PROJECT 1 TITLE: Borrego Valley SDAC Project

PROJECT SUMMARY:

The County of San Diego (County) and Borrego Water District (BWD) comprise the Borrego Valley Groundwater Sustainability Agency (GSA) for the Borrego Valley Groundwater Basin (BVGB). The County is the land use agency while BWD provides municipal water services to the community of Borrego Springs, which includes the Severely Disadvantaged Community (SDAC) located within the critically-overdrafted Borrego Springs Subbasin of the BVGB. To ensure cohesion and successful implementation of the Sustainable Groundwater Management Act (SGMA), the County and BWD have been working closely to engage stakeholders and collaboratively develop the Groundwater Sustainability Plan (GSP) for the BVGB. To aid in this effort, the GSA sought input from stakeholders to determine the best way to consider the interests of all beneficial uses and users of groundwater and subsequently established an advisory committee (AC) representing a broad and diverse range of groundwater users and stakeholders in the valley. The County and BWD will continue to work in concert to conduct the Borrego SDAC Project and involve the AC, as appropriate. The County will be the Project Sponsor for the Borrego SDAC Project while specific tasks, as indicated, will be the responsibility of BWD to contract for and implement.

The tasks proposed in this project support GSP planning and projects in the BVGB by identifying vulnerabilities and potential impacts from the GSP process on water supply, accessibility, and usage, as well as assessing environmental, economic, cost, governance, and infrastructure concerns. The work proposed in this project will provide support for the GSA effort specific to the SDAC and allow the GSA time to develop management strategies in the GSP to minimize impacts to the SDAC. Specifically, the deliverables produced through this project support the GSA's work by providing reference materials that will aid GSP planning and implementation outreach and decision-making efforts as well as ensure environmental compliance and the timely implementation of the GSP.

OVERALL IMPACT ON SDAC:

BWD serves nearly 2,200 customers, including residential customers as well as commercial, agricultural, golf course, and State Park customers that employ residents of the community. The community that BWD serves is considered a SDAC¹, as well as an Economically Distressed Area (EDA)², per the California Proposition 1 and State Water Code definitions. At the Census Tract level, the area's median household income (MHI) is only 59% of the state MHI (60% MHI or below is considered an SDAC). This, in combination with the density of Borrego Springs at 79.6 persons per square mile (20.4 less than the 100 persons per square mile low-density threshold), also makes Borrego an EDA.

The Borrego Springs community is entirely reliant on the groundwater obtained from the alluvial basin that is in a condition of critical overdraft and continues to be dewatered. A projected 70% reduction in groundwater usage within 20 years will be required to reach sustainability. Groundwater quality is deteriorating as groundwater levels drop and it is becoming more likely that water treatment will be necessary to provide potable water in some areas. Fallowing of agricultural operations may also create a significant financial burden upon the BWD if costs are incurred to transfer water and water rights from agricultural to municipal uses. The severe reductions in water production will dramatically affect local agriculture and other water-dependent commercial activities that provide local employment and support the tax base for the local government. The resultant combination of water rate increases, potential loss of employment, and structural changes to the community will strongly affect the SDAC community within Borrego Valley.

The SDAC will directly benefit from this project through the following:

• Outreach and GSP education activities targeting disadvantaged communities within the SDAC;

¹ http://www.water.ca.gov/irwm/grants/resources dac.cfm

² http://www.water.ca.gov/irwm/grants/resources_eda.cfm

- Impact and decision management analyses modeling the complex interrelations among economic, environmental, governance, and infrastructure concerns that affect all members of the SDAC;
- Water meter installations and well location vulnerability assessments that will ensure availability in the SDAC of safe, clean water; and
- Environmental planning to ensure SGMA implementation in a timely manner to minimize impacts from a degraded water supply.

In addition to ensuring the successful implementation of SGMA, the Borrego Valley SDAC Project will provide BWD with the tools and decision-making information it needs to implement effective water use reduction strategies that maximize availability of potable drinking water for Borrego's nearly 2,200 rate payers.

PUBLIC COMMUNICATION PLAN:

The GSA will inform groundwater users, stakeholders, the general public, and other interested parties about project progress and availability of relevant reports and data through:

- 1. BWD's website, <u>www.borregowd.org</u> and the County's SGMA website, www.sandiegocounty.gov/pds/SGMA.html
- 2. A continuously updated email list of interested parties, including those already identified in earlier Borrego Valley GSP-related outreach and those to be identified through the outreach process outlined in this scope of work.
- 3. Oral and written presentations to, or information workshops with, organizations and community groups as requested (e.g., the SGMA AC, the local planning group [Borrego Springs Community Sponsor Group] as well as business groups, educators, neighborhood councils, etc.).
- 4. Noticing activities, when applicable, posted in the biweekly Borrego Sun and the daily San Diego Union-Tribune newspapers, posted to BWD and County of San Diego PDS websites, and distributed via mail and to email lists.
- Noticing activities will include a project overview statement that describes project activities and outlines how interested parties may participate in the outreach process or provide feedback related to other aspects of the project.

Project progress updates will be provided to the California Department of Water Resources (DWR) on a quarterly basis.

The Borrego SDAC Project will include the following tasks:

TASK 1 SDAC ENGAGEMENT (Percent Complete 0%)

[BWD Responsibility]

SDAC Engagement will include establishing baseline data on SDAC rate payers and the economic structure of Borrego Valley. This is aimed at providing technical assistance to the SDAC community of Borrego Springs and encouraging participation in groundwater sustainability planning activities. Although SDAC Engagement for this project will build on outreach activities conducted as part of the Proposition 1 *Counties with Stressed Basins* funding from DWR, the following tasks are not duplicative and are scheduled to begin after prior DWR funding has been exhausted.

TASK 1.1 COMMUNITY CHARACTERISTICS BASELINE DATA GATHERING

This task involves the preparation of a comprehensive demographic report and an economic overview of the GSA management area that will integrate with information from ongoing GSP planning efforts and include the following research:

- a. Identify population and household information, including:
 - Median household income distribution
 - Retired versus working population; employment and employment types; immigration status

- Other SDAC indicators, e.g., distribution of low-income households and within sub-populations, high unemployment, low levels of homeownership, high rent burdens, public health issues, low educational attainment levels, literacy/linguistic barriers, and digital isolation
- b. Explore local and regional economic landscapes, including:
 - Industries, e.g., agriculture, recreation, education, small businesses
 - Workforce composition, i.e., full-time, part-time, and seasonal
 - Wage composition
 - Housing affordability, both homeownership and rental
 - Present land uses (e.g., county zoning, development permits)
- c. Drinking water assessment public and private
 - Public BWD municipal data, including household water consumption records
 - Private
 - o Estimated number of private wells and their pumping records and water quality data, as available
 - o Number of public wells (present and future), including well locations and configurations, water quality, and pumping records. Much of the well data will be obtained from ongoing work being done by the GSA to prepare the GSP.

The research will utilize census demographic and employment data; County demographic, industry, and employment data; U.S. Geological Survey data and report; current GSP data-gathering efforts (County, Dudek); DWR; GIS mapping, CalEnviroscreen; additional outreach within local economy to obtain needed data (e.g., wage and workforce structures) as needed.

Deliverable:

☐ Summary Report: Community Characteristics

TASK 1.2 SDAC ENGAGEMENT FOR GSP PLANNING AND IMPLEMENTATION ACTIVITIES

This task will provide an overview of GSP planning activities to date and an educational module on groundwater sustainability management in accessible workshops and informal settings (e.g., door-to-door engagement). Engagement efforts will also provide updates and solicit feedback about GSP implementation and associated adaptive management strategies.

- As part of the SDAC outreach process, a consultant will engage members of the SDAC to assist with developing culturally appropriate engagement tools and effective strategies for information dissemination, education, needs assessment, and ongoing feedback.
- The consultant will solicit feedback from attendees through discussion and breakout groups to identify knowledge gaps, concerns related to GSP implementation, feedback on overall management efforts, assessment of needs, and what they would like to see in their community following implementation of the GSP.
- An additional online community feedback component in both English and Spanish may be employed to maximize the ability of diverse stakeholders to participate in the SDAC outreach process.

The GSA and consultant will utilize the Groundwater Sustainability Plan Stakeholder Communication and Guidance Document³, the Borrego Valley Groundwater Basin Stakeholder Engagement Plan⁴, SDAC impact/vulnerability analysis reference materials to complete this task.

Deliverables:

☐ Summary Report: SDAC Engagement (includes identified needs and concerns)

³ http://www.water.ca.gov/groundwater/sgm/pdfs/GD C&E Final 2017-06-29.pdf

http://www.sandiegocounty.gov/content/dam/sdc/pds/SGMA/StakeholderEngagement.pdf

□ Workshop/Meeting Materials from all workshops and other forms of engagement

TASK 2 SDAC IMPACT/VULNERABILITY ANALYSIS (Percent Complete 0%)

[BWD Responsibility]

The SDAC Impact/Vulnerability Analysis task is necessary to understand implications that the implementation of SGMA will have on the SDAC including impacts based on potential water reduction scenarios.

Task 2.1 Baseline Data Compilation on Water Use

This phase of work will draw from the information obtained in Task 1 and will be used to develop SDAC-specific metrics for subareas of the Borrego Valley. Costs for the BWD to supply subareas will be developed based on consultation with BWD specific to their overall water supply, water treatment, and distribution system. Areas outside of the BWD service area will also be evaluated. Limited field checks will be performed, as warranted.

- Drinking water (groundwater is the sole source of water)
 - o Pumping records from all wells and records of water storage and demand (primarily information already being obtained for the GSP)
 - o Water quality analyses and data as related to drinking water standards
 - o Water storage and infrastructure (reservoirs, tanks)
 - o Water supply treatment (present and future)
 - o SDAC accessibility
 - o SDAC affordability and cost thresholds
 - O Drinking water system issues, particularly related to projected declines in water quality related to the critical over-draft of the Borrego Basin
 - o Assessment of potential need for intra-basin transfer of groundwater to meet municipal demands and related water transfer timing and costs
- Wastewater treatment
 - o Type of systems in use
 - o Insufficient wastewater system issues
 - o Opportunities for wastewater reuse (gray water, local sewage treatment with reclamation, etc.)
- Storm water
 - o Issues related to storm water, urban water runoff, flood management
 - o Opportunities for storm water catchment (cistern to large-scale) and treatment or enhanced groundwater recharge
 - o Community impacts related to enhanced storm water recharge for groundwater sustainability
- Other issues
 - o Regulatory and compliance
 - o Climate (climate change, drought, El Nino/La Nina cycle, etc.)
 - o SDAC pollution burden fugitive and potentially toxic airborne particulates associated with fallowed agricultural land. Analysis will include assessment of baseline air quality conditions resulting from agriculture, including pesticides, herbicides, nitrates and other chemicals.

This task will utilize BWD operational data and available reports, BWD cost projections for GSP implementation, ongoing GSP analyses specific to well locations, well use, water level and water quality projections. Local climate data models from Scripps Institute (La Jolla), as well as NOAA and NASA (and other satellite data). County of Diego Air Pollution Control District (APCD), County of San Diego GIS (SanGIS) database, San Diego Association of Governments (SANDAG), US Geological Survey water well records, and California SWRCB Well Completion Reports.

Deliverable:

☐ Summary Report and Data: Baseline Water Use

TASK 2.2 WATER SUPPLY IMPACT/SDAC VULNERABILITY ANALYSIS/GSP IMPACTS ANALYSIS

This task will involve analyzing data obtained in Task 2.1 and identifying the primary vulnerabilities of the severely disadvantaged within each subarea. This task will also quantify the uncertainties associated with the BWD's water supply and related impacts. Excel spreadsheets will be utilized for tabulating and calculating metrics and statistics. Additional open source tools will be identified for data assessment.

Deliverable:

☐ Summary Report: Water Supply Impact/SDAC Vulnerability Analysis/GSP Impacts Analysis.

TASK 3 DECISION MANAGEMENT ANALYSIS (Percent Complete 0%)

[BWD Responsibility]

This Decision Management Analysis task will allow the BWD to look at potential water supply situations that may directly impact groundwater users in Borrego Springs, assess the odds that the problems may occur, and make decisions accordingly.

TASK 3.1 WATER SUPPLY UNCERTAINTIES

The GSP will restrict groundwater extractions to ensure sustainability in the basin and include a hydrogeologic conceptual model to provide the context to develop a water budget and monitoring network in addition to providing a general understanding of the geology and hydrogeology of the basin. This task will include an assessment of the potential range of outcomes of the groundwater extraction restrictions using Monte Carlo simulation methods and alike. The analysis will allow the BWD to look at water supply situations, such as the potential need for water treatment, or loss of individual supply wells due to ongoing groundwater overdraft, and be able to assess its probability of occurring. These problems, in turn, are of direct consequence to the highly vulnerable SDAC since the problems can directly affect their livelihood or create untenable costs for water. Only by planning ahead and understanding uncertainties can the BWD and GSA manage and plan for disruptive impacts to the vulnerable SDAC, in particular.

Deliverables:

- ☐ Summary Report: Water Supply Uncertainties
- ☐ Monte Carlo simulation model. This can be run to assess various water supply and infrastructure scenarios including additional water treatment plants; water reuse; rainfall and runoff catchment and reuse. Each scenario would be associated with costs and benefits.

TASK 3.2 BWD COST AND RATE STRUCTURE UNCERTAINTY AND IMPACT ANALYSIS

The aforementioned water supply uncertainty task effectively tracks all of the water in the water supply system and is physically based on the infrastructure used to extract, treat, and deliver water to all of BWD's customers. Analyses will be performed of the potential impacts of various water reduction scenarios on the SDAC, rate payers, and BWD infrastructure. This work will also examine water system financing models, which will:

- Identify rate structure scenarios (i.e., block, tiered) and constraints (e.g., Prop 218)
- Describe system financing needs (i.e., operation and maintenance costs, both present and potential future)
- Describe SDAC-related constraints to BWD rates and financing
- Describe potential future cost impacts related to groundwater extraction, treatment, and distribution, as well as extended groundwater explorations, monitoring, and chemical (water quality) analyses
- Describe potential future BWD costs for obtaining water and/or water rights for areas (e.g., need to purchase fallowed agricultural land)

This task will utilize GoldSim model (or equivalent) that will simulate the complex system, enable many "what-if" scenarios, and include Monte Carlo simulations developed in the first phase of Task 3; and potentially, additional open source tools (to be identified)

Deliverable:

☐ Summary Report: Cost and Rate Structure Uncertainty and Impact Analysis

TASK 3.3 SDAC-SPECIFIC IMPACT ANALYSIS

An initial analysis of SDAC impacts will be conducted using the criteria and metrics along with the model (and uncertainty analysis) developed in previous tasks. The GSA (BWD and the County) will work with the consultant to identify management options and solutions in light of the SDAC impact criteria determined throughout the SDAC engagement task. This task will utilize Modflow groundwater model (as used for the GSP), SDAC water system assessments done for Task 2, Excel summary spreadsheets, GoldSim Modeling Software, to simulate the complex water resources and supply system, including Monte Carlo Simulations; GoldSim model (or equivalent) that will simulate the complex system, and potentially, additional open source tools (to be identified); additional open source tools may be used as well (tools to be identified).

Deliverable:

☐ Summary Report: SDAC-Specific Impact Analysis

TASK 3.4 SGMA/ENVIRONMENTAL/SOCIETAL/GOVERNMENT IMPACTS

A larger scale impact assessment will be developed that examines community-wide socioeconomic impacts and changes that will result from the GSP. The full scope of the assessment and determination of the metrics to be used (e.g. changes in MHI, employment opportunities per business sector, changes in property tax revenues) will be determined in collaboration with the GSA (BWD and the County) and local business and government representatives. This task may be used as a reference document for future County community plan updates. This task will utilize the Modflow groundwater model (as used for the GSP), SDAC water system assessments completed for Task 2, Excel summary spreadsheets, GoldSim Modeling Software (or equivalent) that will include Monte Carlo simulations; and potentially, additional open source tools (to be identified).

Deliverable:

☐ Summary Report: SGMA/Environmental/Societal/Government Impacts

TASK 4 WELL METERING (Percent Complete 0%)

[BWD Responsibility]

The Well Metering task is aimed at refining groundwater usage amounts, particularly agricultural, that is being pumped within the BVGB.

TASK 4.1 WELL METERING

Well meters will be installed on non-de minimis production wells within the Borrego Springs Subbasin of the BVGB. The GSA intends to implement a voluntary well monitoring program to monitor groundwater usage and ensure compliance during GSP implementation. Participation in the voluntary program is anticipated to include 17 wells. Wireless remote well metering may be used as appropriate. Activities to achieve this will include:

- Well and well pipe assessment, photos, and GPS location mapping
- Written installation equipment such as connections, pipe size needed, power available
- Wireless remote meters, cloud transmitters with environmental enclosures for appropriate well site electrical source
- Site installation of water meter and electrical connection
- Setup BWD computer with software to receive meter signals and CAD map location of each meter
- Begin monitoring well pump times, days, length of service, and export water quantity reports using data

Attachment 4 – Work Plan November 2017

Deliverable:

☐ Meter Installation and Calibration Report

TASK 5 WATER VULNERABILITY/NEW WELL SITE FEASIBILITY STUDY (Percent Complete 0%) [BWD Responsibility]

The Water Vulnerability/New Well Site Feasibility Study will include an assessment of water supply vulnerability and determination of a new well site to provide potable water to the SDAC in Borrego Springs via the BWD.

TASK 5.1 WELL RANKING SYSTEM

To provide a reliable and cost-effective water resource supply to customers, the BWD must evaluate locating replacement groundwater extraction wells. A consultant will be tasked with developing a well site ranking system in order to assist in decision making as it pertains to the addition of groundwater extraction wells.

The well site ranking system will consider but not be limited to the following criteria: aquifer properties, well interference, groundwater quality, existing BWD water supply infrastructure (pressure zones, wellhead distribution system pressures), longevity of existing wells (age and declining groundwater levels), district owned property, property acquisition and easement acquisition, other environmental constraints (flood zones, biological resources, etc.). The consultant will apply the ranking system to prioritize well locations for BWD. Each category will be assigned a ranking that ranges from 1 ("least favorable") to 4 ("most favorable"). The ranking for each category will be totaled for each perspective well location, and the highest total represented by the most favorable locations will be recommended for consideration of installing test or production wells.

Deliverable:

☐ Summary Report: Well Ranking System

TASK 5.2 WATER MODEL UPDATE AND CALIBRATION

To better assess the feasibility of additional groundwater extraction wells, it is necessary to identify system supply and demands by improvement zones. The consultant will use the existing WaterCAD Model to estimate average and maximum day demand for each improvement or major pressure zone and aid in the development of the alternatives.

There are currently two existing WaterCAD models for the District. One model covers Improvement Districts (IDs) 1 and 3 and another covers IDs 4 and 5. These two models will be combined into one, functional model. Once combined, the consultant will update the demands, well flow rates, controls and any improvements made to the distribution system infrastructure. Once updated, the model will be calibrated with SCADA and fire hydrant pressure data, resulting in a hydraulic model that accurately represents field conditions. This task will utilize WaterCAD, County of San Diego GIS (SanGis) database, and SCADA.

Deliverable:

☐ Updated WaterCAD hydraulic modeling files

TASK 5.3 WELL TEST DRILLING

Once alternative well locations are identified and prioritized, a test well will be drilled to identify geologic and hydrogeologic conditions of the selected location including lithology and borehole geophysics. The test well will be drilled to the depth of optimal supply quantity expected (possibly up to 1,000 feet) and evaluated for production capacity, aquifer properties, and water quality parameters.

Deliverable:

☐ Well Completion Report with hydrogeologic/geologic/geophysical/water quality data.

TASK 6 ENVIRONMENTAL PLANNING (Percent Complete 0%)

[County Responsibility]

The County of San Diego (County), as the land use agency with jurisdiction in Borrego Valley and as a member of the multi-agency GSA, will prepare the appropriate CEQA analysis and documentation, anticipated to be an EIR, for the projects identified in the GSP.

CEQA is not applicable to the preparation and adoption of a Groundwater Sustainability Plan (GSP) (Water Code Section 10728.6); however, the subsequent implementation of actions identified in an adopted GSP would be subject to CEQA review. Projects identified in the GSP and analyzed in the EIR will be able to rely on and tier from that analysis consistent with applicable CEQA guidelines. The County is a member of the multi-agency GSA for the basin and all activities associated with this project will be coordinated with both agencies that make up the Borrego Valley GSA – the County and Borrego Water District.

TASK 6.1 PROJECT DESCRIPTION, INITIAL STUDY, NOTICE OF PREPARATION, AND SCOPING

Utilizing preliminary measures identified in the Borrego Valley GSP, the County will prepare a project description, which forms the basis of analysis of potential impacts in the EIR. The NOP will be prepared consistent with the requirements of Section 15082 of the State CEQA Guidelines. The NOP will include a summary of the project description and identification of probable environmental effects. The identification of environmental effects will consist of a completed Initial Study checklist attached to the NOP to identify topics that may be scoped out of the EIR. The Initial Study will consist of the Environmental Checklist and explanations of the checklist answers. Where the potential for a significant effect is identified, the Initial Study will refer to more detailed analysis to be included in the EIR. The final Initial Study and NOP will be distributed to responsible agencies, the State Clearinghouse, and persons who have expressed interest in the project. The County will utilize the interested persons list developed during GSP preparation as the basins for stakeholder outreach.

County staff will review and summarize NOP comment letters received during the 30-day scoping period for presentation in the Draft EIR. Comment letters will be provided in an appendix to the EIR.

Deliverables:

EIR Project Description
Initial Study and NOP

TASK 6.2 DRAFT EIR, NOTICE OF AVAILABILITY, AND NOTICE OF COMPLETION

This task includes the preparation of a Draft EIR, Notice of Availability, and Notice of Completion. The EIR will focus on the issues that are identified to have potentially significant impacts in the Initial Study. The EIR will include all contents required by County requirements, the CEQA statute, and State CEQA Guidelines.

An environmental impact issue expected to be evaluated in the EIR consists of the physical environment effects of GSP implementation measures that may involve land use changes such as farmland fallowing. Additionally, CEQA provides specific requirements for the contents of an EIR. Other sections required by CEQA, include the following:

- Alternatives. The alternatives will be analyzed at a level of detail less than that of the proposed project and will include sufficient detail to allow a comparison of the impacts, consistent with CEQA requirements.
- Significant Environmental Effects Which Cannot Be Avoided. This section will summarize significant and unavoidable environmental effects of the proposed project and alternatives as evaluated in the EIR.
- Significant Irreversible Environmental Changes. This section will summarize significant irreversible environmental changes that would be involved in the proposed project should it be implemented, consistent with CEQA Guidelines Section 15126.2(c).
- Growth-Inducing Impacts of the Proposed Project. This section will qualitatively evaluate the project's potential to induce growth and any subsequent environmental impacts that would occur (pursuant to CEQA Guidelines Section 15126.2[d]).
- Cumulative Impacts. This section will evaluate the impacts of cumulative development on all of the resource issues evaluated in the EIR.
- Sections required by CEQA not mentioned above include table of contents, an introduction, an executive summary, and a list of individuals and agencies consulted. The EIR will include maps and other graphics to clearly present the environmental analysis to the decision makers, responsible agencies, and the public.

Deliverables:

Draft EIR
Notice of Availability
Notice of Completion

TASK 6.3 FINAL EIR

The level of effort required to prepare a Final EIR is directly related to the number and complexity of agency and public comments received on the Draft EIR. This task will include reviewing and responding to comments received on the Draft EIR. This task will also include preparation of CEQA Findings of Fact (Finding), Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD) and, if necessary, a Statement of Overriding Considerations (SOC). The Findings will specify which mitigation measures have been incorporated into the project and those measures that have not, and will explain why certain measures have been found to be infeasible. If applicable, the Findings will also identify feasible project alternatives that could reduce adverse environmental effects but are not being implemented, with an explanation as to why they are considered to be infeasible. The MMRP will describe the implementation and monitoring approach for mitigation measures included in the EIR to address significant impacts. The SOC will describe any unavoidable environmental effects and the considerations that warrant approval of the GSP, despite the unavoidable impacts.

Deliverables:

Final EIR
CEQA Findings
Mitigation Monitoring and Reporting Program
Notice of Determination
Statement of Overriding Considerations (if necessary)