079
Task 8 Estimated Cost	2	212	516		356	D	16	40	100	244	1582	\$ 318,330	\$ 6,367	s -	s -	s -	\$ 324,697
Extension of the second second second	R. Ma	12.000		12-16	1.1.1		144.123							200	1000	1	10000
Task 9 - Establish Sustainability Goals and Management Criteria																	
9 1 Establish sustainability onteria and goals	. 12	16	4						2		34	\$ 7,910	\$ 158			5 5	\$ 8,068
9 2 Evaluate undesrable results	12		4						2		34	\$ 7,910	\$ 158			s -	5 8.068
9.3 Assess minimum thresholds	12	16	4						2		34	\$ 7,910	\$ 158			s .	\$ 8,088
8.4 Identify measurable objectives and interim milestones	12	10							2		34	\$ 7,910	s 158			s	S 0.068
9 5 Prepare TM Draft Chapter Sustainability Goals and Criteria	8	24		2					4		35	\$ 8,630	\$ 173			5	\$ 8,803
Task 9 Estimated Cost	56	88	16	2	0	0	0	0	12	0	174	\$ 40,270	\$ 805	8 -	8 .	5 -	\$ 41,075
	40.00			1.3.24	2.1.1.2			0.1.157						6.446	141.00		
Task 10 - Establish Monitoring Plan 10.1 Establish representative groundwater monitoring network (levels and water nuality)											24	\$ 4 040	s a1			5	5 4121
10.2 Establish surface weler, drain, and subsidence moniformic plan		8							8	8	24	\$ 4,040	\$ 81			5 -	\$ 4,121
10.3 Prepare TM Dratt Chapter Montoring Plan		16		2					8	4	30	\$ 5.870	\$ 117			s .	\$ 5.987
Task 10 Estimated Cost	0	32	0	2	0	D	0	0	24	20	78	\$ 13,950	\$ 279	s .	5 -	5 -	\$ 14.229
		1.5.5			1.540			1000						1. 1.			
Task 11 - Update Emerging Issues and Plan SNMP Update Task 11 1 Assess SNMP status and approach to address RWOCB																	
Indings	4	6					·				12	\$ 2,880	\$ 57			5 -	\$ 2,917
Task 11 2 Identify additional emerging concerns		12								-	12	\$ 2,820	\$ 56			5 -	<u>\$ 2,876</u>
Task 11 3 Prepare TM Draft Chapter Emerging Issues and SNMP Update	2	16	-	2	-		1		-		20	\$ 4,700	\$ 94			<u>s</u> .	<u>\$ 4,794</u>
Task 11 Estimated Cost	00000	36	0	2	0	0	0	0	0	0	- 44	\$ 10,380	\$ 208	5 .	5 -	5 -	5 10.500
Task 12 - Update Plan Implementation									<u> </u>								
12.1 Plan Introduction & Executive Summary		12					ļ			-	15	\$ 4,290	\$ 88			5	\$ 4,376
12.2 Plan Implementation		12									18	\$ 4,290	\$ 66			s .	\$ 4,378
12 3 Prepare Draft Chapter Implementation Plan		12		2		-		ļ			18	\$ 4,250	\$ 85			\$.	\$ 4,335
Task 12 Estimated Cost	16	36	0	2	0	0	0	0	0	0	54	\$ 12.830	\$ 257	5 .	5 -	5 .	\$ 13.097
Task 13 - Develop and Submit Alternative Plan Update																	
13 1 Outline, Style Guidance & Administrative Record											٥	s .	s			s .	s .
13 2 Prepare Administrative Draft Alternative Plan	24	40	24	4	4		8	<u> </u>	24	24	152	\$ 30,520	\$ 610			s .	\$ 31,130
GSA Review of Administrative Draft Alternative Plan											D	s .	s .			s	s .
13 3 Prepare Screencheck Draft Alternative Plan	2	24	5				1		4	4	48	\$ 9,950	5 100			s .	5 10,149
GSA Review of Screencheck Draft Alternative Plan											٥	s .	5 .			s .	s .
13.4 Prepare Draft Alternative Plan	2	16		2						1	20	5 4,700	5 04			s	\$ 4,784
Public Review of Draft Alternative Plan (90 days)											0	5	s .			s .	\$.
13 5 Prepare Final Alternative Plan Update	16	24	4	4					12	4	64	5 13,620	\$ 272			s .	\$ 13,692
Adoption Resolution											0	s .	s .			s	s .
Submit Final Alternative Plan Update to DWR (Jan 1 2022)		4									4	\$ 940	\$ 19			\$.	S 959
Task 13 Estimated Cost	44	108	36	14	4	0		0	40	32	286	\$ 59,730	\$ 1.195	8 .	8 -	s .	\$ 60.925
	22.0		1000		1000		1.55	1.1		12.987			10.21		1023		Division .
Total Estimated Cost	247	1254	700	40	306	38	44	120	384	438	3661	\$ 760,905	\$ 15.216	\$ 776	\$ 7.95	8 795	\$ 785,542
Project Contingency (\$75.000)							1920		1.50.5								
Total Estimated Cost (+ Costingent)						-				1		03.0.3.8					
I UNIT ESTIMATED COST (* CORONGERCY)		1	1		1	1		1		A COLUMN TWO IS NOT				1		1	

Proposed Cost Estimate

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Job Name: Alternative Plan Update - Task Order 2 Client: Coachella Valley Water District, Coachella Water Authority, Desert Water Agency, Indio Water Authority Date: 10770-1011 Job Number: PROPOSAL

		1.4.4		-		Allerak		WOO	OARD AND C	URRAN	-		Luna		-		
	Prickett	Ayres	Weiski	Mediln	Grecce	Eggleton	Maria y Campes	Peletto	Eng 1	Specialist	Orphc Art.	Asst.	Labor	Total	Direct	Markup	Tetal
2019 Hourly Rates	\$282	\$266	\$266	\$165	\$221	\$187	\$167	8187	\$147	\$129	\$118	\$110	Heurs	Labor	Costs	Fee	Cests
				1					1		1					1	1
Task 8 - Groundwater Flow Modeling 8 1 Complete model update revisions - update datasets and use new GIS											-						-
pre-processors													0	<u>s</u> .		<u>s</u> .	5
8 2 Perform baseline historical simulation through WY 2018-19				+				-					0.	5		5 -	5
A Constant intervent and extent unter budgets													0	<u>s</u>		s .	5
B 6 Coulds for a continue					-				+				0	<u>s</u>		s .	5
8.5.1 Define and incorporate future hydrologic and land use																	
8 5 2 Define and incorporate future projects and implementation											+		0	5 .		s .	s
8.5.3 Simulate future baseline and 3 with-project scenarios				+									0	<u>s</u>		<u>s</u> .	\$
(5 scenarios)													0	5 .		<u>s</u> -	s
6 3 4 Generale energies of centate change (1 scenario)				+									0	<u>s</u>		<u>s</u> .	5
o 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5										-	+		0	s .		s .	s
5 6 Prepare TM Draft Chapter Groundwater Modeling Documentation	2	4											0	\$ 1,628		s .	\$ 1.628
Task B Estimated Cost	2	4	0	0	0	0	0	0	0	0	0	0	6	\$ 1.628	5 -	5 -	\$ 1,628
Task 8 . Establish Sustainability Goals and Management				1000	-	1		1.000	1				-			-	10.000
Criteria																	
9.1 Establish sustainability criteria and goals	2	8											10	\$ 2,692		s .	\$ 2,002
9 2 Evaluate undesirable results	2	18				24							42	\$ 9,308		s .	\$ 9308
9 3 Assess minimum thresholds	2	18				32							50	\$ 10,804		s .	\$ 10,804
9.4 Identify measurable objectives and interim milestones	4	16				32							52	\$ 11,308		s .	\$ 11 368
9.5 Prepare TM Draft Chapter Sustainability Goals and Criteria	2	a				24							34	\$ 7,180		s .	\$ 7 180
Task 9 Estimated Cost	12	54	0	0		112	0	D	0	0	0	0	188	\$ 41,352	s -	5 .	\$ 41,352
	10.00	19050		1.5	19.7 5.1	1000		10.00	121113	90203	1 California	18.20	ALC: NO	5. A. M.		1000	MAN ST.
																_	
10 1 Establish representave groundwater monitoring network (levels and																	el riteras
water quality)		8			1			<u> </u>						\$ 2,128		\$.	5 2,126
10.2 Establish surface water, drain, and subsidence monitoring plan				+	+					+	1		4	\$ 1,054		\$.	\$ 1,064
10 3 Prepare TM Draft Chapter Monitoring Plan Tack 10 Estimated Cost	2	4		1 .	-	-				-		-	6	5 1,628		5 .	5 1,628
Task to Estimated Gos		10										-	18	5 4.820		18 .	4,820
						-		-	-		1					1	
Task 11 - Update Emerging issues and Plan SNMP Update											-						
findings													0	s .		s .	5
Task 11 2 Identify additional emerging concerns													0	s .		s	\$
Task 11 3 Prepare TM Draft Chapter Emerging Issues and SNMP Update	2	4											8	\$ 1.625		s	5 1,828
Task 11 Estimated Cost	2	- 4	0	0		0	0	0	0	0	0		6	\$ 1.628	5.	5 .	\$ 1,628
			1000					10000	122.00		-	11.00			1	1.000	
Task 12 - Update Plan Implementation																	
12.1 Plan Introduction & Executive Summary	2	2						16					20	\$ 4,088		s .	
12.2 Plan implementation	2	2						24					28	\$ 5.584		s .	
12.3 Prepare Draft Chapter Implementation Plan	2	2						24					28	s 5.584		s .	
Task 12 Estimated Cost	t	100		0		0	0	64	0		0		76	\$ 15.256	s .	5 -	
			1.502	1.1.1	20.00	125624			120250	10006	12.20	1.184			1000		
p pda				1	1			1				-	1				
and the second second second second	4	2								16			22	3 724			
004	18	16		-	-	-		÷			1		32	s 8,768	1	3 .	
									-				0			\$ ·	
pa	8	6		+	-					10			32	5 0,445	-	5 .	
of Draft	1								-				0	5 -		5 .	
capity bid for	4	4		+		-				16			24	3 4 250		5 .	
of Dreft (90)			-						-		-		0	3 .		5	
pa pda*e	18	16		+	-	1		1	1	10	1		45	3 10,832	-	5 .	
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pda (2022)						-							0	5 .	-	<u>s</u> .	
	48	46		0 0				0	0 0	E4		1	158	\$ 34.028	\$.	18 -	-
		1	1	-	1	1	-	-			1	-	-	-	-	1	-
			-		-			1.1		-	1	-	-		1. 100	1.	1
Project tingency (2.20						-						(11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1		1	
	100												1	And the State of the	100000		

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Job Name: Alternative Plan Update - Task Order 2 Client: Coachelle Valley Water District, Coachella Water Authority, Desert Water Agency, Indie Water Authority Job Namier: FR/7073AL

		GRAHAM	FOGG AND A	SOCIATES		DAVI	D J RENGEL		5-8-50 g
	Graham Fogg	Eric LaBolle	Gerald O'Neill	GFA Labor	GFA Total	Devid Ringel	DJR Total		Total
2015 Hearty Rates	\$475	\$250	\$160	Heurs	Costs	\$300	Costs	-	Costs
		-					-	-	-
Task 8 - Groundwater Flow Modeling 8 1 Complete model update revisions - update datasets and use new GIS pre-processors	8	24	60	112	\$ 24 200		5	5	113.817
3 2 Perform baseline historical simulation through WY 2018-19	4	5	32	41	\$ 8.910		s .	5	30,187
5 3 Perform limited local improvements (if needed)	6	10	24	48	\$ 12,120	_	s .	s	31,724
8 4 Develop historical and current water budgets				0	5		s .	s	6,120
8 5 Simulate future conditions							and the second		
8 5 1 Define and incorporate future hydrologic and fand use conditions				0	s .	4	\$1,200	s	42,388
8.5.2 Define and incorporate future projects and implementation schedule				0	s .		s .	5	29 906
8 5 3 Simulate future baseline and 3 with-project scenarios (5 scenarios)				0	s .	1	s .	5	44,148
8 5 4 Simulate effects of climate change (1 scenario)				0	5		s .	5	15,055
8 5 5 Output future water level and flow budget results		16	40	54	\$ 15 000		<u>s</u>	5	39,704
8 6 Prepare TM Draft Chapter Groundweter Modeling Documentation	8	8	8	24	\$ 7240		5	s	41,947
Task 8 Estimated Cost	36	69	184	289	\$ 67,470	4	\$ 1.200	5	394,995
Task 9 - Establish Sustainability Goals and Management Otheria							-		
9 1 Establish sustainability criteria and goals				0	s .		s .	5	10,760
9 2 Evaluate undesirable results				0	s .	· .	s .	5	17,376
9 3 Assess mnimum thresholds				0	s .		s .	5	18,872
9.4 Identify measurable objectives and interim milestones				0	s .		5 -	5	19,430
9.5 Prepare TM Draft Chapter Sustainability Goals and Criteria				0	s .		5 .	5	15,983
Task 9 Estimated Cost	0	0	0	Q	5 -	a	5 .	5	82,427
							1.200		111
Task 10 - Establish Monitoring Plan 10 1 Establish represenative groundwater monitoring network (levels and								-	
Water guarry								ľ.	6 185
10.3 Pressen TM Draft Chaster Mechanic Plan								ŀ.	7,010
Task 10 Estimated Cost		0	0		1 .			ŀ.	19.049
					200 100	1	1000		
Task 11 - Update Emerging Issues and Plan SNMP Update Task 11 1 Assess SHMP status and approach to address RWQCB									
hneings				0	5 .		5	5	2,917
Task 11 2 Identify additional emerging concerns		-		0	5 -		5 .	5	2,876
Task 11 3 Prepare 7M Draft Chapter Emerging Issues and SNMP Update				0	5		<u>s</u>	1	6,422
Task Tresumated Cost	•	0	0		1000	0	ALL YMARS	ľ	12.216
Task 12 - Update Pian implementation									
12 1 Plan Introduction & Esecutive Summary				0	5 .		s .	5	8 464
12 2 Plan Implementation				0	5		5 .	5	9,900
12.3 Prepare Draft Chapter Implementation Plan				0	5 .		5	5	9 9 19
Task 12 Estimated Cost	0	0	0	0		a	s .	\$	28.343
					St. 2.4.				
Task 13 - Develop and Submit Alternative Plan Update									
13 1 Dubine, Style Guidance & Administrative Record				o	s .		s .	5	3 724
13 2 Prepare Administrative Draft Alternative Plan				0	s .		s .	5	39,694
GSA Review of Administrative Druft Alternative Plan				0	s .		s .	5	
13.3 Prepare Screencheck Draft Alternative Plan				0	5		5	\$	16,597
GSA Review of Screencheck Draft Alternative Plan				0	s .		s .	5	
13.4 Prepare Draft Alternative Plan				0	s .		5 .	\$	9.050
Public Review of Draft Alternative Plan (90 days)				a	s .		s .	5	
13 5 Prepare Final Alternative Plan Update				0	s .		s .	5	24,724
Adoption Resolution				0	s .		5 -	5	
Submit Final Alternative Plan Update to DWR (Jan 1, 2022)				0	s	-	5 .	5	050
Task 13 Estimated Cost	Ð	0	0	0	1 .	0	1 .	1	54 953
	-							+	
Total Estimated Cost	86	169	490	745	\$ 171.300	108	\$ 32,400	8	1.480.186
Project Contingency (\$75,000)	-							1	75,000
Total Estimated Cost (+ Continuency)		1000			1000			L.	1 555 180