# SPECIAL NOTICE REGARDING
# CORONAVIRUS DISEASE 2019 (COVID-19)
# AND PARTICIPATION IN PUBLIC MEETINGS

On March 4, 2020, Governor Newsom declared a State of Emergency resulting from the threat of COVID-19. Governor Newsom issued Executive Order N-25-20 (3-12-20) and Executive Order N-29-20 (3-17-20) which temporarily suspend portions of the Brown Act relative to conducting public meetings. Subsequent thereto, Governor Newsom issued Executive Order N-33-20 (3-19-20) ordering all individuals to stay at home or at their place of residence. Accordingly, it has been determined that all Board and Workshop meetings of the San Bernardino Valley Municipal Water District will be held pursuant to the Brown Act and will be conducted via teleconference. There will be no public access to the meeting venue.

## BOARD OF DIRECTORS WORKSHOP - ENGINEERING
## TUESDAY, JULY 14, 2020 – 2:00 P.M.

**PUBLIC PARTICIPATION**

Public participation is welcome and encouraged. You may participate in the July 14, 2020, meeting of the San Bernardino Valley Municipal Water District online and by telephone as follows:

**Dial-in Info: 877 853 5247 US Toll-free**
**Meeting ID: 753 841 573**

**https://sbvmwd.zoom.us/j/753841573**

If you are unable to participate online or by telephone, you may also submit your comments and questions in writing for the District's consideration by sending them to comments@sbvmwd.com with the subject line "Public Comment Item #" (insert the agenda item number relevant to your comment) or "Public Comment Non-Agenda Item". Submit your written comments by 6:00 p.m. on Monday, July 13, 2020. All public comments will be provided to the Chair and may be read into the record or compiled as part of the record.

**IMPORTANT PRIVACY NOTE: Participation in the meeting via the Zoom app is strongly enccouraged. Please keep in mind: (1) This is a public meeting; as such, the virtual meeting information is published on the World Wide Web and available to everyone. (2) Should you participate remotely via telephone, your telephone number will be your "identifier" during the meeting and available to all meeting participants. Participation in the meeting via the Zoom app is strongly encouraged; there is no way to protect your privacy if you elect to call in to the meeting. The Zoom app is a free download.**

**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**
380 E. Vanderbilt Way, San Bernardino, CA 92408

**BOARD OF DIRECTORS WORKSHOP - ENGINEERING**

**AGENDA**

**2:00 PM Tuesday, July 14, 2020**

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**CALL TO ORDER** -
*Chairperson: Director Kielhold*
*Vice-Chair: Director Hayes*

**1. INTRODUCTIONS**

**2. PUBLIC COMMENT** - *Any person may address the Board on matters within its jurisdiction.*

**3. SUMMARY OF PREVIOUS MEETING**

3.1. June 9, 2020, Meeting (Page 3)
Summary Notes BOD Workshop - Engineering 060920

**4. PRESENTATIONS**

4.1. Presentation by Ms. Betsy Miller of the San Bernardino Valley Water Conservation District on the Wash Plan Habitat Conservation Plan

**5. DISCUSSION ITEMS**

5.1. Consider Contract Amendment with RMG Communications for Social Media Management (Page 7)
Staff Memo - Consider Contract Amendment with RMG Communications
Draft Contract Amendment with RMG Communications

5.2. Consider Scope of Work from Stillwater Sciences for the Development of the Adaptive Management and Monitoring Program for the Upper Santa Ana River Habitat Conservation Plan (Page 13)
Staff Memo - Consider Scope of Work for Development of Adaptive Management and Monitoring Plan for Upper SAR HCP
Stillwater Sciences SOW

5.3. Consider Scope of Services with Scheevel Engineering for Engineering Consulting and Staff Augmentation (Page 34)
Staff Memo - Consider Professional Engineering Services with Scheevel Engineering
Scope for Professional Engineering Consulting & Project Management Services by Scheevel Engineering

5.4. Consider Survey Services with Hernandez, Kroone & Associates (HKA) for Devil Creek and Sweetwater Basins (Page 49)
Staff Memo - Consider Survey Services with Hernandez, Kroone & Associates (HKA) for Devil Creek and Sweetwater Basins
HKA Scope for Aerial Surveys of Devils Canyon-Final
Approximate Limits of Survey

5.5. Consider Participation in Cultural Intelligence Training through the Cultural Intelligence Center (Page 64)
Staff Memo - Consider Participation in Cultural Intelligence Training
Corporate Solutions Flyer

## 6. FUTURE BUSINESS

## 7. ADJOURNMENT

PLEASE NOTE:
Materials related to an item on this Agenda submitted to the Board after distribution of the agenda packet are available for public inspection in the District's office located at 380 E. Vanderbilt Way, San Bernardino, during normal business hours. Also, such documents are available on the District's website at www.sbvmwd.com subject to staff's ability to post the documents before the meeting. The District recognizes its obligation to provide equal access to those individuals with disabilities. Please contact Lillian Hernandez at (909) 387-9214 two working days prior to the meeting with any special requests for reasonable accommodation.

SAN BERNARDINO Valley MUNICIPAL WATER DISTRICT

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**DATE:** July 14, 2020

**TO**: Board of Directors' Workshop - Engineering

**FROM:** Staff

**SUBJECT:** Summary of June 9, 2020 Board of Directors' Workshop - Engineering

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The Board of Directors held a Workshop on June 9, 2020. Director Kielhold chaired the meeting via video-conference and Directors Harrison, Navarro, Longville, and Hayes participated in the Workshop supported by Heather Dyer, Bob Tincher, Wen Huang, Cindy Saks, Melissa Zoba, Kristeen Farlow, Lillian Hernandez, and Mike Esquer of staff. The following agenda items were discussed:

**3.1 Summary of Previous Meeting on May 12, 2020.** The summary notes of the May 12, 2020, meeting were accepted.

**4.1 Overview of Valley District's Emergency Preparedness Planning.** At a recent Board of Directors meeting, Director Navarro requested a presentation on the District's emergency preparedness planning. At this workshop, staff provided an overview of Valley District's emergency preparedness program and provided an update on its COVID-19 response.

**Action Items:** Director Navarro requested a list of the National Incident Management System (NIMS) courses that are recommended, but not required, for Board members and a hardcopy of the Valley District Emergency Operations Plan. Director Harrison requested that the PowerPoint be emailed to him and Director Navarro requested a hardcopy of the PowerPoint be sent to him by U.S. Mail.

**Consider Purchase of State Water Project Turnout WR-23 to Use to Recharge the Colton and Riverside North Groundwater Basins.** At a Board of Directors Workshop on October 9, 2018, staff outlined the options available to increase the groundwater level in the Colton and Riverside North Basins which fell below the 1969 Western-San Bernardino Judgment (Judgment) threshold for the first time in 2018. Due to the continuing dry conditions and somewhat increased groundwater production in these basins, the groundwater level remains below the threshold.

Valley District Staff have been working with the other member of the Watermaster, Western Municipal Water District (WMWD), to develop an action plan to restore groundwater levels. One of the actions on this plan is to utilize WMWD's Turnout WR-23 (WR-23) to recharge State Water Project (SWP) water into the Colton and Riverside North basins. Staff recommended that the Board consider purchasing WR-23 from WMWD and Metropolitan Water District of Southern California (MWDSC) at a total estimated cost of about $553,000, including costs to integrate the turnout into the Valley District and Department of Water Resources systems. This transaction also requires a joint agreement with the Department of Water Resources (DWR) and MWDSC to formally notify DWR that ownership of the turnout has changed to Valley District and to outline the procedure for MWDSC to use the turnout in the future. Those board members in attendance aske that this item be forwarded to an upcoming Board meeting for consideration.

**Action Item:** Forward to the Board for consideration.

5.1 **Consider Santa Ana River Recharge Modeling and Testing with Geoscience.** Subsequent to the favorable consideration by the Board of Directors on the previous item for purchase of a State Water Project (SWP) Turnout, WR-23, Staff presented a proposed scope of services for groundwater modeling and recharge testing in the Santa Ana River using SWP water from WR-23. This scope is an initial step in response to the average groundwater levels in the three index wells in Colton and Riverside North Basins falling below the threshold of 822.04 feet amsl (above mean sea level). This compliance point was established in the 1969 Western Judgment to protect downstream agencies from deleterious impacts of the settlement. The annual monitoring of the index wells conducted in November 2018 and November 2019, respectively, revealed that the average water levels were below the threshold for two years in a row, which requires action on the part of Valley District.

At the conclusion of the discussion, the Board of Directors asked that this item be forwarded to the full Board for consideration.

**Action Item(s):** Forward this item to the full Board for consideration.

5.2 **Consider Lease Agreement for AT&T Cellular to Construct and Operate a Cellular Communications Tower.** Staff provided background information for a proposed telecommunications site lease agreement with New Cingular Wireless PCS, LLC, (AT&T Mobility Corporation) for the installation, operation and maintenance of a cellular communication tower located on Valley District's properties (Assessor's Parcel Numbers 0168-351-10 & 0168-351-11) in Redlands, California at the Tate Pump Station site. The Telecommunications Site Lease Agreement drafted by District House Counsel and accepted by the attorney for AT&T was presented for consideration by the Board of Directors. Among other things, the initial term of the lease is five (5) years with a lease amount of $2,500 per month. The lease may be automatically renewed every five years, up to four (4) times, with a 15% rate increase to the monthly lease.

At the conclusion of the discussion, the Board of Directors asked that this item be forwarded to the full Board for consideration.

**Action Item(s):** Forward this item to the full Board for consideration.

5.3 **Consider Fourth Joint Facilities Agreement with San Gorgonio Pass Water Agency.** Staff provided a brief history of pipeline capacity rights agreements with the San Gorgonio Pass Water Agency (SGPWA) and presented the proposed Fourth Joint Facilities Agreement with the purchase price and terms of capacity in certain facilities that were contemplated in the Third Joint Facilities Agreement. A few key deal points include the SGPWA purchasing a 32 cubic feet per second in the Foothill Pipeline and the District purchasing back SGPWA's unused capacity in other local facilities in anticipation of the Enhanced Recharge and the Bunker Hill Conjunctive Use Projects.

At the conclusion of the discussion, the Board of Directors asked that this item be forwarded to the full Board for consideration.

**Action Item(s):** Forward this item to the full Board for consideration.

**6. Director Requests for Consideration:**

The Board of Directors asked a proclamation be drafted and presented at the next Board of Directors' meeting in recognition and appreciation of the service of Jeff Davis, General Manager of the San Gorgonio Pass Water Agency, who plans to retire at the end of June 2020.

**Staff Recommendation**

Receive and File

**DATE:** July 14, 2020

**TO**: Board of Directors Workshop – Engineering

**FROM:** Kristeen Farlow, Manager of Water Use Efficiency/External Affairs

**SUBJECT:** Consider Contract Amendment with RMG Communications for Social Media Management

The Board of Directors is asked to consider a contract amendment with RMG Communications for Social Media Management.

**Background**

In April 2019, Valley District established its Social Media Program to enhance communication with the community, stakeholders and water retailers. The goal of using social media is to inform customers and stakeholders about the District's projects, programs, announcements, and initiatives as well as shared content from trusted sources on water, government and related environmental or regional issues, projects or initiatives.

Valley launched its social media efforts with Facebook and Twitter pages. Through the social media consultant, RMG Communications, there have been two to three posts per week on each social media platform. Along with posting planned content, social media allows the District the flexibility of posting urgent or timely content, including posting about the extension of the Habitat Conservation Plan Environmental Impact Review period last year and updates on the COVID-19 pandemic. Due to a tool called "boosting" your post, Valley District is able to target a certain audience to get our content in front of them.

There are a number of methods the District can use to determine “success” of the social media program. Along with the number of followers and page likes, a more accurate description of our reach is found through “impressions.” This is the number of people that the content has gotten in front of, either through likes, shares, or boosting a post. Since kicking off the social media program in 2019, the District Facebook page has 108,400 post impressions.

Staff anticipates continuing the use of social media to promote water use efficiency programs, highlight the District’s retail water providers, and post general District updates in the coming year. This is an effective and affordable communication method that is becoming an integral piece of the District’s marketing and outreach efforts.

**Fiscal Impact**

The total cost for the contract amendment with RMG Communications to manage the Social Media Program for the 2020-2021 fiscal year is $30,000. This amount is included in account number 6640 - Water Conservation and Education.

**Recommended Action**

Staff recommends the Board discuss the District’s Social Media Program and the proposed contract amendment. If recommended to proceed, forward this item to a future Board of Directors’ meeting for consideration and approval. The total cost for the contract with RMG Communications for the next fiscal year is $30,000.

**Attachments**

Draft Contract Amendment with RMG Communications

# FIRST AMENDMENT TO THE CONSULTING SERVICES AGREEMENT

This First Amendment to the Consulting Services Agreement ("***Amendment***") is entered into as of July 1, 2020, by and between RMG Communications ("***Consultant***") and San Bernardino Valley Municipal Water District, a water district organized and existing under the California Municipal Water District Law of 1911 ("***District***"). Consultant and District are hereafter referred to individually as "***Party***" and collectively as the "***Parties***."

## RECITALS

A. The Parties entered into that certain Consulting Services Agreement, dated July 1, 2019 ("***Consulting Agreement***"), whereby Consultant agreed to provide certain professional Social Media management services to District in connection with Valley District Social Media Program. The Consulting Agreement provided for a Maximum Fee of $30,000.

B. The Parties desire to make certain amendments to the Consulting Agreement, including without limitation extending the term and clarifying the compensation, upon the terms and conditions contained in this Amendment.

## OPERATIVE TERMS

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained in this Amendment, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Recitals; Defined Terms. The Recitals are material to this Amendment, and by this reference are hereby incorporated herein. For purposes of this Amendment, all capitalized terms shall have the meanings given to such terms in the Consulting Agreement, unless such terms are otherwise defined herein.

2. Term. The Term of the Agreement is hereby extended and shall automatically terminate on June 30, 2021.

3. Additional Services. No additional services are being requested beyond the original Consulting Services Agreement.

4. Compensation. The Maximum Fee is hereby increased to sixty thousand dollars ($60,000). All references to Maximum Fee in the Consulting Agreement shall refer to the amount set forth herein.

5. Binding Effect. This Amendment shall be binding upon and inure to the benefit of the Parties' permitted successors and assigns. The Parties acknowledge and agree that except to the extent specifically provided in this Amendment, the Consulting Agreement shall continue in full force and effect as previously written.

6. No Other Modifications. The Parties acknowledge that this Amendment evidences the entire agreement between the Parties with respect to the matters addressed herein and supersedes all previous negotiations and discussions related thereto.

7. Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be an original, but all of which shall constitute one and the same instrument.

**[*Signature Page Follows*]**

**IN WITNESS WHEREOF**, the Parties hereby execute this Amendment as of the date first set forth above.

**DISTRICT:**

**SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT**

By:_____

Name: _____

Its: _____

Date: _____

**CONSULTANT:**

**RMG COMMUNICATIONS**

By:_____

Name: _____

Its: _____

Date: _____

**Attachment A**

**Consulting Services Agreement for Social Media Management with RMG Communications, dates July 1, 2019.**

SAN BERNARDINO Valley MUNICIPAL WATER DISTRICT

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**DATE:** July 14, 2020

**TO**: Board of Directors' Workshop - Engineering

**FROM:** Kai Palenscar, Project Manager II, Biological Resources
Heather Dyer, CEO/General Manager

**SUBJECT:** Consider a Consulting Agreement with Stillwater Sciences for the Preparation of the Adaptive Management and Monitoring Plan for the Upper Santa Ana River Habitat Conservation Plan

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The activities proposed here were discussed at the April 16, 2020 workshop during which we discussed the award of a Section 6 planning grant that is funding 50% of the cost to develop a long-term monitoring and adaptive management program for the Upper SAR Habitat Conservation Plan (HCP). The total cost of the effort is estimated to be $1,750,000, of which $875,000 will be reimbursed by the U.S. Fish & Wildlife Service Section 6 grant.

**Background**

Due to numerous endangered and threatened species issues associated with water supply projects in the upper Santa Ana River watershed the District and 11 public agency partners been preparing the Upper Santa Ana River HCP. In 2014, the Board of Directors authorized Valley District's participation and its role as lead agency for the development of the HCP. A draft of the HCP and its corresponding California Environmental Quality Act (CEQA) document are currently under review and being prepared for release to the public.

The HCP is providing endangered species coverage for over 70 proposed projects, including storm water and recycled water projects that total approximately 80,000 acre-feet per year of local supply to the region (total for all HCP agencies combined). In order to offset impacts associated with building our proposed water projects, a Conservation Strategy has been developed for the HCP which

includes the tributaries restoration activities, captive breeding and translocation of Santa Ana sucker and mountain yellow legged frog, predator removal activities, San Bernardino kangaroo rat habitat conservation, etc. In order to provide the most value to the partners that have invested in this long-term planning tool, the Habitat Conservation Plan has been expanded into a full environmental compliance program that will provide a streamlined path for the many regulatory requirements to build water projects. The Program now includes the Habitat Conservation Plan (HCP) for endangered species incidental take coverage, Programmatic Aquatic Resources Permits (i.e. Army Corps and CDFW Streambed Alteration Permits), and a Mitigation Reserve Program that serves as a mitigation credit "savings account" that will be drawn upon over time as projects are built and need mitigation for the various permit compliance.

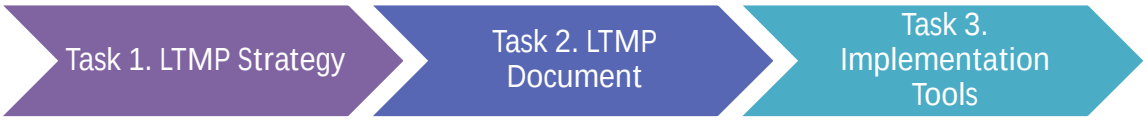
**Long-Term Monitoring Program**

Implementing this Habitat Conservation Plan and other Programmatic Permits requires that we provide data to the regulatory agencies demonstrating that we are; 1) building projects within the estimated impacts included in our various permits, and 2) meeting the success criteria of our Conservation Program, which is designed to offset those impacts. In order to do so, we need to develop a Long-Term Monitoring and Management Program (LTMP). Please note, an LTMP can also be referred to as an Adaptive Management and Monitoring Plan or AMMP, which is synonymous with the term LTMP. Through the HCP development process, and especially using the Santa Ana River Integrated Model, we have estimated the impacts to the 20+ species covered by the HCP, and also the various habitat variables such as riparian cover, water depth and stream width, etc., that may result from our projects. However, even with the cutting-edge science and modeling that we have developed, we are still only estimating the impacts and thus, a robust monitoring program will be in place that actually measures the change in these variables and furthermore informs the adaptive management activities that may be required in order to meet success criteria.

A well-designed LTMP should facilitate gathering of the right information to inform decisions yet also provide enough flexibility to adaptively respond to changing conditions over a long period of time. This is especially important when attempting to manage a diverse array of habitats with unique and not well understood management requirements. The long-term success of the Conservation Strategy will depend on the development of a strong foundation for implementing the components of our strategy in a defensible and transparent way. A robust monitoring program will provide the tools and monitoring methods to track how water management activities affect the surface flow and groundwater systems along with riparian vegetation communities and the conservation and recovery of covered species.

Effective adaptive management measures will be implemented based on information gathered from the monitoring program. Together, the monitoring and adaptive management components of the LTMP will help the HCP and the Programmatic Permitting stay in compliance with the terms of the Incidental Take Permits and aquatic resource permits, respectively. Implementation of the LTMP will ensure that the Conservation Strategy meets its conservation success criteria, and will support the long-term success of the Conservation Program. The LTMP will also include a GIS-based mitigation tracking tool to provide full transparency of mitigation credit creation and use over time, and will ensure efficient allocation of "stacked" credits across mitigation types (i.e., species and aquatic resources).

Three tasks are associated with the funded proposal representing the three stages of LTMP development and implementation. The first stage (Task 1) is the LTMP strategy. The strategy will identify all the key components of the LTMP and how they will interact with each other (from natural resource types [species, habitats, waters] to regulatory reporting requirements to program administration needs). The second stage (Task 2) is writing of the LTMP itself to document the detailed processes for adaptive management and monitoring, implementation scheduling, and regulatory agency compliance reporting. The third stage (Task 3) is the identification of the implementation tools. These are the tools that make monitoring and management data collection and analysis easier to conduct, that make reporting to the agencies more efficient, that facilitate Program administration, and that provide access for science and collaboration and public information.




**Project Timeline**

The work is partially funded (50%) by a Planning Grant (USFWS Section 6). The timeline for project completion is one year from the start of the grant as defined by the grant award. The start date of this grant will be August 1, 2020, with the final grant report submitted on or before July 31, 2020.

**2019 Section 6 Grant**

In early 2019, knowing that the HCP was nearing completion and the preparation of a LTMP was going to be a requirement of permit issuance, staff prepared an application requesting additional Section 6 Habitat Conservation Planning Grant funds to assist with this last piece of our HCP development process. The Board approved acceptance of an $875,000 grant award on April 16, 2020 and approved a commitment of matching funds, up to $875,000, towards completion of the project.

The proposed scope of work detailed below, submitted by our HCP consultants, Stillwater Sciences and ICF Jones & Stokes, covers $1,615,000 of the total $1,750,000 project budget. Valley District will be contracting separately for several other independent expert to perform science advisory and peer review services, which will be brought separately to the Board for consideration and use the remaining $135,000 of project budget.

| | | |
|---|---|---|
| Primary Project Consultant(s) | Stillwater Services and ICF Jones & Stokes | $1,615,000 |
| Third-Party Science Advisors, Peer Review | Blue Octal, Geoscience – Hydrology<br>Balleau Groundwater – Groundwater/Riparian<br>USGS/RCRCD – Fishes<br>SAWA – Birds<br>TBD - Plants | $135,000 |
| | TOTAL PROJECT BUDGET | $1,750,000 |

Stillwater Sciences and ICF will be working as a team on this project. For the other HCP development work, ICF has served as the primary consultant with a sub-contract to Stillwater Sciences. However, for this last piece of the program, Stillwater Sciences will act as the prime consultant and ICF will be the sub-consultant. This shift is primarily in an effort to distribute workload between the two firms and lead scientists since the ICF team is heavily involved in wrapping up preparation of the HCP document and its EIR for release to the public in coming weeks. The Stillwater and ICF teams are uniquely qualified to conduct this work because it is the final major component of the HCP planning effort that has been underway since 2014. This long-term monitoring and management plan builds upon all of the previous work done throughout development of the HCP itself, along with the tributaries restoration design and planning work, the Seven Oaks Dam High Flow Study, and the Santa Ana River Integrated Model. All of these former projects are interrelated and provide the basis from which the LTMP will be developed.

**Fiscal Impact**

On April 16, 2020, the Board approved a commitment of matching funds, up to $875,000, towards completion of the project as provided below. The total anticipated cost for the completion of Tasks 1-3 of the proposed contract is $1,615,000, of which up to $875,000 would be the cost to the District. The grant will provide $875,000 of funds reimbursement to the District. Since this is an HCP requirement, the HCP partners will reimburse Valley District approximately 60% or $525,000. This brings Valley Distracts fiscal impact to $350,000.

**Staff Recommendation:**

Staff recommends the Board direct staff to place a consulting agreement with Stillwater Sciences in the amount of $1,615,000 on the next regular Board of Directors meeting for consideration.

**Attachment:**

Stillwater Sciences AMMP Scope of Work

**Stillwater/ICF**

# Adaptive Management and Monitoring Plan and Implementation Tools for the Upper Santa Ana River Watershed

## Scope of Work
## 9 July 2020

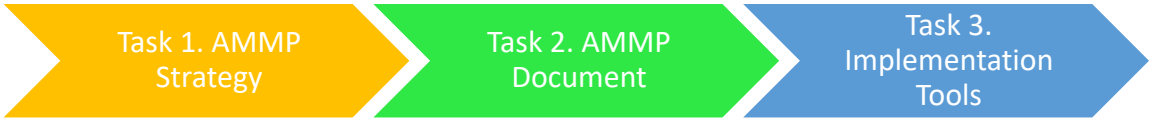
Stillwater Sciences and ICF are pleased to provide the San Bernardino Valley Municipal Water District (Valley District) with this scope of work and cost estimate to help them develop an Adaptive Management and Monitoring Plan and implementation tools for the Upper Santa Ana River Program (including the Habitat Conservation Plan, associated conservation and restoration projects, aquatic resources permitting, mitigation/conservation banking, and program communications and coordination with the regulatory agencies, the scientific community, environmental stakeholder, and the public).

## PURPOSE

The purpose of this project is to develop an Adaptive Management and Monitoring Plan (AMMP), including implementation tools, for the Upper Santa Ana River Program that provides a landscape-scale, strategic approach to tracking and verifying the estimates of project effects and conservation benefits that were developed for the various components of the Program. The Upper Santa Ana River Program (Program) includes the Habitat Conservation Plan (HCP), the Aquatic Resources Programmatic Permitting, the Mitigation Banks, and the Mitigation Reserve Program. The Project Applicants and regulatory agencies, such as US Fish and Wildlife Service and California Department of Fish and Wildlife, have invested many years and a substantial amount of Federal Section 6 funding along with local matching funds to develop strong scientific analyses for the HCP and other components of the Program. The long-term success of the Program will depend on the development of a strong foundation for implementing the components of the Program in a defensible and transparent way. A robust monitoring program will provide the tools and monitoring methods to track how water management activities affect the surface flow and groundwater systems along with riparian vegetation communities and the conservation and recovery of covered species. Effective adaptive management measures will be implemented based on information gathered from the monitoring program. Together, the monitoring and adaptive management components of the AMMP will help the HCP and the Programmatic Permitting stay in compliance with the terms of the Incidental Take Permits and aquatic resource permits, respectively. Implementation of the AMMP will ensure that the Program meets its conservation success criteria and will support the long-term success of the Program. The AMMP will also include a GIS-based mitigation tracking tool to provide full transparency of mitigation credit creation and use over time and will ensure efficient allocation of “stacked” credits across mitigation types (i.e., species and aquatic resources).

This scope of work includes three tasks representing the three stages of AMMP development and implementation. The first stage (Task 1) includes developing the AMMP strategy. Strategic development includes identifying all the key components of the AMMP and how they will

interact with each other. The key components range include natural resource types (species, habitats, waters), regulatory reporting requirements, and Program administration needs. The second stage (Task 2) is the writing of the AMMP itself to document the detailed processes for adaptive management and monitoring, implementation scheduling, and regulatory agency compliance reporting. The third stage (Task 3) is the identification and development of the implementation tools. These are the tools that make monitoring and management data collection and analysis easier to conduct, that make reporting to the agencies more efficient, that facilitate Program administration, and that provide access for science and collaboration and public information. While the conceptual identification of potential tools will be an element of the strategy development in Task 1, the detailed selection of implementation tools and their functionality will be determined once the detailed structure of the AMMP takes shape in Task 2.



## SCOPE OF WORK

### Task 1A. Develop an Integrated Strategy for the Upper Santa Ana River Adaptive Management and Monitoring Plan.

A strategic approach to the development of an Adaptive Management and Monitoring Plan will help frame the most important issues to the stakeholders. Scientific credibility is built through careful and rigorous peer review of both the methods and the results. For a Program of this size and complexity to realize its full potential, it is important to identify and address the needs of stakeholders. A Collaborative Team of expert Science Advisors and stakeholders will develop goals for the Program and translate those goals into technical objectives that take into account uncertainties in the ecological system and feasibility of collecting the data. The Stillwater-ICF team in coordination with independent third-party Science Advisors, who are experts in specific fields such as hydrology, sediment transport, species monitoring, and habitat management, will help identify an effective set of tools (monitoring protocols and data analytics) to measure, analyze, and integrate monitoring data in order to understand the overall ecological function, status, and trends of each monitoring target (species, habitat, and physical variables).

We propose co-creating the strategic approach to the Adaptive Management and Monitoring Plan by leveraging Spark Labs, ICF's unique service offering designed to help organizations streamline complex projects. This way of working rapidly uncovers priorities and creates critical alignments upfront, compressing months of work into a single week. Attached to this proposal is an overview of Spark Labs.

Via an in-person strategy workshop, our skilled Spark Labs facilitators will foster collaboration among participants, including regulators/stakeholders, Valley District/HCP JPA (the Joint Powers Authority implementing entity), key Science Advisors and other domain experts from ICF and Stillwater Sciences. Given the complexity of the features that need to be integrated into the AMMP, we suggest a multi-day Spark Labs approach as described below.

Multi-Day Spark Labs:

- On Day 1, approximately 8-14 workshop participants will spend six hours in a problem-framing workshop that includes developing a long-term vision for success, surfacing challenges and opportunities, then aligning on a high-level path forward for the AMMP strategy and document.

- On Days 2 and 3, a subset of the workshop participants from the Valley District, ICF and Stillwater will co-create a conceptual model for the strategy and the outline for the AMMP using a highly structured process based upon Google Ventures' design sprint methodology.

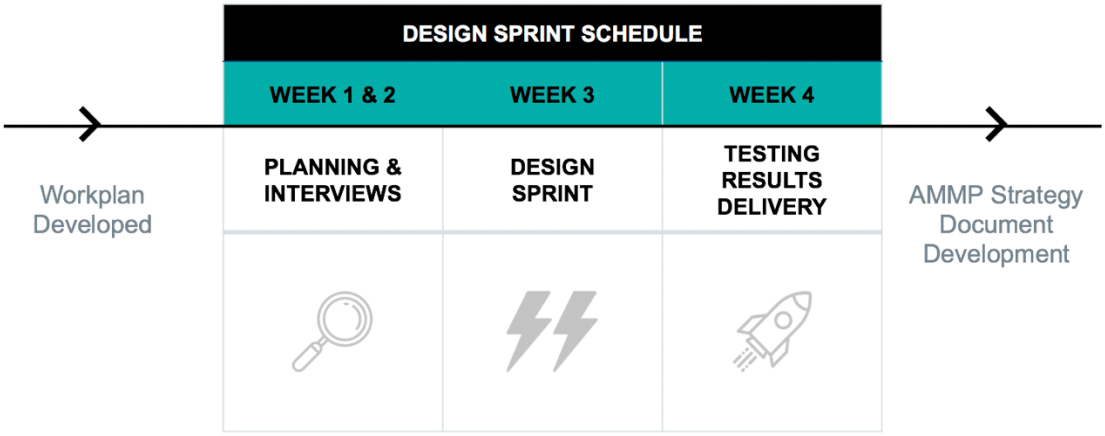
- On Day 4, ICF Spark Labs facilitators and AMMP experts validate the proposed AMMP strategy and document organization by conducting one-on-one 30- to 60-minute online interviews with 6–8 potential end users – likely Program implementers, regulatory

agencies, scientists, and environmental groups. (We would consult with Valley District to align on the right end users to test the strategy with.)

This testing process quickly uncovers unmet end user wants and needs and develops consensus for the AMMP strategy and document. We propose using a digital research platform to record the interviews, so that we can capture soundbites from the end user interviews. The Spark Labs team will distill the key learnings from testing into a PowerPoint deck and will share this deliverable with Valley District the following week. We recommend a team meeting to align on changes to the AMMP strategy or document.

The nature of co-creating the AMMP strategy and document substantially increases the probability for successful implementation in that stakeholders are likely to support what they have helped create from the outset.

Leading up to the Design Sprint, the Spark Labs facilitators will conduct interviews with approximately five workshop participants to better understand the perspectives coming into the Design Sprint and align on workshop objectives. The graphic below illustrates the Design Sprint process and from start to finish.




The planning-level AMMP strategy developed in Task 1 is intended to convey the “what”, “why”, and “how” of the AMMP but not necessarily dictate specific methods or criteria for success at specific locations in the Upper SAR Program area.

Below is a summary of the tasks important to developing the AMMP strategy with the right focus and stakeholder support. These tasks would include, but are not limited to, the following:

1. **Develop a workplan**. During the first month of the project, the Stillwater and ICF project team will develop a workplan in coordination with the Valley District, the Science Advisors, and key local and regional stakeholders on the Collaborative Team. This workplan will focus primarily on Task 1, but it will also identify critical path linkages to, and plans for, Task 2 and Task 3 to ensure effective project scheduling and efficient completion of all tasks.

2. **Develop goals and objectives** of the strategy to develop AMMP. Stillwater and ICF project team will develop AMMP strategy goals and objectives in coordination with the Valley District.
3. **Identify the key Stakeholders, Science Advisors, and rest of the Collaborative Team**. Stillwater and ICF will work with the Valley District to identify and contact potential members, and then assemble an appropriate group of technical specialists, regulators, species experts, etc. for collaborative development of strategy. Note that the members of the Collaborative Team will include additional experts and other representatives beyond those involved in the Design Sprint. The Collaborative Team will be involved in team meetings throughout the process to solicit input on technical details and feedback on draft work products.
4. **Compile existing data and background information** (e.g. existing similar strategies, modeling efforts, available data). Stillwater and ICF will work with Valley District and the Collaborative Team to identify existing data and/or other methods to assess baseline conditions for physical and ecosystem variables important to long-term function of the system.
5. **Conduct Spark Lab Design Sprint.** As described above, the Spark Labs project team would facilitate a 3-day workshop to develop the AMMP strategy that would be capped off with end user testing on Day 4.
6. **Identify monitoring methods, tools, and performance metrics.** Based on the focused guidance of the Spark Lab workshops, Stillwater and ICF will work with Valley District and the Collaborative Team to identify types of monitoring necessary to meet goals and objectives of various stakeholders. Develop specific hypotheses and outcome performance measures to evaluate physical and ecosystem responses to the effects of covered activities and to conservation actions of the Program. Identify potential monitoring protocols and analytical tools to detect change in the species, physical, and ecosystem variables important to long-term function of the ecosystem.
7. **Search for monitoring efficiencies.** Identify potential monitoring and management overlap and efficiencies among stakeholders that could reduce long-term cost of monitoring while still informing management decisions.
8. **Scientific review process**. Develop a data and results scientific review process.
9. **Governance agreements**. Identify and summarize key governance agreements established with the HCP JPA that affect monitoring program goals, objectives, and implementation.
10. **Data management and reporting needs**. Identify preferred data management and reporting tool(s) (i.e. regional database, mapping program, etc.) that would effectively convey data to the public, regulatory community, and interested stakeholders within the region. This information will be used to determine the key components to be considered in developing the database and web-based reporting platform under Task 3.
11. **Develop Draft Strategy Document**. Stillwater, working closely with ICF and the Science Advisors, will develop a draft strategy document that will then be reviewed by the Collaborative Team and discussed during team meetings or workshops.
12. **Produce Final Strategy Document**. Stillwater, working with ICF and the expert panel, will make revisions in response to review comments received to produce the Final Strategy Document.

**Expected Outcome:** Completed Upper Santa Ana River AMMP Strategy that will meet the needs of the Upper SAR Program.

**Deliverables:**

- **Draft Workplan:** Stillwater Sciences will lead development of a draft workplan in collaboration with ICF to layout AMMP Strategy components identified above, including goals/objectives, data collection, baseline conditions, tools/methods, outcomes/performance measures, outreach, monitoring overlap/efficiencies, scientific review process, and governance.

- **Design Sprint:** ICF Spark Labs to facilitate a 3-day design sprint as part of the Draft Workplan for Task 1. On Day 4, ICF will validate the proposed AMMP strategy with 6–8 end users via 30-minute calls.

- **Design Sprint Workshop Prototype:** Annotated outline of the AMMP strategy with detailed description of the purpose and function of each component of the AMMP as well as a description of how it is used and interfaces with the users and the other components (e.g., online access, monitoring and management data collection, data analytics tools, database management).

- **Final Workplan:** Following review of the draft workplan, and with input received during the review and the Design Sprint, Stillwater in collaboration with ICF will finalize the workplan.

- **Draft Adaptive Management and Monitoring Plan Strategy Document:** Stillwater Sciences will lead preparation of the Draft AMMPS document in coordination with ICF, watershed stakeholders, and regional experts. The draft document will be provided in Word and PDF formats.

- **Final Adaptive Management and Monitoring Plan Strategy Document:** Stillwater Sciences, with assistance from ICF, will incorporate input from Scientific Advisory Committee review of the Draft AMMPS to produce a Final AMMPS document.

## Task 1B. Science Advisors.

As part of the Task 1 effort, the Stillwater-ICF scope includes contracting the following experts to serve as independent Science Advisors for the AMMP:

- Fish – Joel Mulder and Manna Warburton from ICF
- Riparian Birds – Linnea Hall from Western Foundation of Vertebrate Zoology and Barbara Kus from US Geological Survey
- Mammals – Debra Shier and Rachel Chock from the San Diego Zoo

Additional Science Advisors will be contracted directly by Valley District outside of the Stillwater-ICF contract, including various experts with Santa Ana River experience in groundwater, surface hydrology, geomorphology, and wildlife biology.

As described above under Task 1A, the Science Advisors will work with the Collaborative Team and participate in the development of a collaborative strategy for the AMMP, primarily through participation in workshops and by providing input to and review of key deliverables for Task 1A (such as the workplan, literature review and synthesis, identification of key hypotheses, development of appropriate monitoring and adaptive management protocols, the Draft AMMP Strategy Document, AMM Plan, and web-based database and reporting tool development).

## Task 1C. Technical Studies for Santa Ana Wash Species and their Habitats.

We will leverage studies associated with listed plant species in the Santa Ana Wash as part of the Seven Oaks Dam High Flow Study. In particular, we will develop a plan for monitoring Santa Ana River woollystar (woollystar) and slender-horned spineflower (spineflower) in the wash area that can be applied to the entire Project Area. We will also develop success criteria for woollystar and spineflower restoration in the wash. The success criteria will complement success criteria developed for the interstitial areas between planned infiltration basins in the wash. We will also assess the vegetation scour due to high flows using aerial photographic mapping linked with recent high flows to complement work being conducted by Blue Octal Solutions as part of the Seven Oaks Dam study.

## Task 1D. On-call Support for Initial Development of New Data Monitoring Tools.

During Task 1, there will likely be a need or desire to begin acquiring imagery, mapping, additional models, and/or equipment and other tools that may be identified as necessary to support the collection and analysis of monitoring data. Dependent upon the feedback of the Science Advisors' subject matter experts it may be important to acquire, install new equipment, or improve existing tools that will support and implement scientifically defensible data collection and analysis such as groundwater monitoring wells, surface flow gages, species models, aerial mapping imagery, etc. The cost estimate for this task is meant to provide funding to begin this process with a focus on this highest priority needs, but we anticipate that implementing the AMMP will eventually require additional funding. No work will be conducted under this on-call task without email authorization from Valley District.

## Task 2. Preparation of the Upper SAR HCP Adaptive Management and Monitoring Plan.

The Upper Santa Ana River HCP Covered Activities will result in significant change to the stormflow and baseflow conditions of the Santa Ana River. The only way to understand the short- and long-term effects of the Covered Activities is to have a well-developed monitoring plan. It is also important, however, to develop an AMMP that provides flexibility and considers an adaptive approach to the monitoring regime and data requirements. Monitoring data would be used to determine Upper Santa Ana River HCP project related effects, outside factors potentially influencing ecological function of the system, and compliance with

restoration/conservation success criteria achievements. Examples of certain elements that will likely be included in the Upper Santa Ana River HCP long-term monitoring and management plan are:

1. Downstream change to Hydrology (surface and groundwater)
2. Change to sediment transport, sediment deposition, and erosion
3. Change in water quality
4. Change to riparian vegetation communities
5. Change to federally and state listed, as well as HCP covered, bird species habitat
6. Restoration/conservation sites ecological benefits or "lift"
7. Threat/risk analysis mapping and analysis
8. Population health, abundance, and distribution of translocated species
9. Population health, abundance, and distribution of species within the mainstem River and at restoration sites
10. Regional change in distribution of species within Plan area

**Expected Outcome**: Completed Upper Santa Ana River Adaptive Management and Monitoring Plan which will include specific metrics and success criteria for the variables and locations listed above.

Stillwater Sciences will lead development of the Adaptive Management Monitoring Program Plan. Stillwater will make assignments to the experts (to be selected under Task 1) to write topical sections of the Plan.

**Deliverables:**

- **Draft AMMP**: Stillwater Sciences will prepare Draft AMMP with input from ICF and other technical experts.

- **Final AMMP**: Stillwater Sciences will review stakeholder comments and prepare a Final AMMP.

- **Meetings:** Draft AMMP presentation and review meeting, and Final AMMP presentation meeting.

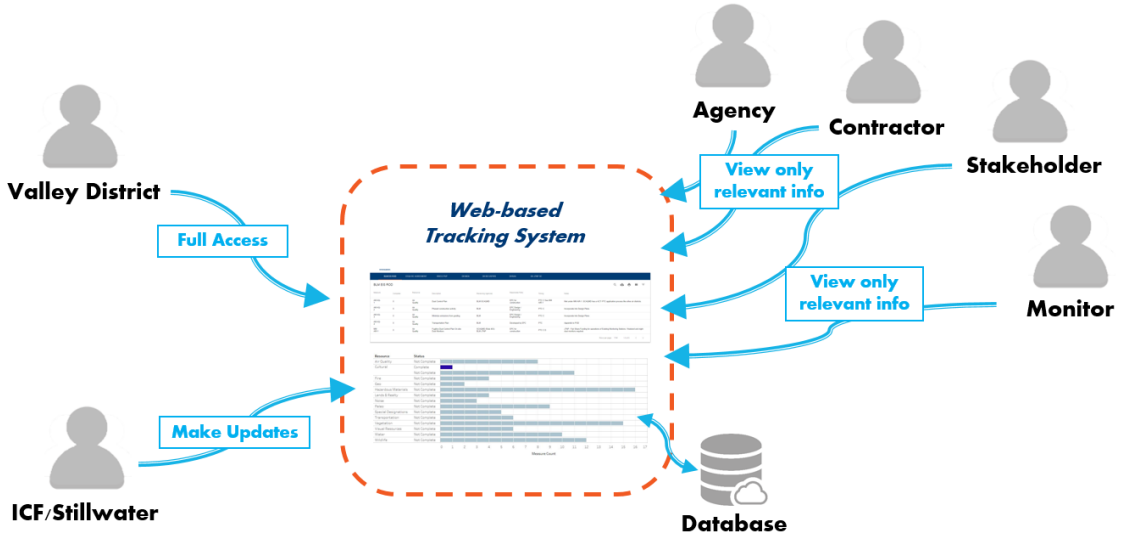
## Task 3. Develop Database and Web-Based Reporting Platform to Effectively Store and Present Program Scientific Results.

Effective management of data and presentation to the public is crucial to future support of the AMMP. Scientific data must be summarized in a way that is understandable to the public and disseminated to the stakeholders in a timely manner. We will strategically approach data management from the onset of our Program so that it supports the application of scientific results in a transparent way. To ensure that the database and online tools provide the functionality and integration envisioned in the AMMP strategy, a second design sprint will be implemented after the AMMP strategy and document structure has taken shape. The second design sprint is described at the end of this task.

First, we will establish the foundation of a customized database to effectively house and manage monitoring data. Second, we will expand the existing Program website to include additional pages and tools for presenting monitoring and management program data to the public, interested stakeholders, and the regulatory community. It will include tools to inform users on the status of monitoring and management activities and success criteria progress. Certain tables within the Program database will be made available for production purposes (after review), and will be accessed through the Program website so that users can query data by different parameters, visualize results, and compile reports. Program data and reporting information will be made available to the public in an efficient and expedient manner, and will be regularly updated at agreed upon time intervals.


A second tier of the Program website will require that users provide login credentials and will be kept secured by Microsoft ASP.NET authentication. Users can be assigned to different groups as necessary, with each group allowed certain permissions such as access to certain pages or tools, read only permission, or read and write capabilities. This set up is commonly used on project webpages to manage appropriate levels of access for project partners and the general public, with those providing login credentials receiving access to elements such as schedules, compliance tracking plans, secure documents, mapping applications, and dashboards. Certain elements from these types of tools may be promoted to public facing content as determined by the project management team.

**Example Schematic for Tiered User Environment**




The various tools utilized during project implementation will in large part be determined by Tasks 1 and 2. Custom development may be necessary when the limitations of off-the-shelf software (e.g. costs, accessibility, and functionality) prevent the goals of the Adaptive Management and Monitoring Plan from being met, however custom builds will ensure that we can be responsive to Program needs and specifications. Additionally, some level of customization will ensure that all tools can be integrated and pull from the same Program database, so that when periodic updates are made and the latest datasets are incorporated, all tools, dashboard indicators, trackers, and maps are current. Having an integrated system will save time over the course of the project by providing a one-stop resource for project partners, and will save countless hours by allowing people to quickly find the necessary information and data to answer questions. All data will be made accessible through standard software platforms—either through API connections, when possible, or data download options— to avoid any bottlenecks in daily work.

The following provides examples of the types that could be utilized for this effort, however stakeholder priorities and needs will need to be better assessed (See the Spark Labs Approach below) so that we can ensure the right tools and platforms are used.

**Upper SAR Program Web Portal and Launch Pad**

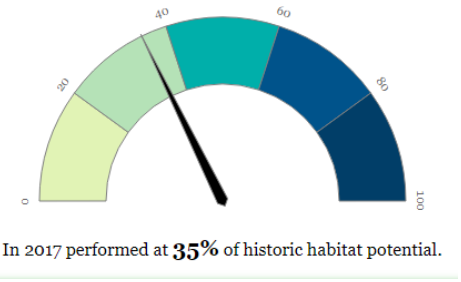
The Program website will consist of public facing content, and then other subsets of tools made available through logging in. The public facing content will include general program information, announcements and meeting information, multi-media presentations (e.g. video and presentations), as well as interactive resources such as a public facing webmap depicting project boundaries and publicly available datasets. These are commonly embedded directly in the webpage, using open source web libraries for cross-browser and device compatibility, and let the user pan around, zoom in, toggle layers, and capture images. Additionally, public documents can be made available for in browser view or downloaded, and a form provided for sending questions, comments, or information requests. ICF recently developed a webpage tool that allowed users to click on a map to add location information directly to a comment form. This allowed the precise location to be captured and added to the database, removing any confusion

regarding the "where" of a comment. The project team was able to review comments (spatial and otherwise) through a separate viewer.

The following are some examples of tools that may provide benefit and efficiency throughout the project. Summary information for each example can be rolled up into a dashboard view, providing the management team with a status snapshot view of elements such as lands acquired, impacts to date, cost sharing, and monitoring trends.

**Program Monitoring and Reporting Tools**

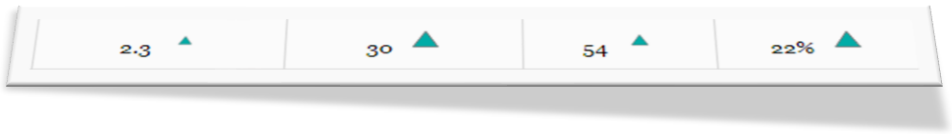
1. **Species and Habitat Monitoring—**a scheduling tool for species and habitat monitoring surveys, a surveys results database, and analytical tools to evaluate and summarize data that informs adaptive management decisions. GIS and non-spatial data could be available and provide as much detail as needed.




2. **Adaptive Management Action Tracking—**tracking details for which management action occurs on each parcel in the Preserve System.

3. **Compliance Monitoring—**compares impacts to mitigation occurring to date (visually through dashboard) and ensures a "stay ahead" commitment to mitigation before impact.

4. **Regulatory Reporting—**generates reports from items 1-3 (monitoring, adaptive management, and compliance) based on user selections (e.g. date ranges).




**Program Administration Tools**

1. **Project Processing—**interface for processing upcoming Covered Activities, consistency with HCP descriptions, impacts and phasing

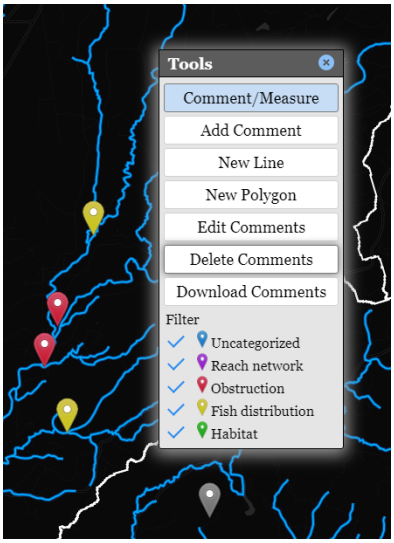
2. **Project Impact Tracking—**impacts from covered activities accounting for estimated versus actual impacts, tracking "impact stacking" of species and aquatic resources.

3. **Project Mitigation Cost—**tool for assigning proportional mitigation costs to permittees for covered activity implementation over time based on cost allocation formulas and cost sharing agreements

4. **Mitigation Reserve Program—**tracking generation of mitigation credits, "credit stacking", HCP versus non-HCP credits. Database gauges for mitigation credit summary.

**Science and Research Collaboration Hub**

1. **Spatial Data Sharing Interface—**view, download and upload scientific data (requires data validation procedures)
2. **Advance Online Mapping Tools—**access to detailed attributes spatial data, field photos and drone imagery, and expanded spatial tools (beyond basic online map on public page) such as spatial commenting, on-the-fly analysis from the browser (e.g. distance, intersect, and buffer calculations)
3. **Research Library—**connect with research papers and reports.




**Spark Labs Design Sprint**

Our Spark Labs facilitators will lead a team of 8-10 participants—including Valley District/HCP JPA, Science Advisors, and ICF and Stillwater Sciences experts—in a two-day workshop to design a prototype of the user interface for the web-based platform that will monitor and manage the Program data. On Day 3, ICF's User Experience (UX) designer will develop a high-fidelity prototype that mimics the end user's online interactive experience with the Upper SAR Program Web Portal. ICF will then test the prototype with 8 potential end users to identify unmet needs. This feedback will provide critical insight into the necessary steps for development and can provide confidence in successful implementation.

**Creation of Upper SAR Program Web Portal**

ICF's WayPoint online mapping and reporting database and web programmers will work with the project team to construct and program the Upper SAR Program Web Portal based on the high-fidelity prototype and prototype testing feedback from end-users. The Upper SAR Program Web Portal will be modular in structure (i.e., consistent of many interconnected tracking, visualization, and reporting tools). Each modular tool will be developed and beta-tested with the project team to fine-tune the usability and functionality as the overall web portal is developed. The final Upper SAR Program Web Portal will have a tiered access structure to provide open access for the public information and communication elements, and password-protected access to the regulatory agency accessible elements, and the HCP JPA accessible elements.

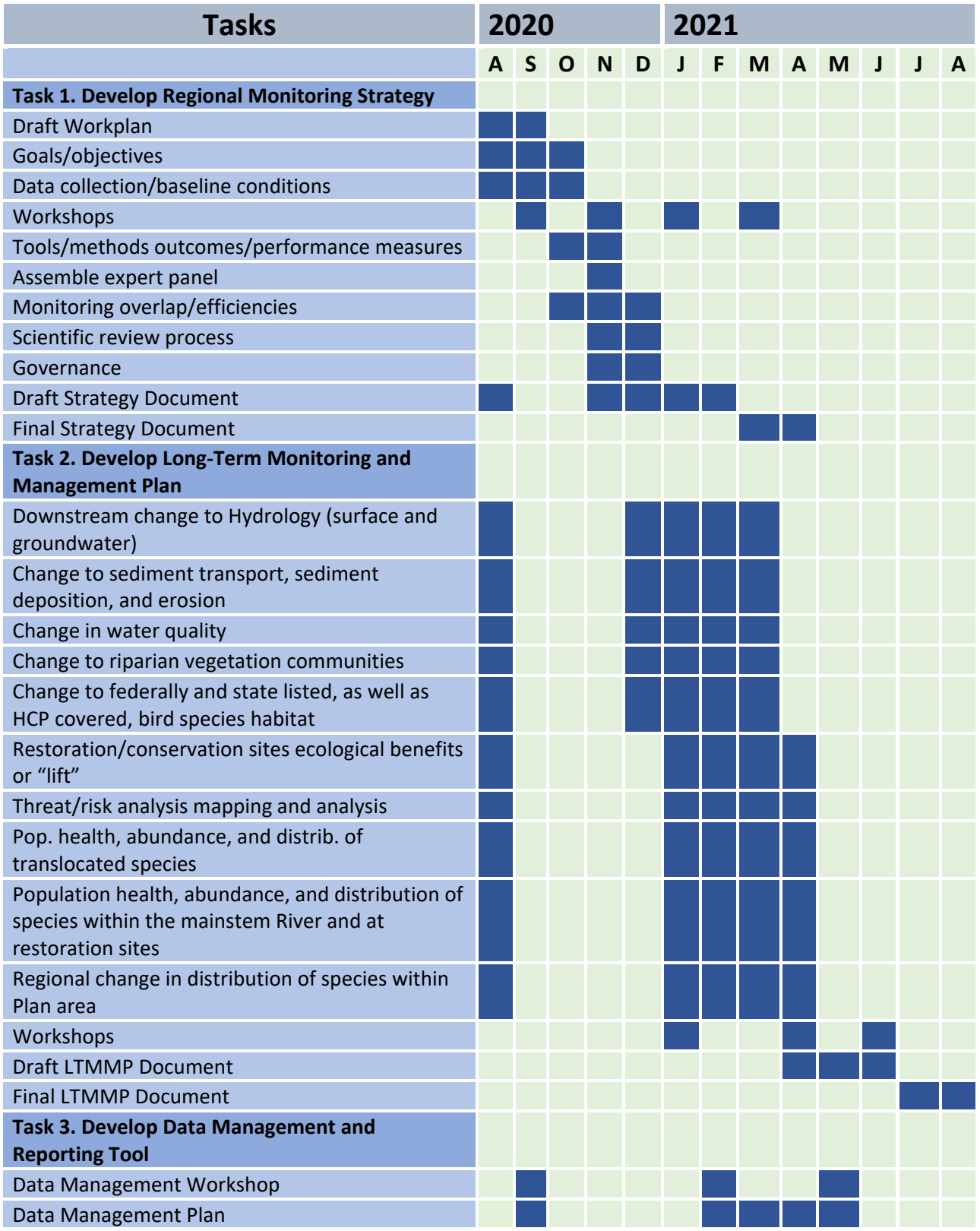
**Expected Outcome**: Interactive online mapping and reporting database web portal with monitoring and management tools.

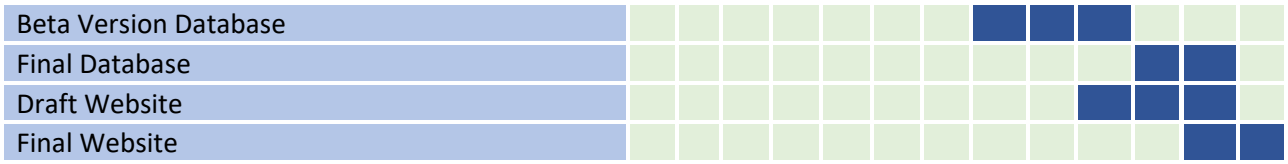
**Deliverables:**

- **End user-tested high-fidelity prototype of the web-based portal:** ICF to create one or more versions of key screens, highlighting navigation and key functionality.
- **PowerPoint deck capturing feedback from prototype testing:** ICF to distill learnings from prototype testing into a PowerPoint deck with soundbites from testers.
- **Draft AMMP Database**: ICF to lead development and construction of the AMMP Database with input from Stillwater Sciences.

- **Final Database**: ICF to prepare final database with input from Stillwater Sciences.
- **Draft Upper SAR Program Web Portal** : ICF to lead construction of a Web-based data delivery method (i.e., web-portal, website) and internal testing of website
- **Meetings:** ICF to present draft website to Collaborative Team and stakeholders
- **Final Upper SAR Program Web Portal** : ICF to launch web portal and website.
- **Meetings:** ICF to present final website to Collaborative Team and stakeholders.

SCHEDULE


Tasks
2020
2021
A S O N D J F M A M J J A
Task 1. Develop Regional Monitoring Strategy
Draft Workplan
Goals/objectives
Data collection/baseline conditions
Workshops
Tools/methods outcomes/performance measures
Assemble expert panel
Monitoring overlap/efficiencies
Scientific review process
Governance
Draft Strategy Document
Final Strategy Document
Task 2. Develop Long-Term Monitoring and Management Plan
Downstream change to Hydrology (surface and groundwater)
Change to sediment transport, sediment deposition, and erosion
Change in water quality
Change to riparian vegetation communities
Change to federally and state listed, as well as HCP covered, bird species habitat
Restoration/conservation sites ecological benefits or "lift"
Threat/risk analysis mapping and analysis
Pop. health, abundance, and distrib. of translocated species
Population health, abundance, and distribution of species within the mainstem River and at restoration sites
Regional change in distribution of species within Plan area
Workshops
Draft LTMMP Document
Final LTMMP Document
Task 3. Develop Data Management and Reporting Tool
Data Management Workshop
Data Management Plan


Beta Version Database
Final Database
Draft Website
Final Website

BUDGET

| Budget Category | Subtask Costs | Total Costs |
|---|---|---|
| **Task 1. Develop Integrated Strategy for Long-Term Adaptive Management and Monitoring** | | |
| 1A. Primary tasks by Stillwater and ICF | $250,000 | |
| 1B. Science Advisory Committee | $160,000 | |
| 1C. Wash Species & Habitat Technical Studies | $ 90,000 | |
| 1D. On-call task: Initial development of data monitoring tools | $ 40,000 | |
| **Task 1 Total** | | **$540,000** |
| **Task 2. Preparation of the Upper SAR Adaptive Management and Monitoring Plan** | | **$450,000** |
| **Task 3. Develop Database and Web-Based Reporting Platform** | | **$625,000** |
| **TOTAL** | | **$1,615,000** |

**Note: the costs presented are preliminary budget numbers based on the Section 6 Grant.**

SAN BERNARDINO Valley MUNICIPAL WATER DISTRICT

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**DATE:** July 14, 2020

**TO**: Board of Directors' Workshop - Engineering

**FROM:** Heather Dyer, CEO/General Manager
Wen Huang, Chief Engineer/Deputy General Manager

**SUBJECT:** Consider Scope of Services with Scheevel Engineering for Professional Engineering Services and Engineering Staff Augmentation

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Valley District has historically maintained a relatively small staff as compared to its geographic size and responsibilities. We have a total annual operating budget of approximately $165 million and a staff of 28 approved positions on our organizational chart. As Valley District's responsibilities have increased over the last decade, in addition to new positions that the Board authorized to respond to the workload, the District has also relied on hiring consultants from time to time as an extension of staff. Our Engineering staff is led by our Chief Engineer, Wen Huang, and includes two Project Managers and one Associate Engineer. In order to support the substantial engineering workload planned for this fiscal year, staff recommends that the Board of Directors consider engaging Scheevel Engineering to provide engineering consulting services to work as an extension of staff for fiscal year (FY) 20-21.

**Background:**

At the Board of Director's meeting on June 16, 2020, the Board approved the FY 20-21 General Fund Budget, which, among other things, included a budgetary authority of $33 million for planned field improvements and $7 million for consultants, respectively. After several years of planning and development, many projects are transitioning into construction phase in the near future, including the Waterman Hydroelectric Project, the Central Feeder and East Branch Extension Intertie Project, Enhanced Recharge Project, Santa Ana River Tributary Restoration Project, and the Cactus Basin Connector Project, just to name a few. As the District has done historically,

Engineering Staff will be handling the construction management in-house for most of the upcoming Projects, which are considered mid- and small-size projects (up to $10 million). Due to our relatively small staff and a number of projects that will be constructed, as a result, in-house staff resources may be limited for other projects that are not in construction phase.

In order to address the anticipated shortfall of staffing levels, Staff recommends that the Board of Directors consider engaging an engineering consultant for staff augmentation to assist in certain tasks/projects, such as design of the Sweetwater Spreading Basins, feasibility study and planning of the Santa Ana Sucker Microhabitat Project, preparation of specifications for the Santa Ana Low Turnout Improvements Project, review and coordination with the Conservation District for the Active Recharge project and other important projects. Staff has conducted a thorough review of potential consultant candidates with broader expertise and qualifications and recommends Scheevel Engineering for consideration by the Board.

Nate Scheevel, the principal of Scheevel Engineering, has been working with Valley District on many projects, including the preliminary design and feasibility study for the Active Recharge Project, evaluation of the Riverside North Aquifer Storage and Recovery Project (a.k.a., Rubber Dam Project), Santa Ana Sucker Habitat Pilot Study, and development of the operation and maintenance manual for the Enhanced Recharge Project. Given the types of upcoming projects for which we need assistance, Mr. Scheevel is a uniquely qualified and trusted entity to perform duties as an extension of staff and our engineering team. Staff recommends that the Board of Directors consider entering into a professional services agreement with Scheevel Engineering for a not-to-exceed fee of $160,000. His time will be tracked based on the projects that he works on, of which some will be reimbursed by other project partners.

**Fiscal Impact:**

The estimated cost for the scope of services is up to $160,000, which is included in Line Item 6360 Consultants of the approved FY 20-21 General Fund Budget. Although it has not been clearly defined yet, some of his time will be reimbursed by project partners.

**Staff Recommendation:**

Forward the Scope of Services for Professional Engineering Consulting & Project Management Services Proposal with Scheevel Engineering to the next Board of Directors' meeting for consideration. The total cost is estimated at $160,000.

**Attachment:**

Scope for Professional Engineering Consulting & Project Management Services by Scheevel Engineering dated July 9, 2020

July 9, 2020

San Bernardino Valley Municipal Water District
Attn: Wen Huang, P.E., Manager of Engineering
380 East Vanderbilt Way
San Bernardino, CA 92408

RE: Professional Engineering Consulting & Project Management Services Proposal

Dear Mr. Huang:

Scheevel Engineering is pleased to present this proposal to you for professional engineering consulting and project management services to assist San Bernardino Valley Municipal Water District's (Valley District) engineering staff. Scheevel Engineering provides a wide variety of consulting and field services unique to water resource projects. These services include project management, field inspection, feasibility analysis, operation and maintenance optimization, preliminary design, final design, construction management, environmental restoration and performance enhancement consulting for water resources and groundwater recharge system projects.

Scheevel Engineering has prepared this proposal to provide professional engineering consulting services and assist Valley District staff with engineering, consulting, project management and field services for current and future projects as directed by Valley District. The specialized services offered by Scheevel Engineering will include the tasks outlined below in Table 1: Scope of Work.

**Table 1: Scope of Work**

| Scope Item Description |
|---|
| Project Management & Consulting Services – Provide engineering and project management services for the field testing, planning, design, bidding, and construction of multiple Valley District projects. Scheevel Engineering has identified Mr. Nate Scheevel for this engagement. He is a registered PE in CA with extensive field testing, planning, design, bidding, and construction experience. His experience can be found in the attached resume. Upon request from Valley District, Scheevel can station at Valley District's facilities as needed. Scheevel will provide its own vehicle, cell phone, laptop and general office supplies. |

Upon your review of the above scope of work please let me know if you would like any additions or subtractions. Scheevel Engineering provides all services at an hourly rate of $200.00. Scheevel Engineering proposes to provide up to 800 hours of consulting on an as-needed basis. Valley District and Scheevel will coordinate the schedule and utilization of Scheevel's services for the benefit of Valley District and/or its Project objectives. Scheevel's travel time is free of charge and no additional fees or charges apply unless approved by the District. The fees associated with the above scope of work equals **$160,000.00 (one hundred sixty thousand dollars)**. A breakdown of the fees associated with the proposed scope of work is illustrated in Table 2: Schedule of Fees.



*Scheevel Engineering* ● P.O. Box 28745 ● Anaheim, CA 92809 ● Phone: (714) 470-9045 ● Email: nathanscheevel@yahoo.com

**Table 2: Schedule of Fees**

| Scope Item Description | Hours | Rate | Fee |
|---|---|---|---|
| Scope Items | | | |
| 1) Project Management & Consulting Services | 800 | $200/hr | $ 160,000.00 |
| | | | |
| **Total** | **800** | | **$ 160,000.00** |

This proposal is valid for 30 days. Scheevel Engineering is prepared to start work on projects immediately and can modify the scope, proposed fees and schedule to meet Valley District's needs. Thank you for the opportunity to provide professional consulting services to San Bernardino Valley Municipal Water District.

Sincerely,
Scheevel Engineering

Nate Scheevel, P.E.
President/Principal



*Scheevel Engineering* ● P.O. Box 28745 ● Anaheim, CA 92809 ● Phone: (714) 470-9045 ● Email: nathanscheevel@yahoo.com

# *NATE SCHEEVEL*

P.O. Box 28745, Anaheim, CA 92809
(714) 470-9045, nathanscheevel@yahoo.com

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**Professional Civil Engineer: CA# C80056, CO# 46839, MN# 50556**
**NCEES Model Law Engineer: Record Number 50504**

**EDUCATION:**

2006 to 2008 — *University of California at Berkeley*, Berkeley, CA
Bachelor of Science Degree - Civil Engineering

1994 to 1996 — *Dakota County Technical College*, Rosemount, MN
Diploma - Heavy Construction Equipment Mechanics

**EXPERIENCE:**

July 2012 to Present — *Scheevel Engineering,* Anaheim, CA
**President/Principal**

Provide professional civil engineering consulting services for private and public sector clients in California and Minnesota. Provide design services for water resource projects and heavy civil commercial projects. Provide specialty field testing/investigation, feasibility analysis, risk management, preliminary design, final design, project management, construction management and extension of staff services for recycled water, imported water and storm water resource projects. Provide design review, quality assurance, quality control for various groundwater recharge, recycled water, imported water and storm water capture and water resource projects. Provide groundwater recharge operation and maintenance modeling, optimization and consulting. Provide structural inspection, analysis and design. Provide surface water and sediment transport field data collection, analysis and computer modeling. Provide 1-D and 3-D CFD hydraulic modeling. Provide environmental restoration/enhancement analysis, design services and construction phase services.

January 2009 to April 2014 — *Orange County Water District*, Fountain Valley, CA
**Senior Engineer/Engineer**

Project manager for multiple water resource and groundwater recharge enhancement projects, including capital improvement and rehabilitation/replacement projects. Managed all phases of projects including pre-design, design, bid, construction and operation/maintenance support. Simultaneously managed multiple consultants and contractors. Drafted requests for proposals, public works contract provisions and technical specifications. Developed O&M procedures for recharge basins and facilities. Drafted board agenda item submittals and presentations. Reviewed design submittals and technical specifications. Developed and assured adherence to project budgets and schedules. Coordinated with local, state and federal agencies for permits and regulatory compliance. Performed project

outreach to area stakeholders. Managed construction projects including submittal review, RFI responses, change order negotiations and field inspections. Collaborated with engineers, scientists, planners and managers to enhance groundwater recharge operations. Performed design calculations and data analysis for pipelines, pump stations, structures and water conveyance and groundwater recharge facilities. Participated in OCWD's Recharge Enhancement Working Group (REWG).

May 2008 to August 2008

*Shimmick Construction Company Inc.*, Oakland, CA

**Project Engineer**

Assisted with the construction of the West Dublin-Pleasanton BART Station Project. Duties and responsibilities included: verified field measurements; updated as-builts; responded to requests for information; prepared and reviewed submittals; scheduled and coordinated work with subcontractors; ordered and supervised concrete pours, pile driving and excavations; supervised night construction on Interstate 580; developed contingency plans; and performed small design projects.

April 2004 to June 2006

*Orange County Water District*, Anaheim, CA

**Basin Cleaning Vehicle (BCV) Operations Supervisor/Operator**

Responsible for all operational aspects of BCV program including, budgets, hiring, performance appraisals, data analysis and design modifications. Supervised 4 employees and oversaw all operations. Collaborated with engineers, geologists, scientists and other water industry professionals to enhance the performance of the BCVs. Responsible for research and development of new technologies to enhance the performance of groundwater recharge basins. Assisted with operation and maintenance of groundwater recharge system. Assumed responsibilities of the Department Safety Officer. Developed operational procedures, designed and implemented modifications to BCV systems. Managed outside consultants on BCV design modification projects. Purchased supplies and equipment. Operated, maintained, repaired and modified BCVs. Maintained and adjusted Delta V process management computer program.

April 2002 to April 2004

*Orange County Water District*, Anaheim, CA

**Heavy Construction Equipment Operator**

Operated and hauled a variety of heavy construction equipment. Proficient operator of bulldozers, excavators, scrapers, backhoe loaders, wheel loaders, motor graders, compactors, dump trucks, water trucks etc. Assisted with repairs and updates on Basin Cleaning Vehicle (BCV3). Applied pesticides utilizing customized spray truck.

June 1996 to March 2002

*Scheevel & Sons, Inc.,* Preston, MN

**Owner/Operator/Mechanic**

Co-owner and operator of a small, diversified excavating company. Experienced in residential, commercial, demolition, water/sewer and



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agricultural projects. Developed excavation and site design plans to accommodate customers' needs. Prepared bids and estimates. Interpreted construction drawings, specifications and checked grades. Supervised a 7-member crew at job sites as well as in the shop. Coordinated projects with engineers, subcontractors, utility companies and state agencies, such as the Minnesota Pollution Control Agency, MNDOT and the DNR. Repaired, maintained and operated bulldozers, excavators, scrapers, backhoe loaders and dump trucks on a daily basis.

October 1995 to May 1996 — *Trenchers Plus, Inc.,* Minneapolis, MN

**Mechanic**

Diagnosed and repaired trenching and directional boring equipment. Performed field service work. Developed repair estimates for customers.

March 1992 to September 1995 — *Scheevel & Sons, Inc*., Preston, MN

**Owner/Operator/Mechanic**

Repaired, maintained and operated various heavy construction equipment. Developed preventative maintenance plan for fleet of heavy construction equipment.

**OTHER:**

Proficient in: Microsoft Word, Excel, PowerPoint, Outlook, MS Project, Sketch-Up, HEC-RAS, EPANET, RISA, AutoCAD; Possess California Class A Driver's License (Combination, Airbrakes, HAZMAT, Tank and Doubles/Triples); Completed Delta V Factory Training; OSHA Certified as Competent Person in Trenching Safety and Confined Space; Experienced welder; Extensive experience in heavy equipment transporting; Possess MN Boiler Operator Special Engineer License; Developed and taught course in steel fabrication at UC Berkeley.



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**Scheevel Engineering / Nate Scheevel**
**Project Experience:**

Below is a partial list of projects that Mr. Scheevel has been involved with. Scheevel Engineering would be happy to provide more information on any of the projects listed below:

1) Ammonia Tank Basin Seismic Evaluation (Mesa Water) – Provide field inspections and a seismic risk analysis for a 2,000 gallon ammonia tank. Present analysis and finding in a report to satisfy California Accidental Release Prevention (CalARP) requirements.

2) Admin Hallway Structural Design (OCWD) – Performed structural inspection, analysis and final design of new hallway walls/doors for administration building improvements.

3) OCWD/City of Santa Ana Reservoir Wall (OCWD) – Consultant to OCWD to perform final design services and develop bid/construction documents for a new CMU wall around an existing reservoir site in the City of Santa Ana.

4) Dry Chem 2nd Floor Addition (TVMWD) – Consultant to Three Valleys Municipal Water District for the structural design of a 2nd story floor addition to an existing dry chemical building.

5) Carport Canopies Project (TVMWD) – Consultant to Three Valleys Municipal Water District for the structural design to replace two existing carport canopies.

6) Confined Space Davit Arm Design (SCWD) – Consultant to SCWD to perform final design services to develop a standard design for a confined space davit arm anchorage.

7) Roof Beam Project Laguna Beach County Water District (LBCWD) – Consultant to LBCWD for the design of glulam beam roof design.

8) Timber Roof Beam Designs (Various) – Timber beam design for various small projects. Provided specialty structural analysis and design of timber beams and columns.

9) Upper to Lower Five Coves Transfer Structure (OCWD) – Designed and constructed a new surface transfer/flow measurement structure to provide data for infiltration rate testing.

10) LaJolla Rubber Dam Foundation Repairs (OCWD) – Project Manager for the investigation, design and repair implementation to remediate seepage underneath


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an inflatable rubber dam foundation located in a flood control channel. Performed the investigation, provided seepage analysis, designed repairs and supervised the repairs of the Project.

11) Grain Elevator Pit Structural Design (Meldahl Construction) - Consultant to Meldahl Construction, Inc. to design a reinforced concrete pit for a grain elevator.

12) Preston Dairy & Farm Agrichemical Facility (D&F) – Consultant to D&F to construct a new agrichemical facility campus. Project includes 5 new buildings with 3 new process systems. Responsible for preliminary design report, special structural design, site design and layout, utilities design, final design, contractor selection, scheduling, budgeting and accounting, construction management, inspection and regulatory agency coordination and permitting.

13) Harmony Agri Services Facility Enhancements (Harmony Agri) – Sub-Consultant to provide all structural analysis, design, construction document preparation and specialty field inspection for reinforced concrete foundations for buildings and a 65' tall tank tower.

14) Hyperion Secondary Effluent Pump Station (West Basin) – Consultant to West Basin Municipal Water District to provide project management services for the construction of their secondary effluent pump station.

15) Recycled Water Project Management Assistance (West Basin) – Consultant to West Basin Municipal Water District to provide project management services for several recycled water projects including pump stations, flow EQ basin and Title 22 filter rehabilitation projects.

16) Phase III Clearwell Rehabilitation Project (West Basin) – Consultant to West Basin Municipal Water District to provide project management services for pump, piping modifications and the rehabilitation of a microfiltration clearwell.

17) Chino Basin Program PDR (IEUA) – Subconsultant to IEUA for a preliminary design report for the development of up to three advanced water treatment facilities (AWTFs).

18) Burris Pump Station Project (OCWD) – Project Manager for the pre-design, permitting and final design of a new, 200 cfs storm water pump station. Managed construction of Phase I, which was awarded the ASCE Orange County Branch - Award for 2014 Flood Management Project of The Year.

19) Santiago Basin Floating Pump Station Project (OCWD) – Project Manager for a 50 cfs floating pump station and floating pipeline to transfer storm water between recharge basins.


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20) Waterman Basin Emergency Maintenance (SBVMWD) – Consultant to Valley District for the emergency maintenance of a multipurpose (flood control and groundwater recharge) basin system. Services included developing and directing basin cleaning activities as well, assisted with permitting and performing a basin subsurface soils investigation.

21) Active Recharge Project (SBVMWD) – Consultant to Valley District for the preliminary design, diversion design, O&M modeling, cost estimating and benefit analysis of 9 new groundwater recharge basins and 4 existing flood control basins.

22) Santa Ana River Enhanced Recharge Phase 1B (SBVMWD) – Sub-consultant to Valley District for the final design of a series of recharge basins (> 200 acres) below Seven Oaks Dam. Provided field infiltration rate testing, O&M modeling and final design assistance for specialty groundwater recharge features for the project. Develop a comprehensive O&M Manual for the Enhanced Recharge System.

23) Chino Basin Program (IEUA) – Sub-consultant to IEUA for the development of a preliminary design study for an advanced water treatment facilities (AWTF) program for Chino Basin. Services include groundwater recharge systems consulting with a focus in issues specific to using AWTF water in recharge basins and injection wells.

24) Kansas Avenue Basin (RCFCWCD) – Consultant to Riverside County Flood Control & Water Conservation District for field infiltration rate pilot testing and preliminary design of groundwater recharge improvements for an existing flood control basin. Includes development of a preliminary design report. Performed pre-design, exploratory excavation and final design service for the pilot test project, as well as assistance with construction management, data collection and final performance reporting including final design recommendations. Design included 3 infiltration rate test cells and a temporary pipeline system.

25) RMPU Improvements Preliminary Design Project (IEUA) – Sub-Consultant to IEUA for the preliminary design of improvements for 9 groundwater recharge basins. Tasks include field investigations/testing, infiltration rate determinations, operation and maintenance analysis/recommendations, design review and operations modeling.

26) Wineville Basin Proof of Concept Project (IEUA) – Consultant to IEUA for pre-design, final design and implementation of an infiltration rate testing project. Scheevel Engineering performed pre-design, exploratory excavation and final design services, as well as assistance with construction management, data collection and final performance reporting including design recommendations. Design included 6 infiltration rate test cells and a temporary pipeline system.


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27) San Sevaine Basin Improvements Project (IEUA) – Consultant to IEUA responsible for the subsurface investigation and the project development report (PDR), including pre-design concepts, calculations and analysis. The PDR presents analysis of several alternatives (including pump station and pipelines) to improve/increase groundwater recharge at San Sevaine Basins.

28) Lower Day Basin Improvements Project (IEUA) - Consultant to IEUA for preparation of a Preliminary Design Report (PDR), permitting assistance and final design assistance to develop design concepts and provide a basis of design for the Lower Day Basin Improvements Project. Perform 3D CFD modeling of Day Creek Channel diversion alternatives. The purpose of the Project is to increase the amount of storm water and supplemental water captured and recharged into the Chino Groundwater Basin.

29) Riverside North Aquifer Storage and Recovery Project (SBVMWD/WMWD) – Consultant to Valley District and Western to provide design review, value engineering, cost estimating, infiltration rate determinations and operations and maintenance modeling and recommendations for a new Santa Ana River rubber dam diversion and recharge basin system.

30) RMPU Operations Plan (IEUA) – Consultant to IEUA for developing operations and maintenance plan for the RMPU Projects. The O&M Plan covers 8 groundwater recharge basins maintenance, pipelines, pump stations, rubber dams, spillway gates and other groundwater recharge related facilities and features.

31) Victoria Recharge Basin (WMWD) – Sub-Consultant to Western for infiltration rate field pilot testing, preliminary design, final design, construction management assistance and O&M manual development of a new groundwater recharge basin. Scheevel Engineering performed pre-design, exploratory excavation and final design service for the pilot test project, as well as assistance with construction management, data collection and final performance reporting including final design recommendations. Provided project management and construction management services during construction.

32) San Antonio & Thompson Creek Spreading Grounds O&M Manual (PVPA) – Sub-Consultant to PVPA for the development of a spreading grounds operations and maintenance manual, includes spreading grounds improvements recommendations.

33) Santa Ana River Sediment Monitoring Program (OCWD) – Consultant to OCWD to perform a detailed sediment transport study of the Santa Ana River from San Bernardino/Riverside County to Orange County. Scope of work includes the collection of field data (suspended sediment concentration, bedload, bed material,


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stream flow measurements and cross section surveys) and analysis to compare field data to sediment transport models for the Santa Ana River. Includes a full scale sediment removal field project with field data collection and design performed by Scheevel.

34) Prado Basin Sediment Management Demonstration Project (OCWD) – Project Manager for the planning and design of a demonstration project to remove up to 500,000 cy yd of sediment from Prado Flood Control Basin and re-entrain it into the Lower Santa Ana River to replenish sediments in the River and enhance groundwater recharge in Orange County.

35) Prado Basin Ecosystem Restoration Feasibility Study (OCWD) – Consultant to OCWD to provide engineering and technical analysis services to support a U.S. Army Corp Ecosystem Restoration Feasibility Study to increase water conservation, ecosystem restoration and sediment management for Prado Basin and the Lower Santa Ana River. Includes engineering analysis, design, cost estimating, sediment transport analysis, scheduling and implementation planning.

36) Santa Ana Sucker Protection and Beneficial Use Enhancement Project (SAWPA) – Consultant to SAWPA for the field modeling, analysis, design, bid document preparation and construction phase services for Sucker fish habitat features in the Santa Ana River.

37) Santa Ana River Stream Bifurcation Pilot Project (SBVMWD) – Consultant to Valley District for the preliminary design, design, construction and monitoring of a native fish habitat enhancement project in the Sanad Ana River.

38) Alamitos Barrier Improvement Project (OCWD) – Project Manager for the permitting and final design of the civil infrastructure for 17 new recycled/imported water injection wells to prevent seawater intrusion into OCWD's groundwater basin.

39) La Sierra Pipeline & Sterling Reservoir & Pump Station Project (WMWD) – Consultant to Western to provide specialty construction management services for a new 30" pipeline and 30 cfs pump station.

40) Lower Five Coves Basin Infiltration Improvement Project (OCWD) – Designed and constructed a series of excavations to perforate a near surface confining layer in Lower Five Coves Basin to increase storm water recharge in the basin.

41) Peer review for alternative groundwater recharge methods:
    a. Aquifer Transfer Well – Uses existing well technologies to transfer perched groundwater from zones high in an aquifer to deeper zones in the aquifer;


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b. River-Bed Filtration Project – Uses shallow subsurface collection galleries to collect water filtered by the riverbed and then deliver the cleaner water to recharge basins;

42) Basin Cleaning Vehicle (BCV) Operations (OCWD) – Operations supervisor for a program to remove fine-grained sediments from groundwater recharge basins, while leaving the basins full of water and in service. Two primary technologies were used to achieve this objective: a fully submersible ROV system, and a floating barge system. Responsible for all operation and maintenance of the systems. A wide variety of operational data was gathered and analyzed for 4 basins to determine the effect of the BCVs on percolation rates. Full basin percolation rate testing was performed over an 8-year period.

43) Basin Cleaning Vehicle (BCV) Engineering (OCWD) – Responsible for designing and implementing modifications to the BCVs and recharge basins to increase effectiveness and efficiency. Designed and constructed basin modifications for infiltration rate testing. Collected, reduced and analyzed data. Prepared reports and presentations as to basin and BCV performance.

44) Alternative Basin Cleaning Technology Development (OCWD) – Responsible for developing and testing alternative basin cleaning methods. Methods tested included: beach cleaning technologies, sweeping/broom technologies, rock picking technologies and windrowing technologies.

45) Field Investigation Experience – Mr. Scheevel has personally performed field investigations, proof of concept projects and pilot test projects to help determine infiltration rates at the following basins/sites.
   c. Kansas Avenue Basin (RCFCWCD) – Exploratory excavations and infiltration test cells
   d. Waterman Basins (SBVMWD & SBCFCWCD) – Exploratory excavations and infiltration rate determination
   e. Wineville Basin (IEUA) – Exploratory excavations and infiltration test cells
   f. San Sevaine Basin (IEUA) – Exploratory excavations
   g. CSI Basin (IEUA) – Exploratory excavations
   h. RP3 Basins (IEUA) – Exploratory excavations
   i. Burris Basin (OCWD) – Exploratory excavations and infiltration test cells
   j. Victoria Basin (WMWD) – Exploratory excavations and infiltration test cells
   k. Kansas Avenue Basin – Exploratory excavations and infiltration test cells
   l. Lower Five Coves Basin (OCWD) – Exploratory excavations and basin perforations
   m. Upper Five Coves Basin (OCWD) – Exploratory excavations
   n. Weir Pond #3 (OCWD) – Exploratory excavations
   o. Miller Basin (OCWD) – Exploratory excavations
   p. Anaheim Lake (OCWD) – Exploratory excavations


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46) Weir Pond Rehabilitation Project (OCWD) – Project Manager for the pre-design and final design to reconfigure 3 de-silting basins used to remove fine-grained sediments from storm water. Design included CFD model analysis and review.

47) Five Coves and Lincoln Basins Bypass Pipeline Project (OCWD) – Project Manager for the pre-design, permitting and final design of a 66-inch diameter bypass pipeline to increase recharge basin performance and percolation data collection improvements.

48) Lakeview Transfer Project (OCWD) – Project Manager for the pre-design, design and construction of carbon fiber (FRP) lining of a 7' x 7' reinforced concrete box culvert.

49) Kraemer Basin Valve Vault (OCWD) – Project Manager for the pre-design, design and construction of 15' x 40' valve vault around a complex system of 72-inch, 48-inch and 36-inch piping and multiple flow control valves.

50) GWRS Pipeline Assessment and Inspections (OCWD) – Project Manager for the regular inspection and condition assessment of 14 miles of 72-inch – 60-inch recycled water pipeline. Developed inspection and testing protocols and personally entered and inspected the pipeline.

51) Imperial Rubber Dam Replacement Project (OCWD) – Project Manager for the design, selection and replacement of OCWD's 7' x 320' inflatable rubber dam across the Santa Ana River, near Imperial Highway.

52) Imperial Headgates R&R Project (OCWD) – Project Manager for pre-design, permitting and design for the selection and replacement of a new trash rack system and diversion gate replacement.

53) Storm Water Detention Pond Investigation and Repairs (POET) – Consultant to POET Biorefinery to perform basin inlet repairs and investigate/repair a sinkhole in the berm of a storm water detention basin.


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SAN BERNARDINO Valley MUNICIPAL WATER DISTRICT

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**DATE:** July 14, 2020

**TO**: Board of Directors' Workshop - Engineering

**FROM:** Wen Huang, Chief Engineer/Deputy General Manager
Aaron Jones, Associate Engineer

**SUBJECT:** Consider Survey Services with Hernandez, Kroone & Associates (HKA) for Devil Creek and Sweetwater Basins

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At the Joint Board Meeting with the City of San Bernardino Municipal Water Department (SBMWD) Water Board on January 31, 2019, both boards approved a Memorandum of Understanding (MOU) to jointly develop and implement activities included in the Upper Santa Ana River Habitat Conservation Plan (SARHCP). Among other activities, the Devil Creek Basins are located on land owns by SBMWD and present great opportunities for habitat enhancement as well as recharge for stormwater and State Water Project (SWP) water. Additionally, certain improvements at the Sweetwater Basins, which are owned by the San Bernardino County Flood Control District (SBCFCD) and have been used by Valley District as one of the major recharge basins for SWP water, have been identified to increase the recharge area. In order to begin this development process, an initial survey needs to be completed for the areas. Staff received two (2) proposals for the survey services. Staff is recommending to forward the HKA's proposal in the amount of $51,380 to an upcoming Board of Directors' meeting for consideration.

**Background:**

The Devil Creek Basins are identified as part of the Active Recharge Project. The main purpose of the Active Recharge Project is to maximize the capture and recharge of stormwater from the tributaries of the Santa Ana River, and identify opportunities to "modernize" recharge facilities to maximize the capture. The Devil Creek Basins are located within the land owned by SBMWD and ideally situated for potential stormwater diversion and recharge from the nearby Devil Creek. Furthermore, a turnout out of the Foothill Pipeline is being planned to utilize the basins for recharge of SWP water. In addition to the recharge benefits, the Devil Creek Basins support a variety of sensitive riparian species and can be enhanced to benefit our SARHCP conservation

strategy. As a result, the Devil Creek Basins are identified as one of the locations in the MOU approved by Valley District and SBMWD for joint development and implementation in support of the SARHCP at the Joint Board Meeting on January 31, 2019.

The Sweetwater Basins, owned by SBCFCD, have been historically utilized by Valley District for SWP recharge in addition to SBCFCD's flood protection function. Although the Sweetwater Turnout is rated approximately 12-14 cubic feet per second (cfs), recharge rate of SWP water is generally limited to approximately 8-10 cfs due to an undersized culvert downstream of the Turnout. In order to address the bottleneck issue, through the discussion with SBCFCD staff, Staff is proposing to expand the area immediately downstream of the Turnout into a recharge area, which can potentially accommodate up to 3.5 cfs in this expanded area so the Sweetwater Turnout can be used to its maximum capacity.

In order to begin this work Staff has issued a Request for Proposal for the initial survey of the area. The scope of services requested are as follows:

- Aerial survey
- Preparation of base map showing existing property lines, Right-of-Way, and easements
- Survey of found boundary corners
- Ground survey of known utilities and key features (i.e. structures)
- High resolution color imagery files

Staff received two proposals from local surveying firms—On Point Land Surveying, Inc., located in Redlands, and HKA Engineers and Land Surveyors, located in San Bernardino. On Point Land Surveying proposal fee is for $65,180 and HKA's proposal fee is for $51,380. Both firms have indicated they can complete the work at their proposal prices and are capable of meeting the requested scope of services. Staff recommends choosing HKA with their proposal fee of $51,380.

The survey services requested, once completed, will help facilitate the next stages of the Project which include design and environmental work.

**Fiscal Impact:**

The cost for survey and design is included in the approved General Fund Budget for FY 2020-21 under 6380 Consultants.

**Staff Recommendation:**

Direct staff to forward a contract for survey services at Devil Creek and Sweetwater Basins with Hernandez, Kroone & Associates Engineers and Land Surveyors with the associated fee of $51,380 to an upcoming Board of Directors' meeting for consideration.

**Attachments:**

1. Proposal from HKA
2. Approximate Limits of Survey

Hernandez, Kroone & Associates
Engineers & Land Surveyors

June 19, 2020

Mr. Aaron Jones
Associate Engineer
San Bernardino Valley Municipal Water District
380 E Vanderbilt Way, San Bernardino, CA 92408

Proposal No:20P1061

RE: Proposal for Surveying Services as requested in Request for Proposal (RFP) Dated June 4, 2020 for Devils Canyon/Sweetwater Basins in the City of San Bernardino.

Dear Aaron Jones:

Hernandez, Kroone & Associates (HKA) would like to thank San Bernardino Valley Municipal Water District for this opportunity to submit a proposal to provide Surveying Services for Devils Canyon Basin/Sweetwater Basin in the City of San Bernardino, CA.

**SCOPE OF WORK**

This scope of work and cost proposal assumes that the SBVMWD and other agencies will provide access to subject properties as requested by HKA. This proposal assumes that HKA can use Utility Terrain Vehicles to access the site for surveying proposes. The cost to provide the above services is estimated to be $51,380 and estimated time to complete all services is 50 business days. This cost proposal is valid for ninety (90) days.

This cost estimate does not include cost to survey and prepare any Corner Records or Record of Surveys per the Land Surveyor Act. If a Corner Record or Record of Survey is needed a cost estimate will be prepared for the extra work.

If you have any questions, or wish for this proposal to be modified, please feel free to contact me.

Sincerely,

Richard R. Hernandez, PE, PLS
Principal

Attachments: Resumes
Cost Estimate

| | |
|---|---|
| **Proposal Number:** | **20P1062** |
| **Client Name:** | **San Bernardino Valley Municipal Water District** |
| **Date:** | **6/18/2020** |
| **Job Title:** | **Summary of Cost Proposal for San Bernardino Valley Municipal Water District Devil Canyon Basin/Sweetwater Basins Request for Survey Proposals** |

**Cost Proposal Summary**

| Task No. | Task Name | | Cost, $ (USD) |
|---|---|---|---|
| **1** | **Field Survey** | **$** | **27,240.00** |
| 1.1 | Field Surveys Setting 16 Aerial Targets | $ | 6,580.00 |
| 1.2 | Field Survey Locate Ground Control & Tie | $ | 3,740.00 |
| 1.3 | Field Survey Areial Targets | $ | 3,680.00 |
| 1.4 | Field Survey Boundary Corners if found | $ | 5,240.00 |
| 1.5 | Field Survey Known Utilities and Structures | $ | 4,760.00 |
| 1.6 | Process survey data and Plot SBVMWD Property Boundary , Structures and Existing Know Utilities | $ | 3,240.00 |
| **2** | **Prepare Aerial Survey & Ortho-rectified color imagery files** | **$** | **23,700.00** |
| 2.1 | Prepare Aerial Survey (elevations and 1' contour intervals), Digital Data, Acad.dwg file & Color Orthophotos. | $ | 23,700.00 |
| **3** | **Misc. Cost** | **$** | **440.00** |
| 3.1 | Mileage & Targets | $ | 440.00 |
| | **Proposal Total Amount** | **$** | **51,380.00** |

**Limits of Cost Proposal Summary:** The cost proposal summary is subject to the list of services, scope of work, assumptions, as noted and shown in the complete written proposal. This sheet is for reference only and is not valid as an individual document. Cost estimate is valid for only 60 days. Costs shown are not lump sum; Actual costs will be based on time and materials. Cost estimation is for budgeting purposes only;

# RICHARD R. HERNANDEZ, PE, PLS
## Principal-in-Charge / Survey Manager

| PROFESSIONAL CERTIFICATIONS | EDUCATION |
|---|---|
| CA Civil Engineer - 42246<br>CA Land Surveyor - 5786<br>CA General Engineering Contractor - 478154<br>CA Qualified SWPPP Developer / Practitioner - 24111 | California State Polytechnic University, Pomona, CA - B.S., Engineering Technology<br>California State Polytechnic University, Pomona, CA - Extension Courses<br>CA Land Surveyors Association - Boundary Law (2016)<br>Westech College - Bentley InRoads (2004)<br>Westech College - Civil Design 3D (2007)<br>University of California, Riverside, CA - GPS<br>Project Management Certification - MWD (2008) |

***41 Years of Experience – 33 Years of Experience with HKA (Since 1987)***

## KEY STRENGTHS FOR YOUR PROJECTS

- Years of local experience working with agencies who EVWD supplies water to
- Licensure as a Civil Engineer, Land Surveyor, and Contractor to give perspective on every facet of a project
- Experience obtaining permits and plan approval from Caltrans
- Already In-Place Survey, Topographic, and Record Research for a variety of regions in the City and County of San Bernardino
- Utility Location Mapping for Various Local Clients
- Survey and Right of Way Expert who can identify ROW or topographic limitations for design proactively
- Provides staff latest software and equipment as well as training and QC/QA

## RELEVANT PROJECT EXPERIENCE

### Right-of-Way Engineering and Mapping Services for the California High-Speed Rail, HSR: 13-65, Construction Packages 1-4 (Central Valley Area, CA)

Mr. Hernandez currently serves as Project Manager on Construction Packages 1, 2-3, 4 and two miles in Merced County. He has services on a Task Order basis, in the areas of Right-of-Way engineering and mapping. Mr. Hernandez has managed a staff at HKA for the research, field work, monument setting, and appraisal mapping of over 50 miles of track and improvements for the High-Speed Rail project in the Central Valley. Project includes easements for utility relocation.

As project manager, he has managed the filing of two Records of Survey in Tulare County, two in Kern County, one in the Fresno County, one in Merced County and three in Kings County that were prepared by previous surveying consultants. He also identified the Underlying Fee in Old Kings River, Dutch John Slough, and Cole Slough ownership.

As Project Manager, Mr. Hernandez is the point of contact for the CHSRA. Mr. Hernandez attends the bi-weekly status meetings and coordinates with the Authority staff, title companies, railroads, and public agencies. He attends meetings between the Authority and public agencies to work on issues of underlying fee, research, questions, and Record of Surveys.

### Construction Staking for Hunts Lane Grade Separation, San Bernardino County Transportation Authority (San Bernardino, CA)

Contract Manager / Project Manager: HKA crews provided on-call construction staking services for the grade separation over the UPRR and improvements on Hunts Lane and Redlands Boulevard. Besides railroad impacts, the area had many utilities including oil and gas lines. When survey requests are sent into HKA offices, Mr. Hernandez, provided and delegated survey personnel, equipment, and all necessary resources to the project to meet schedules, usually within 48 hours or less. HKA provided survey control, RFI's, grid grade calculations, rough grade stakes, final grade stakes, ground and superstructure stakes, MSE wall stakes, drainage structures, right of way flagging, slope stakes, cut and fill stakes, cross sections, curb and gutter, operating within Railroad R/W, and set final right of way monumentation at the completion of the project. HKA staff completed the post-construction Record of Survey.

HKA staff complied with Caltrans Construction Manual, Caltrans Survey Manual, Caltrans Safety Manual, Caltrans Code of Safe Surveying Practices, and Caltrans traffic control procedures. HKA's daily record keeping and field notes were in conformance to Caltrans procedures. Work was performed with HKA's Trimble R8 RTK GPS base, Rover, and Receiver, Leica TPS 1200 Reflectorless Total Station.

### Norton Military Base Conversion, Inland Valley Development Agency (San Bernardino, CA)

Mr. Hernandez was the "Base Civil Engineer" for the Inland Valley Development Agency (IVDA). The IVDA is the lead agency that was formed to manage and market the redevelopment and reuse of the former Norton Air Force Base and its immediate surrounding areas. Mr. Hernandez was responsible for numerous projects within the former Norton Air Force Base to convert military infrastructures to municipal standards. He has been responsible for overseeing the reconstruction of existing streets, utilization of existing utilities, utility locations and relocations, feasibility studies, constructability review, project design concepts and site development. Mr. Hernandez has also been responsible for mapping the entire 2,100 acres of property using GPS surveying. He has also designed water and waste water systems, designed numerous street improvements and parking lot reconstructions. Project examples include the design of a new circular driveway, the modification of an existing parking lot to accommodate 450 vehicles, and the design modifications for ADA compliance for the exteriors of existing buildings.

Services included numerous legal descriptions and plats, records of survey and right of way research and mapping to convert the property to private ownership. Additionally, extensive research was completed, and coordination was required to change the various buildings from one meter for each utility provider to meters for each utility for each building and new property.

### San Bernardino Community College District Civil Engineering, Landscape Architecture, and Surveying Services (San Bernardino County, CA)

As **Project Manager**, Mr. Hernandez supervised the design services and construction administration for various task order projects for the San Bernardino Community College District. Most of the

engineering services were for the preparation of design / build contracts. In this role, Mr. Hernandez' team would perform the preliminary engineering, surveying, and mapping, wrote the design / build contract scope of work, prepare construction estimates, and management the selected contractor. The HVAC system of the Performing Arts Center was thoroughly investigated by HKA and the replacement of the system was addressed as a design / build contract. Other task order assigned work included designing a playground for several childcare sites on campus conforming to grant funding by the State of California, several parking lot rehabilitation projects, and several building renovations projects. Many of these projects involved complex scheduling either due to class schedules or demand volumes. All of the task orders required development of a construction estimate and utility coordination with existing utility systems.

### On-Call Surveying Services for Caltrans District 7 Eastern Los Angeles County (Los Angeles, CA)

Mr. Hernandez was the Project Manager for this multi-year on-call surveying services contract. Mr. Hernandez provided trained and experienced staff, with appropriate equipment and safety gear, to augment District 7 staff. HKA's surveyors completed construction and Right-of-Way surveying, generated grid grades and provided construction stakes on the ramps of the busy I-10 and I-110 freeways. HKA's crews assisted Caltrans Design and Field Survey departments with design-build work. The crews provided Caltrans with the design topographic survey and DTM and set the construction stakes. HKA's staff was able to work in Metric or English units. Work and documentation were safely completed to Caltrans standards. He assigned personnel and exceeded the DBE goal through use of his subconsultants. The HKA team got a high rating from Caltrans staff.

### Construction Staking and Landscape Construction for the State Route 91 / La Sierra Interchange (Riverside, CA)

Project Manager / Project Surveyor: HKA provided construction surveying services for the Route 91 / La Sierra project replacing the interchange and La Sierra Avenue between Indiana Avenue and Magnolia Avenues. The project included two bridge replacements over the Route 91 freeway, BNSF railroad, and a Riverside County Flood Control channel, realignment and widening of on and off ramps, retaining walls, drainage structures and improvements to local City streets. Numerous utilities were relocated or constructed.

As a project manager, Mr. Hernandez directed HKA's staff to perform surveying on the BNSF railroad property complying with Railroad's Safety and Security standards. HKA established the project survey control, wrote RFI's, prepared grid grade calculations, set rough and final grade stakes, ground and superstructure stakes, drainage structures, Right-of-Way flagging, slope stakes, cut and fill stakes, cross sections, curb and gutter, operated within railroad Right-of-Way, responded to contractor's requests, and set the final centerline and right-of-way monumentation at the completion of the project. The plans were prepared for and approved by Caltrans and completed in Caltrans metric format.

# JOHN HERNANDEZ, PE, PLS
## Project Manager / Project Surveyor

| PROFESSIONAL CERTIFICATIONS | EDUCATION |
|---|---|
| CA Civil Engineer - 88757<br>CA Land Surveyor - 9524<br>CA Qualified SWPPP Developer / Practitioner – 26652<br>FAA - 4086187 | California State Polytechnic University, Pomona, CA - B.S., Civil Engineering (2014)<br>CLSA Railroads (2015)<br>CLSA Boundary Law (2016)<br>CLSA OPUS Projects (2015)<br>CLSA ALTA Surveys (2016)<br>CLSA GPS & Geodesy (2015)<br>Contractor Orientation BNSF & Union Pacific Certified |

***13 Years of Experience – 10 Years of Experience with HKA (Since 2010)***

## KEY STRENGTHS FOR YOUR PROJECTS

- Versatility as a licensed civil engineer and land surveyor
- Experience working on every aspect of transportation improvement projects
- Local experience with agencies EVWD supplies water to
- Up to date on all of the latest software and technology available to surveyors and civil engineers
- Vast experience on various street improvement projects
- Trains staff and provides manuals on civil design, drafting, and surveying procedures.
- Environmental and inspection experience to supplement design considerations.

## RELEVANT PROJECT EXPERIENCE

### Mt. Vernon Viaduct Bridge Design / Build Project (San Bernardino, CA)

HKA is a subconsultant to the Traylor / Granite team responsible for developing geometric alignments, hydrology studies, **surveying and right of way requirements**, drainage design, street improvements, traffic signals and lighting, and traffic management plans. As Project Manager, Mr. Hernandez lead the development of 35% plan level effort for the purposes of developing alternative design concepts, reduction of mass grading and bridge profiles, minimization of the project's impacts to adjacent street intersections, and preparation of both the design and construction costs for project completion. In addition, **Mr. Hernandez had to verify that all work would be completed in the allotted right of way and identify any areas that are outside of the right of way for determination of acquisition**. The Traylor / Granite team was selected by San Bernardino County Transportation Authority to proceed forward with the design / construction of the project. This selection was based on a team effort which included HKA's concepts on how to minimize the bridge impacts, reduce project costs, and while adding additional incentives and value to the project. HKA will be providing full PS&E services in the year 2020 – 2024 for this project.

### California High-Speed Rail Right-of-Way Engineering and Mapping Services, Construction Packages 1-4 Through Central Valley (Central Valley Area, CA)

**As a Right-of-Way Engineer**, Mr. Hernandez has reviewed preliminary title reports for accuracy and completeness, prepared search maps for reconnaissance, **prepared Right-of-Way hardcopy and appraisal maps (Right-of-Way maps), legal descriptions, and Resolution of Necessities exhibits.** Mr. Hernandez provides **research, mapping and checking services in the office**. He has also assisted in providing **peer review on appraisal maps / Right-of-Way maps and preparing a land net and Record of Survey** for the County of Merced. As a Survey Party Chief, Mr. Hernandez coordinated the deployment of field crews and sequenced/scheduled flagging requests for acquisition field agents. Mr. Hernandez set office guidelines to include Right-of-Way acquisition agents with Google Earth KMZ files upon delivery and completion of flagging requests. Additionally, Mr. Hernandez also performed field and reconnaissance surveys for various portions of the HSR landnet including CP1, CP2-3, CP4 & MD1. In part of doing so, Mr. Hernandez used project primary and secondary control to perform any and all adjustments for the data collected. He has also coordinated with other project consultants to determine match lines and boundary establishment. Mr. Hernandez also developed several innovative approaches for the delivery of quality and completeness. One major approach which insured quality assurance and quality control on all product deliveries was the use of secondary check software. His method included the use of coordinate geometry by point geodetic location and by latitude and departure. This secondary check was performed on all deliveries for all segments of the preliminary landnet and for all legal descriptions. Another unique approach Mr. Hernandez developed included a parcel area database. The database uses map information and compiles a check for continuity and accuracy for the square footage on each parcel. This includes the area for the total parcel, fee acquisition area, easement acquisition or dedication area, remainder area, excess area and underlying fee area. The parcel database will check for any errors that could potentially occur in the grantor table of the appraisal and/or Right-of-Way maps.

### 3rd and 5th Street Corridor Improvement Project (Highland, CA)

As Assistant Project Manager, Mr. Hernandez supervised the surveying and civil design efforts for over 1 mile of street improvement plans along the southerly side of 5th Street, portions of 3rd Street, and a new street connection on 5th Street just west of the I-210 interchange. This project includes 3 signal modification plans, lighting systems along 5th Street and portions of 3rd Street, drainage design, as well as field surveying, 3D roadway modeling, flexible and rigid pavement design, and full PS&E development with Utility Relocations for Sewer and Water (Easy Valley Water District), Gas (Southern California Gas) and Electrical (Southern California Edison). In addition, **HKA is also preparing and processing about 30 temporary construction easements and 5 permanent acquisition easements for the project**. Mr. Hernandez developed the project laser scanning guidelines for the project in order to develop a full coverage topographic point cloud map of the corridor area. He also orchestrated the delivery of the 65% submittal performing as the Quality Assurance / Quality Control manager for the plans while performing various design aspect such as the roadway configuration, median design, pavement cross sections and construction improvement areas.

### Arrowhead Springs Resort ALTA (San Bernardino, CA)

As a party chief, Mr. Hernandez was responsible for one of several crews accountable for the reconnaissance and monument recovery in various sections of this **8-square mile survey**, which spanned through the treacherous terrain of the San Bernardino mountains. Mr. Hernandez orchestrated the delivery and implementation of all vehicles used on-site, which included All-Wheel Drive and Four-Wheel Drive survey trucks, Side by Side utility vehicles and all-terrain vehicles. Mr. Hernandez performed a landnet breakdown of easements and property boundaries for various portions of the project. **Title research resulted in over 100 exceptions, exclusions, or easements and the ALTA mapped over 20 parcels in 6 different sections of land.** He also spearheaded acquiring all additional documentation information needed for the Pacific Electric Railroad, which was a sensitive area for this project. The survey for this area was difficult in terms of terrain and

complexity, but because the HKA team identified and prepared for all possible project complications in advance, they were able to ensure a timely delivery of this ALTA survey in as little as five weeks.

Mr. Hernandez set up the control for survey with latest GPS equipment. Due to the mountainous region of the project, some monuments were difficult to find or approach. Mr. Hernandez used all-terrain vehicles to climb up the mountain when approaching monuments that were set by the Municipal Water District's surveyor half a decade ago.

### REAL Journey Academies – Street, Traffic Signal, and Landscaped Median Islands Improvement Plans (Highland and San Bernardino, CA)

Mr. Hernandez was the Lead Civil Engineer and Land Surveyor for the design of street improvements, new traffic signal and signal interconnect, and landscaped median islands. Specific project elements included establishing the roadway profile, **performing landscape maintenance district legal descriptions and plats, performing topographic 3D laser scanning and GPS surveys**, adjusting the surface elevations for drainage flow due to the new median island, traffic signal design, signing and striping, and cost estimating. Because this location is a shared intersection between the City of Highland and the City of San Bernardino, design standards for both agencies was required regarding the traffic signal components and the ADA ramps. Furthermore, the traffic signal design needed to be designed for two scenarios, one being opening day, and the other for a future San Manuel Band of Mission Indian's driveway. For the construction portion, Mr. Hernandez assisted in reviewing submittals, addressing utility inquiries, and assisted in supervising the construction inspection. All plans were done in AutoCAD Civil 3D.

### San Bernardino International Airport Authority (SBIAA) in conjunction with Inland Valley Development Agency (IVDA) – Gate 1 Access Road (San Bernardino, CA)

Mr. Hernandez served as the Lead Civil Engineer and Land Surveyor for street improvements, traffic signal modification, street lighting, utility coordination, drainage improvements, land surveying and ADA path of travel. **This was a rapid delivery project for 4,800 feet of new roadway and was completed in 3 months. Mr. Hernandez directed and reviewed the design and Right-of-Way, reviewed surveys and survey crew, supervised the utility investigations and as-built research, coordinated utility relocation efforts, performed the pavement analysis and cost benefits between concrete and asphalt pavement assuring that the concrete and asphalt pavement sections complied with the Caltrans Highway Design Manual, supervised the traffic signal modifications, and prepared the quantities and assisted in the cost estimates.** Mr. Hernandez also directed Design West Engineering to obtain electrical power for on-site lighting and power for the guard shacks and rolling gate from an existing building instead of establishing a new point of electrical connection thereby bypassing the typical lead times with Southern California Edison for new service. Mr. Hernandez also performed legal descriptions to allow for access maintenance easements for all equipment that would encumber neighboring properties. All PS&E and surveying was prepared in AutoCAD Civil 3D.

# JOSEPH FIGUEROA, PLS
## Project Surveyor

| PROFESSIONAL CERTIFICATIONS | EDUCATION |
|---|---|
| CA Professional Land Surveyor – 9288 | ITT Technical Institute - AA / CADD (2001)<br>Santiago Canyon Community College - Principals of Land Surveying (2005-2008)<br>University of Riverside, Riverside, CA - Principals of GPS Technology Extension (2003)<br>Westech College - Civil Design 3D<br>Westech College - MicroStation<br>CA Land Surveyors Association - Railroads (2015) / Boundary Law (2016)<br>OSHA 10-Hour Training for Roadway Construction |

***18Years of Experience – 18 Years of Experience with HKA (Since 2002)***

## KEY STRENGTHS FOR YOUR PROJECTS

- Strong experience performing design surveys, topographic surveys, and locating utilities
- Strong experience in property and rights determination and determining right of way
- Can provide property surveys as well as design surveys
- Productive team member both in the field and in the office
- Trained and proficient on the latest survey equipment, post-processing survey software, and CADD software

## RELEVANT PROJECT EXPERIENCE

### San Bernardino International Airport Authority (SBIAA) and the Inland Valley Development Agency (IVDA) – Gate 1 Access Road, Primary Truck Access (San Bernardino, CA)

Mr. Figueroa served as Party Chief for this contract in which HKA was tasked with the civil engineering for street improvements, 3 new access connections with Tippecanoe Avenue, traffic signal modification, street lighting, utility coordination, drainage improvements, and ADA path of travel. This project was for the rapid delivery of 4,800 feet of new concrete and asphalt pavement roadway and was completed in 3 months. Mr. Figueroa established survey control and determined right of way ownership along the Tippecanoe Avenue confirming the property lines of the project site. He identified the locations of active utilities and abandoned utilities left in place. The Trimble GNSS receivers, the Trimble DiNi Digital Level, and the Trimble SX10 Scanner were all used for surveying shots of utilities, placement of ADA ramps, identifying flowlines and top of curb.

### California High-Speed Rail, HSR:13-65, Right-of-Way Engineering and Mapping Services, Construction Packages 1-4 Through Central Valley (Central Valley Area, CA)

As Project Surveyor, Mr. Figueroa is responsible for document preparation for right of way acquisition in segments CP1, CP2-3, CP4 and Madera to Merced regions. These services include performing research of preliminary title reports, assessor maps, record maps, unrecorded maps, and public records. He develops search maps for field crews, establishes property lines and easements, understands unwritten rights, and performs site reconnaissance and monument recovery. The documents prepared by HKA include Caltrans right of way maps, appraisal maps, legal description, resolutions of necessity, exhibits, and records of survey. Mr. Figueroa has also provided quality control and deliverables on specialized outgrant legals and plats for various utility providers on an accelerated timeline

### On-Call Surveying Services for Caltrans District 7 Eastern Los Angeles County (Los Angeles, CA)

As Party Chief, Mr. Figueroa was responsible for providing the necessary surveying services and running HKA's survey crews on various task order projects. Task orders included centerline stationing and construction staking for drainage, road improvements and Right-of-Way staking for reconstruction projects as staff augmentation to Caltrans surveyors. He was responsible for reviewing task orders, providing survey control, rough grade stakes, final grade stakes, ground and superstructure stakes, drainage structures, right-of-way flagging, slope stakes, cut and fill stakes, cross sections, curb and gutter, and setting final right-of-way monumentation. Mr. Figueroa used AutoCAD Civil 3D Survey Database for converting and transferring survey data into different formats used by Caltrans (TSS format). He prepared alignment data for import and export using XML file format. All survey data deliverables were based on NAD 83 US survey units.

### Chino ADA Project (Chino, CA)

Mr. Figueroa served as Party Chief on this contract in which the City of Chino required engineering design and project management services for the CDBG ADA Ramps and Sidewalk Construction at Various Locations, Project MS161 (Project). The project entailed providing ADA ramps and transitions, and sidewalk repairs at various locations in the City to serve various public facilities including parks, schools, and businesses.

### REAL Journeys Academies (Highland and San Bernardino, CA)

As Party Chief, Mr. Figueroa directed the field operations to obtain the topographic, utility, and right of way surveys for designing a new traffic signal and landscape median island on Highland Avenue. To complete this survey HKA's survey crew combined the use of three different surveying instruments including RTK/Static GPS receivers, a 3D Laser Scanner and a digital differential level. Mr. Figueroa used a Trimble R10 GNSS/GPS receiver system to obtain horizontal project control, centerline alignment, and lane striping. He then established vertical control using a Trimble DiNi digital level for 2,000 linear feet. The major data collection was gathered using a Trimble SX10 3D scan instrument, which combines laser scanning and conventional surveying technology. This instrument was used to gather topographic features of the pavement surface, curb and gutter, structures, slopes, power poles, power lines, street lights, street signs, fences, overhead electrical, utility manholes, water valves, lane striping and communication boxes for over 1,500 linear feet along Highland Avenue.

necessary project documentation and audit trails, and assisting with organizing employee meetings to assess the project status.

In addition to project management responsibilities, Mr. Flasschoen has comprehensive experience collecting and researching all boundary documentation to support the land net, including Right-of-Way deeds, grant deeds, easement deeds, Records of Surveys, Parcel Maps, Tract Maps, Caltrans Right-of-Way Record Maps, and railroad Right-of-Way maps. He is responsible for coordinating directly with Title Officers from title insurance companies to order Preliminary Title Reports and Litigation Guarantees for each ownership number. Mr. Flasschoen also reviews these Preliminary Title Reports and Litigation Guarantees for accuracy, consistency, and inclusion of hyperlinks for the vesting deed and all noted exceptions. During the research process, Mr. Flasschoen has coordinated directly with railroads and Caltrans to obtain documents for research that were not available or recorded in the County. Specifically, in Kings County, he communicated directly with the technician in charge of surveying documents and established a working relationship. Mr. Flasschoen has extensive participation in preparation of various ROW Engineering deliverables for the HKA team, including Appraisal Maps, Right-of-Way Record Maps, legal descriptions and exhibits, Resolutions of Necessity, Pacific Gas & Electric easement deeds, and various plats, in compliance with HSR CADD standards. Furthermore, Mr. Flasschoen has experience reviewing CADD files prepared by other consultants, such as appraisal maps, legal descriptions, and Resolutions of Necessity, verifying usage of correct coordinate system and zone, standard levels, line style scale, reference attachment settings, element types, and verifying compliance with Right-of-Way CADD standards.

Mr. Flasschoen is experienced in researching all applicable HSR and Caltrans Right-of-Way CADD standards, consulting the Authority's Draft Right-of-Way Manual, CADD User's Manual, Caltrans Right-of-Way Manual, Plans Preparation Manual, and CADD User's Manual. He has prepared a MicroStation project workspace for all users containing the correct standard seed files, cell libraries, levels, line styles, fonts, color tables, and DGNLIB files. Mr. Flasschoen is also proficient in developing processes for converting CADD files from AutoCAD Civil 3D to MicroStation and vice versa. He is also instrumental in developing, distributing, and updating Authority's Right-of-Way CADD standards based on Caltrans standards by coordinating directly with Caltrans Right-of-Way CADD manager in Caltrans headquarters.

### Curb Gutter and Sidewalk Improvements Along Big Bear Boulevard (State Route 18) (Big Bear, CA)

HKA was a subconsultant to provide Caltrans Right-of-Way map drafting services. The prime consultant drafted maps in AutoCAD and submitted PDF maps for Caltrans approval. Caltrans District 8 commented on the check plots but required MicroStation files to be submitted for review. As a Draftsman, Mr. Flasschoen converted AutoCAD Civil3D drawings to MicroStation, updated the line work to Caltrans CADD standards, and drafted the appraisal map sheets and landnet map sheets using standard Caltrans cells, levels, colors, fonts, and line styles. Mr. Flasschoen ensured that all CADD files were prepared in the correct California State Plane Coordinate System zone with correct surveying units.

NORTH

840 420 0 840 Feet

Approximate Limits of Survey

015124124
CITY OF SAN BERNARDINO

015124123
STATE OF CALIFORNIA

026503106
SAN BERNARDINO CO FLOOD CONTROL DIST

026503122
SBVMWD

026503111
SAN BERNARDINO CO FLOOD CONTROL DIST

026503108
SAN BERNARDINO CO FLOOD CONTROL DIST

026503109
SAN BERNARDINO CO FLOOD CONTROL DIST

026503107
SAN BERNARDINO CO FLOOD CONTROL DIST

026503125
SAN BERNARDINO CO FLOOD CONTROL DIST

015124116
CITY OF SAN BERNARDINO

Bern
Devils Canyon Rd
Pine Creek Rd
Cloudland Truck Trl
1972 ft
1966 ft
Ohio Ave
Redwood Ct
N Redwood St
W Azalea Ave
Ashton Ct
N Brenda Ln
N Ventura Ave
Pine Ave
Maclay St
Hyatt Rd
Sunflower Ave
Shepherd Dr
Christopher St
Deanna Dr
Leta Ln
Cassandra Dr
W Sycamore St
N Live Oak St
Ginkgo St
N Valles Dr
Northpark Blvd
W Devil Canyon Levee Rd
1600 ft
N Campus Pkwy
Fairview Dr
Lot A
Lot L
Lot A4
Parking Structure West
HVAC Central Plant
Lot M
California St Univ-San Bernardino
Chemical Sciences
Bio Lot
Badger Canyon Rd

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



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**DATE:** July 14, 2020

**TO**: Board of Directors Workshop – Engineering

**FROM:** Kristeen Farlow, Manager of External Affairs

**SUBJECT:** Consider Participation in Cultural Intelligence Training through the Cultural Intelligence Center

The Board of Directors is asked to consider participation in Cultural Intelligence Training through the Cultural Intelligence Center.

**Background**

At a recent Board Workshop, Director Hayes requested the Board's consideration of participation in Cultural Intelligence (CQ) Training through the Cultural Intelligence Center. The Board agreed to further consider this activity at a future workshop and it is now before the Board of Directors for discussion.

CQ is the ability to relate effectively in culturally diverse situations and enhance the function of teams and/or workplace. It is important to note that in this context of improving organizational function, reference to "cultural diversity" does not necessarily mean race or ethnicity. When we discuss "culture" in this context, we are referring to an *organized set of beliefs, values, customs, and behaviors separating one group from another*. Every person transmits, interprets, and processes information through the lens of their own cultural background, whether done consciously or subconsciously, which then influences behavior. Cultural diversity includes many different aspects of a person's background including, gender, generation, nationality, ethnicity, regionality, education level, profession, religious beliefs, political affiliation, socioeconomic level, and household configuration. These factors can influence a person's behavior, personal

communication style and decision making. Because of this, awareness and consideration of cultural diversity, as it relates to interactions with colleagues and partners, is very important to building and maintaining relationships in a manner that supports organizational function. Developing one's own Cultural Intelligence, or a sensitivity to others' backgrounds that shape their behavior, helps build a "propensity to suspend judgement" or the ability and desire to think before responding or acting, which is helpful in many aspects of the workplace and life.

The Cultural Intelligence Center offers a program that will guide participants through a workshop, how to implement what is being taught, assess participants in the four areas of CQ, and online learning for individuals and small groups. One assessment example is determining if a person functions better within the parameters of individualism or collectivism. This is often developed at a young age based on one's family origin and the generation in which they were raised. Individualism is when a person places an emphasis on individual goals, rights, and decisions for one's own benefit and fulfillment. In contract, collectivism is when a person incorporates consideration of group goals, relationships, and community or collective benefit into their decision-making process. Neither of these is necessarily good or bad – these are simply different *orientations* that influence behavior. As an employer, partner, or colleague, it can be very important to understand the orientation of individuals within a team setting in order to respect each other's values and work together more effectively. This can also help build more culturally diverse teams which have been shown to be more effective than homogenous teams because the diversity helps a team consider different ways of looking at a problem and consideration of ideas, opinions, and solutions that may not be obvious.

There are four areas of CQ that the Cultural Intelligence Center evaluates through their programs:

1. CQ Drive: your level of interest, persistence, and confidence during multicultural interactions;
2. CQ Knowledge: your understanding about how cultures are similar and different;
3. CQ Strategy: your awareness and ability to plan for multicultural interactions;
4. CQ Action: your ability to adapt when relating and working in multicultural contexts.

The Cultural Intelligence Center offers a number of programs the District could participate in. Individual online assessments are approximately $60/ person. Individual CQ training is approximately $2,600 per person. Online workshops for small groups start at $7,000. Beyond

individual training about CQ, there are train-the-trainer programs that could equip Valley District staff with CQ knowledge and ability to train others on the principles of cultural intelligence. The cost of certification for a member of our organization to become a trainer is approximately $5,000 per person. We could also investigate the cost of developing a whole-organization program that could include training on this issue for both staff and Directors.

**Recommended Action**

Discuss and provide direction to Staff.

**Attachment**

Corporate Solutions Flyer

# ENTERPRISE SOLUTIONS

CULTURAL INTELLIGENCE CENTER

## BUILDING A CQ ORG

**Culturally intelligent (CQ®) organizations** attract and retain top talent, innovate in the face of disruption, plan for what's around the corner, and adapt when customer needs shift. CQ leaders are inclusive, curious, and challenge the status quo. Their teams work and relate effectively across various cultural contexts including nationality, ethnicity, gender, generations, and cognitive diversity.

CQ orgs are motivated by doing **the right thing and the smart thing** for business. CQ leaders hold teams accountable and involve change agents across the organization. CQ orgs integrate cultural intelligence into their DNA.

We work with mid- to large-size enterprises around the world to create **scalable solutions** that fit their culture and strategic business drivers.

### TOP-DOWN | BOTTOM-UP | MIDDLE-OUT


## DIVERSE PERSPECTIVES CREATE BETTER SOLUTIONS

We know that homogeneous teams outperform diverse teams when CQ is low. **But when CQ is high, diverse teams outperform homogeneous teams.** Every organization is in a different place in their CQ journey. As a thought and solutions partner, we want to ensure that the learning path you set your team on sticks.

### WHY DO COMPANIES COME TO US?

- **QATAR AIRWAYS** — 5-Star customer service
- **IROBOT** — Expanding into diverse markets
- **REPUBLIC NATIONAL DISTRIBUTING CO.** — Merger & acquisition
- **STARBUCKS** — Attracting & retaining top talent
- **FIAT CHRYSLER AUTOMOBILES** — Division culture transformation
- **PRUDENTIAL** — Global mobility for executives
- **AMWAY GLOBAL** — Leading multicultural teams
- **CONSTELLATION BRANDS** — Effective virtual teams

- MANAGING UNCONSCIOUS BIAS
- LEADING WITH CQ
- DEVELOPING CQ
- CQ FOR HIRING

## SOLUTIONS

Our clients value our developmental framework and skills-based approach to creating innovative, research-based solutions for assessing and improving intercultural effectiveness in their organizations.

Ask us about our **customized programming options** available, with focus areas in both unconscious bias and cultural intelligence.

## SOLUTIONS PARTNER

We are a solutions partner across industries and functional areas including:

- Consumer
- Life Sciences & Health Care
- Telecommunication & Technology
- Energy & Resources
- Financial Services
- Retail


TRUST
INNOVATION
IDEA SHARING
PROFITABILITY
PRODUCTIVITY
COST-SAVINGS
LEADERSHIP EFFECTIVENESS
NEGOTIATION EFFECTIVENESS
JUDGMENT & DECISION-MAKING

## IMPACT

What all industries have in common is **business results.** When integrated with leadership programs, new hire orientations, and high potential programs, our CQ solutions result in improvements in several key areas of business development.

### CONTACT US

With experts around the world, we have teams of professionals ready to help you develop creative solutions and/or deliver training and consulting services wherever you need it.

CULTURAL INTELLIGENCE CENTER