In compliance with the Americans with Disabilities Act, if you have a disability and need a disability-related modification or accommodation to participate in this meeting, please contact the Management Services Supervisor/Chief Board Clerk at (916) 725-6873. Requests must be made as early as possible, and at least one full business day before the start of the meeting.

CALL TO ORDER:
Upon request, agenda items may be moved to accommodate those in attendance wishing to address that item. Please inform the General Manager.

VISITORS:

PUBLIC COMMENT:
The Public shall have the opportunity to directly address the Board on any item of interest to the public before or during the Board’s consideration of that item pursuant to Government Code Section 54954.3. Public comment on items of interest within the jurisdiction of the Board is welcome. The Presiding Officer will limit comments to three (3) minutes per speaker.

BUSINESS:

B-1. Strategic Planning Session defining Goals and Objectives for the District (I/D)

B-2. Discussion and Possible Action to Approve First Amendment to the Water Meter Consortium Memorandum of Understanding and an Agreement with Harris and Associates for a Meter Replacement Program Planning Study.

Recommendations: Authorize the General Manager to execute:
1) The First Amendment to the Memorandum of Understanding, subject to any modifications deemed appropriate by the General Manager in consultation with the General Counsel’s office as long as those modifications do not increase CHWD’s share of any Study costs or potential liability; and
2) The Professional Services Agreement with Harris & Associates for the Regional Water Meter Replacement Planning Study, subject to any modifications deemed appropriate by the General Manager in consultation with the General Counsel’s office as long as those modifications do not increase CHWD’s share of any Study costs or potential liability.

DIRECTOR’S AND REPRESENTATIVE’S REPORTS (I):
D-1. Other Reports.

ADJOURNMENT:
CERTIFICATION:
I do hereby declare and certify that this agenda for the special meeting of the Board of Directors of the Citrus Heights Water District was posted in a location accessible to the public at the outdoor bulletin board at the District Administrative Office Building, 6230 Sylvan Road, Citrus Heights, CA 95610 at least 24 hours prior to the special meeting in accordance with Government Code Section 54956.

Christopher Castruita, Management Services Supervisor/Chief Board Clerk
Dated: June 3, 2019
8:00 am  Breakfast available

8:30 am  Call to Order and Flag Salute  (Caryl Sheehan, Board President)

Welcome the CAC members to our Session  (Caryl Sheehan, Board President)

Agenda review and introductions  (Laura Mason-Smith, Consultant/Facilitator)

Public comment  (Caryl Sheehan, Board President)

Teambuilding and recognition of District accomplishments and strengths

Recognize the District’s Mission, Vision, Core Values, and Commitments as the foundation for our work

Identify significant issues, factors, and trends facing the District

Reference the District’s capacity to implement Strategic Goals and Objectives as well as address Emerging Issues

Refresher on defining Goals and SMART Objectives

Confirm or modify the District’s Current Three-Year Goals

- Complete the Project 2030 Water Main Replacement Study to Ensure a Reliable Water Distribution System
- Manage Water Efficiency Effectively and empower customers to use water in an Efficient Manner
- Manage and Diversity a Dependable Water Supply
- Manage the Efficient Improvement of and Reinvestment in District Infrastructure and Facilities
- Promote Organizational Effectiveness to Enhance Customer Service

Identify and prioritize the top 3-4 Measurable Objectives for each of the Goals in 2020
Public Comment (Caryl Sheehan, Board Chair)

Clarify next steps (Hilary Straus)

Wrap-up (Laura Mason-Smith)

Close the Strategic Planning portion of the meeting and move into the discussion of Business Item (Caryl Sheehan, Board Chair)

Adjourn (Caryl Sheehan, Board Chair)
MISSION, VISION AND VALUES

MISSION

It is the mission of the Citrus Heights Water District to furnish a dependable supply of safe, quality water delivered to its customers in an efficient, responsive, and affordable manner.

VISION

The Citrus Heights Water District will continue to evolve as a dynamic provider of municipal water service to assure that our customers receive the best value without giving it a second thought.

CORE VALUES

(Not in priority order)

Integrity
Teamwork
Dependability
Accountability
Professionalism
COMMITMENTS

We at Citrus Heights Water District will excel at fulfilling our mission and vision by adhering to our core values and dedicating ourselves to these commitments:

We commit to being good stewards of our water supply and the environment.

We commit to responsible management of the District’s capital, fiscal and personnel assets.

We commit to provide reliable and dependable water service at an affordable cost.

We commit to provide a water supply that meets or exceeds State and federal water quality standards.

We commit to provide customer service that is extraordinary to both our rate-payers and to our work team.

We commit to be a valuable resource for our customers in consistently providing friendly, respectful service.

We commit to provide information that is accurate, complete and relevant.

We commit to excel beyond our commitments when moments of opportunity arise.

We commit to conduct our affairs with the highest ethical standards.

We commit to develop and implement reasonable policies and procedures that foster integrity and trust.

We commit to have a friendly, courteous and professional person readily available through all channels of communication to customers during business hours.

We commit to have a well-trained staff that supports one another in opportunities for personal and professional growth.
We commit to provide the equipment, technology and training necessary to assure that our customers received the best value in water service.

We commit to work together for each other and for our customers.

We commit to provide employee compensation and benefits that are competitive, affordable and retain and attract high quality professionals to provide services to our customers.

We commit to an empowered staff that is accountable, team-oriented and supportive of each member’s performance.

We commit to create a positive and safe work environment that recognizes and rewards superior performance.

We commit to hire progressive employees that will fulfill the mission of the District.

We commit to support economic growth by ensuring water service ample to meet new customer demand.

We commit to collaborate with other agencies in support of regional endeavors of mutual interest and benefit.

We commit to efficiently and effectively accomplish the day’s business while preparing for the future.

We commit to choosing a great attitude.
NOTES & IDEAS

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Page 6
CITRUS HEIGHTS WATER DISTRICT

DISTRICT STAFF REPORT TO BOARD OF DIRECTORS
JUNE 6, 2019 MEETING

SUBJECT : DISCUSSION AND POSSIBLE ACTION TO APPROVE THE FIRST AMENDMENT TO THE WATER METER CONSORTIUM MEMORANDUM OF UNDERSTANDING AND AN AGREEMENT WITH HARRIS & ASSOCIATES FOR THE WATER METER REPLACEMENT PROGRAM PLANNING STUDY

STATUS : Action Item
REPORT DATE : May 30, 2019
PREPARED BY : Josh Nelson, Assistant General Counsel
             David Gordon, Operations Manager
             Rebecca Scott, Senior Management Services Specialist

OBJECTIVE:
Consider authorizing the General Manager to execute:
1) First Amendment to the Water Meter Consortium Memorandum of Understanding.

BACKGROUND AND ANALYSIS:

Background
Due to aging infrastructure, the District and other water providers in the area are examining how best to replace customer water meters. Staff of affected local water agencies and the Regional Water Authority (RWA) have determined that this process may present an opportunity for regional collaboration in effective asset inventory management. In particular, a regional approach presents potential opportunities for economies of scale to reduce procurement and on-going maintenance costs. A regional sensible integration approach may also increase effectiveness in mutual aid and emergency situations if all staff are familiar with the meters and related infrastructure. Similarly, a regional approach may present grant or other funding opportunities. Despite the benefits of a regional approach, staff recognizes the potential challenges, such as the fact that individual agencies may be on differing meter replacement schedules.

To explore this possibility, the Carmichael Water District, Citrus Heights Water District (CHWD), City of Folsom, City of Sacramento, Fair Oaks Water District, Golden State Water Company, Orange Vale Water Company, RWA, Sacramento County Water Agency, Sacramento Suburban Water District, and San Juan Water District (SJWD) previously executed a Memorandum of Understanding (MOU) establishing a flexible framework for agencies to participate in the Regional Water Meter Replacement Program (Program). The MOU is included in this staff report as Attachment 1. The focus of the MOU is an initial planning study (Study) that will examine numerous parts of the Program, including: an inventory and assessment of the current meter fleet; an evaluation of potential replacement meter technology options and specifications; a summary and assessment of current meter testing programs and options for optimizing performance; an evaluation of potential replacement meter procurement programs and financing models; and a public outreach program for the meter replacement process.

The MOU allows parties to participate in the Study in three different levels of participation:
a) An L1 agency participates in the Study by providing input and suggestions but is not required to pay a share of consultant and related costs,
b) An L2 agency shares in a portion of the cost of the Study but otherwise participates as an L1 agency, and

c) An L3 agency participates in the Study fully, including sharing all consultant and related costs.

Originally, CHWD and SJWD were participating as L3 Parties and all other agencies were participating as L1 Parties.

First Amendment to the Memorandum of Understanding – Consortium

Recently, several agencies expressed interest in increasing their level of participation to L2, including City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, and Sacramento Suburban Water District. When L1 agencies request to participate in the Study at a higher level, the MOU requires an amendment to be executed among the L2 and L3 Parties.

In order to facilitate these changes, the First Amendment to the MOU (Amendment) is included as Attachment 2 to this staff report. The Amendment generally outlines how each agency will participate in the Study and pay its share of the participating costs.

Professional Services Agreement – Harris & Associates

A Request for Proposals was issued for the Study on August 30, 2018. As a result of that process, the participating agencies recommended that Harris & Associates (Harris) be selected as the consultant for the Study. A professional services agreement (Agreement) with Harris is included as Exhibit 1 to Attachment 2 of this report as described below. Under the MOU, CHWD will be the contracting agency with Harris. CHWD will pay Harris according to the terms of the Agreement and receive reimbursement from the participating agencies.

Based upon the proposal provided by Harris, the project cost for the entire Study is $631,497, based on the Consortium agencies’ levels of participation. CHWD’s portion of the Study cost is $155,751. Staff is recommending a larger contingency than the standard 10% for this project, due to:

1) The extensive work necessary to complete the study;
2) The logistics of Harris completing somewhat individualized tasks for numerous agencies; and
3) The potential for other agencies joining the Study at various levels of participation.

Therefore, as noted in section 2.b of the Agreement, the total cost of the project is a Not-to-Exceed amount of $800,000 for all agencies. To control CHWD’s costs, staff requests CHWD’s Not-to-Exceed total cost for the Study be set at $200,000.

<table>
<thead>
<tr>
<th></th>
<th>Project Cost</th>
<th>Contingency</th>
<th>% of Project Cost</th>
<th>Not-to-Exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Study (all agencies)</td>
<td>$631,497</td>
<td>$168,503</td>
<td>21%</td>
<td>$800,000</td>
</tr>
<tr>
<td>CHWD’s share</td>
<td>$155,751</td>
<td>$44,249</td>
<td>22%</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

Notable Terms and Conditions are as follows:

As stated in the Amendment, the Agreement is designed to reduce CHWD’s outlay as it requires payment of each agency’s share of the costs at the start of each phase. CHWD will then pay Harris upon the completion of each phase. This cost sharing system is similar to RWA’s payment arrangement system for multi-agency agreements. This will not present any operational or financial issues for CHWD. Additionally, this payment arrangement will ensure operational efficiencies in the completion of project deliverables and schedule.
One important item to note in the Amendment is Section 8. This section allows a majority of the affected General Managers or other agency representatives to vote to add additional L2 Parties. Staff has received indications that additional agencies may wish to join the Program and participate in the Study. Rather than require each agency to execute a second amendment to the MOU, this section delegates to Consortium agency staff the authority to approve additional agencies, which streamlines the process and avoids cost increases and time delays.

Next Steps
Staff requests that the Board authorize the General Manager to execute both the Amendment and the Agreement, subject to any modifications deemed appropriate by the General Manager in consultation with the General Counsel’s office as long as those modifications do not increase CHWD’s share of any Study costs or potential liability.

If the Board approves the Amendment and the Agreement, CHWD staff will coordinate with all participating L2 and L3 Parties to execute the Amendment and begin the Meter Planning Study.

The anticipated Project Schedule is below:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Phase 1: Individual Agency Assessment</td>
<td>August 2019</td>
</tr>
<tr>
<td>Phase 2: Next Generation Program Options</td>
<td>August-November 2019</td>
</tr>
<tr>
<td>Phase 3: Meter Testing Program Strategy</td>
<td>October 2019-February 2020</td>
</tr>
<tr>
<td>Phase 4: Implementation Strategy</td>
<td>December 2019-July 2020</td>
</tr>
<tr>
<td>Phase 5: Long-Term Planning</td>
<td>June 2020-October 2020</td>
</tr>
<tr>
<td>Phase 6: Final Report/Plan Adoption</td>
<td>October 2020-December 2020</td>
</tr>
<tr>
<td>Phase 7: Public Outreach</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**RECOMMENDATION:**
Authorize the General Manager to execute:

1) The First Amendment to the Memorandum of Understanding, subject to any modifications deemed appropriate by the General Manager in consultation with the General Counsel’s office as long as those modifications do not increase CHWD’s share of any Study costs or potential liability; and

2) The Professional Services Agreement with Harris & Associates for the Regional Water Meter Replacement Planning Study, subject to any modifications deemed appropriate by the General Manager in consultation with the General Counsel’s office as long as those modifications do not increase CHWD’s share of any Study costs or potential liability.

**ATTACHMENTS:**
1. Executed Memorandum of Understanding Regarding Water Meter Replacement Program
2. First Amendment to the Memorandum of Understanding Regarding Water Meter Replacement Program
   a. Exhibit 1 - Professional Services Agreement with Harris for Citrus Heights Water District Meter Replacement Program Planning Study Project

**ACTION:**
Moved by Director _____________, Seconded by Director _____________, Carried ______________
ATTACHMENT 1

Executed Memorandum of Understanding Regarding Water Meter Replacement Program
MEMORANDUM OF UNDERSTANDING
REGARDING WATER METER REPLACEMENT PROGRAM

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is made and entered into this 1st day of December, 2018 by and between the Carmichael Water District ("CWD"), Citrus Heights Water District ("CHWD"), Fair Oaks Water District ("FOWD"), City of Folsom ("COF"), Golden State Water Company ("GSWC"), Orange Vale Water Company ("OVWC"), Regional Water Authority ("RWA"), City of Sacramento ("COS"), Sacramento County Water Agency ("SCWA"), Sacramento Suburban Water District ("SSWD"), and San Juan Water District ("SJWD") (individually a "Party" and collectively the "Parties").

RECITALS

A. The Parties are in the process of determining how best to replace aging water meters within their respective service areas. This process will likely involve issuing a request for proposals for consultant meter replacement planning services, the preparation of a water meter replacement planning study, the selection of a replacement water meter-type, the development and implementation of a replacement water meter procurement program, and related activities ("Program").

B. CHWD is currently developing a request for proposals ("RFP") for the Program planning study ("Planning Study"). The Planning Study is anticipated to include various components, including, but not limited to, an inventory and assessment of meter models currently in use, an evaluation of potential replacement meter technology options and specifications, a summary and assessment of current meter testing programs and options for optimizing performance, an evaluation of potential replacement meter procurement programs and financing models, and a public outreach program for the meter replacement process. The Planning Study is further expected to evaluate the costs and benefits of a single-agency or regional approaches to all applicable portions of the Planning Study. Any component and/or discrete portion of the Planning Study is referred to in this MOU as a "Component."

C. The other Parties wish to collectively participate in this Planning Study (in various capacities and participation levels). The collective sharing of planning costs will result in cost savings by individual agencies and may result in aggregate cost savings due to economies of scale. Moreover, the development of a collaborative regional meter procurement program as part of or due to the Planning Study may result in future operational and maintenance savings and mutual aid service enhancements.

D. The Parties desire to enter into this MOU to outline their respective participation in the Planning Study and to establish a process for potential participation in other aspects of the Program.

TERMS

NOW, THEREFORE, the Parties in consideration of the mutual promises set forth in this MOU, agree as follows:

1
1. **Purpose of Memorandum of Understanding.** The purpose of this MOU is for the Parties to outline their respective levels of participation in the Planning Study and establish a process for potential participation in other aspects of the Program.

2. **Participation of the Parties.** Each Party shall participate in one of the following three levels of participation:

   2.1 **L1 Participation.** Parties may participate in the development of the Planning Study by attending all planning meetings and sessions coordinated by the L2 and L3 Parties (as defined below), reviewing drafts of the RFP and Planning Study and providing comments and input in the scope and substance of the RFP and Planning Study. Parties participating at this level shall not be required to contribute any funds towards the cost of the Planning Study or the Program. However, L1 Parties may provide input and comments concerning the development of the RFP, selection of consultant for the Planning Study and the development, review and approval of the Planning Study for consideration by the L3 Parties, or L2 and L3 Parties if applicable. The L3 Parties, or L2 and L3 Parties if applicable, may accept, modify, reject or disregard the comments and input of the L1 Parties in their sole discretion. Any Party participating in the Planning Study as set forth in this subsection shall be referred to as an "L1 Party." Subject to the provisions of Subsection 2.4, COF, COS, CWD, FOWD, GSWC, OVWC, RWA, SCWA and SSWD will participate as L1 Parties.

   2.2 **L2 Participation.** Parties may participate in the Planning Study by sharing the costs of any Component or Components of the Planning Study as set forth in this subsection. Any Party participating in the Planning Study as set forth in this subsection shall be referred to as an "L2 Party." L2 Parties shall be responsible for the costs of the applicable Components as set forth in amendment to this MOU executed by all affected L2 Parties and all L3 Parties. Unless otherwise set forth in the amendment, the L2 Party shall be responsible for: (1) a buy-in fee representing the value received by the L2 Party through its participation in the Planning Study as a L1 Party, excluding the Component which shall be determined by the L3 Parties upon execution of the first Consultant Agreement, and (2) the L2 Party's proportional share of the cost of the Component using the methodology identified in Exhibit A. Such L2 Parties shall participate in the decision-making for that Component(s) of the Planning Study in the same manner as an L3 Party. L2 Parties may participate in the balance of the Planning Study in the same manner as an L1 Party. Although no Party is participating as a L2 Party presently, this option is set forth in this MOU to accommodate any L1 Party that may decide in the future to increase its participation in the Planning Study or to participate as an L2 Party in any Program Project.

   2.3 **L3 Participation.** Parties may participate in the Planning Study by sharing the costs and the decision-making for the entire Planning Study. Any Party participating in the Planning Study as set forth in this subsection shall be referred to as an "L3 Party." L3 Parties shall collaboratively schedule and attend planning meetings and sessions for the development of the RFP and Planning Study, review and evaluate responses to the RFP, determine the selected consultant(s) for the Planning Study, negotiate the Consultant Agreement (as defined below), provide comments and inputs on the development of the Planning Study and approve the final Planning Study. Except as provided in Section 3, all decisions regarding the RFP and Planning Study shall be made by consensus of all L3 Parties and any participating L2 Parties. In the event
of a disagreement between the applicable Parties, the affected Parties shall meet in good faith to resolve the disagreement. If no resolution is reached, a majority vote of the affected Parties on the proposed resolution of the area of disagreement shall control unless there is a tie vote. If there is a tie vote, then the dispute resolution provision in Subsection 2.5 below shall govern. Subject to the provisions of any amendment to this MOU outlining the scope of participation of an L2 Party, L3 Parties shall be responsible for all consultant costs incurred for the Planning Study as set forth in Exhibit A, attached to this MOU and incorporated by this reference. Subject to the provisions of Subsection 2.4, CHWD and SJWD shall participate as L3 Parties.

2.4 Changing Participation Levels. L1 Parties may become L2 Parties upon the execution of an amendment to this MOU signed and approved by all existing L2 and L3 Parties. The amendment shall identify the new L2 Party’s responsibility for Planning Study costs, including any costs incurred by the affected L2 and L3 Parties prior to the date of the amendment. L1 and L2 Parties may become L3 Parties upon the execution of an amendment to this MOU signed and approved by all L3 Parties. The amendment shall identify such Party’s responsibility for Planning Study costs, including, if agreed to by such Parties, any costs incurred by the L3 Parties prior to the date of the amendment subject to any L2 Party’s credit for costs incurred as an L2 Party. L2 and L3 Parties may become an L1 Party at any time prior to the award of the first Consultant Agreement (as defined below) with written notice to the other parties of this Agreement. Such election shall identify how costs of the Planning Study (those incurred to date and future costs) will be allocated between the Parties.

2.5 Dispute Resolution. If the L3 Parties disagree on a specific issue and a tie vote ensues on a decision on that issue under Subsection 2.3, the L3 Parties shall meet and confer and negotiate in good faith to resolve the issue. If the Parties are unable to resolve the specific issue in dispute after good faith negotiations, they shall either agree to: (1) appoint a panel composed of representatives of other Meter Replacement Program consortium parties to hear the disputed issue and render a decision in favor of one side or the other; or (2) engage an outside mediator to attempt to resolve the disputed issue. The L3 Parties may proceed with all other aspects of the Planning Study or Program Project not affected by the dispute. Nothing in this Subsection 2.5, however, prohibits any Party to the dispute from exercising its option to reduce its participation in this MOU to L2 or L1 Party status in accordance with Subsection 2.4.

3. Selection of Consultant and Approval of Planning Study.

3.1 Selection of Planning Study Consultant. Subject to the provisions of Section 2, CHWD shall issue the RFP and award any agreement with consultant(s) for the Planning Study (each a “Consultant Agreement”). CHWD shall follow and comply with the laws and regulations applicable to a California irrigation district when doing so. The Planning Study shall be overseen and administered by L2 and L3 Parties as provided in Section 2 of this Agreement.
3.2 **Approval of Planning Study.** Subject to the provisions of Section 2, each L2 and L3 Party shall approve the Planning Study. The approval shall be by the method preferred by that Party and shall be documented in a writing distributed to all other Parties.

4. **Cost Sharing Procedure.** CHWD shall pay all costs incurred under the Consultant Agreement(s). CHWD shall then provide all affected L2 and L3 Parties with invoices with sufficient supporting information based on their respective share of the costs. Affected L2 and L3 Parties shall reimburse CHWD for such costs within forty-five (45) days of the date of the invoice.

5. **Further Program Activities.** Upon completion of the Planning Study, the Parties may wish to collectively accomplish other Program activities (each a "Program Project"). Any Party wishing to propose a Program Project may do so with written notice to the other Parties that outlines the scope of the Program Project. Parties wishing to participate in the Program Project shall indicate their desire to do so in writing and whether they wish to participate in the same manner as an L1 Party, L2 Party (if the Program Project may be divided into a discrete component) or L3 Party and such parties shall be deemed L1, L2 or L3 Parties for purposes of the Program Project. Therefore, unless otherwise agreed to by such Parties in an amendment to this MOU, the methodology for sharing Program Project costs, allocation of decision-making authority, award of any consultant and similar agreements, and payment of and reimbursement for invoices shall be the same for the Program Project as set forth in Section 2 and 3 and Exhibit A. Parties may modify their level of participation in the Program Project in the same manner as set forth in Section 2.4.

6. **Mutual Indemnification.** To the maximum extent allowed by law, each Party hereby agrees to indemnify, defend, assume all liability for and hold harmless the other Parties and their officers, employees, agents and representatives from all actions, claims, suits, penalties, obligations, liabilities, damages to property, costs and expenses (including without limitation any fines, penalties, judgments, actual litigation expenses and attorneys' fees), and/or personal injuries or death to any persons (collectively, "Claims"), arising out of or in any way connected to the negligence or willful misconduct of that Party, its officers, agents or employees in connection with or arising from any of the activities under this MOU.

7. **No Waiver.** The waiver by any Party of any breach or violation of any requirement of this MOU shall not be deemed to be a waiver of any such breach in the future, or of the breach of any other requirement of this MOU.

8. **Notices.** Any notice or other communication ("Notice") which any Party may desire to give to the other Parties under this MOU must be in writing and may be given by any commercially acceptable means, including via first class certified mail, personal delivery or overnight courier, to the Party to whom the Notice is directed at the address of the Party as set forth below, or at any other address as that Party may later designate by Notice. Any Notice shall be deemed received immediately if delivered by hand, on the third day from the date it is postmarked if delivered by first-class mail, certified and postage prepaid, return receipt requested, and on the next business day if sent via nationally recognized overnight courier.
CWD: Carmichael Water District
7837 Fair Oaks Blvd
Carmichael, CA 95608

CHWD: Citrus Heights Water District
6230 Sylvan Road
Citrus Heights, CA 95610 (physical)
P.O. Box 286
Citrus Heights, CA 95611 (mailing)

FOWD: Fair Oaks Water District
10326 Fair Oaks Blvd.
Fair Oaks, CA 95628

COF: City of Folsom
50 Natoma Street
Folsom, CA 95630

GSWC: Golden State Water Company
3005 Gold Canal Drive
Rancho Cordova, CA 95670

OVWC: Orange Vale Water Company
9031 Central Avenue
Orangevale, CA 95662 (physical)
P.O. Box 620800
Orangevale, CA 95662 (mailing)

RWA: Regional Water Authority
5620 Birdcage Street, Ste. 180
Citrus Heights, CA 95610

COS: City of Sacramento
915 I Street
Sacramento, CA 95814

SCWA: Sacramento County Water Agency
10151 Florin Road
Sacramento, CA 95829

SSWD: Sacramento Suburban Water District
3701 Marconi Avenue, Suite 100
Sacramento, CA 95821
9. **Interpretation: Venue.**

9.1 **Interpretation.** The headings used herein are for reference only. The terms of the MOU are set out in the text under the headings.

9.2 **Venue.** This MOU is made in Sacramento County, California. The venue for any legal action in state court filed by any Party to this MOU for the purpose of interpreting or enforcing any provision of this MOU shall be in the Superior Court of California, County of Sacramento.

10. **Third-Party Beneficiaries.** Nothing contained in this MOU shall be construed to create any rights in third parties and the Parties do not intend to create such rights.

11. **Severability.** If any provision of this MOU, or any portion thereof, is found by any court of competent jurisdiction to be unenforceable or invalid for any reason, such provision shall be severable and shall not in any way impair the enforceability of any other provision of this MOU.

12. **Amendment of MOU.** This MOU may be amended at any time by mutual agreement of the Parties. Unless approval of an amendment is within the authority of less than all Parties as provided in Section 2, any amendment shall be in writing and signed by all Parties. Notwithstanding the foregoing, any public agency or mutual water company located in Placer or Sacramento County not a signatory to this MOU may become an L1 Party upon the execution of a writing indicating its assent to be bound by the terms and conditions of this MOU applicable to L1 Parties. The form of such writing shall be developed by CHWD after consultation with all other Parties. In addition, any L1 Party may withdraw from this MOU with written notice to the other Parties.

13. **Entirety of Contract.** This MOU constitutes the entire agreement between the Parties relating to the subject of this MOU and supersedes all previous agreements, promises, representations, understandings and negotiations, whether written or oral, among the Parties with respect to the subject matter hereof.

[SIGNATURE PAGE FOLLOWS]
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

CARMICHAEL WATER DISTRICT

By: [Signature]

General Manager
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

CITRUS HEIGHTS WATER DISTRICT

By: _____________________________
General Manager
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

FAIR OAKS WATER DISTRICT

By: [Signature]

General Manager
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed.

Date ___________________________ Tax I.D. Number ___________________________

Signature ___________________________ Signature ___________________________

Print Name ___________________________ Print Name ___________________________

Title ___________________________ Title ___________________________

CITY OF FOLSOM, A Municipal Corporation:

Date 11/7/18

Elaine Andersen, City Manager

ATTEST:

Christa Freemantle, City Clerk 11/4/18

James W. Francis, Finance Director 11/6/2018

FUNDING AVAILABLE:

ORIGINAL APPROVED AS TO CONTENT:

Marcus Yasutake, Environmental & Water Resources Director 11/2/18

ORIGINAL APPROVED AS TO FORM:

Steven Wang, City Attorney 11/1/18

NOTICE: SIGNATURE(S) ON BEHALF OF CONSULTANT MUST BE NOTARIZED.
A certificate of acknowledgment in accordance with the provisions of California Civil Code section 1189 must be attached for each person executing this agreement on behalf of consultant. This section provides, at part (b): "Any certificate of acknowledgment taken in another place shall be sufficient in this state if it is taken in accordance with the laws of the place where the acknowledgment is made.

Folsom File No. 174-21 18-088
Admin Approval

Water Meter Consortium MOU
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

GOLDEN STATE WATER COMPANY

By: [Signature]

General Manager
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

ORANGE VALE WATER COMPANY

By: ____________________________
    General Manager
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

REGIONAL WATER AUTHORITY

By: Executive Director
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

CITY OF SACRAMENTO

By: [Signature]

[Director of Utilities]
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

Sacramento County Water Agency

By: [Signature]

Michael L. Peterson

Title: Director/Agency Engineer
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

SACRAMENTO SUBURBAN WATER DISTRICT

By: [Signature]
General Manager
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

SAN JUAN WATER DISTRICT

By: 

[Signature]

General Manager
EXHIBIT A

COST ALLOCATION METHODOLOGY

The costs of the Planning Study shall be allocated between the current L3 Parties based on their proportional share of metered customers or customers that are required to be metered (whether or not they actually are metered). The number of customer accounts and share of costs is set forth below:

<table>
<thead>
<tr>
<th># of Meter Connections</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHWD</td>
<td>19,937</td>
</tr>
<tr>
<td>SJWD</td>
<td>10,636</td>
</tr>
<tr>
<td>TOTAL</td>
<td>30,573</td>
</tr>
</tbody>
</table>

Any Party wishing to participate as an L2 or L3 Party may do so pursuant to the provisions of Section 2.4. In the event that an L2 Party is added to the MOU under Section 2.2, the methodology above shall be utilized when determining the L2 Party’s responsibility for the cost of the Component provided that the number of metered customers or customers that are required to be metered (whether or not they actually are metered) shall be used when calculating the L2 Party and the other L3 Parties’ responsibility for the cost of the Component.

Any buy-in fees paid by L2 Parties shall be applied to the total amount owed by the L3 Parties with the buy-in prorated among the L3 Parties in the same manner as costs are allocated as set forth above. If the buy-in fees exceed the amount owed for the completion of the Planning Study or any Program Activity, the balance shall be refunded to the L3 Parties prorated among the L3 Parties in the same manner as costs are allocated as set forth above.
ATTACHMENT 2

First Amendment to Memorandum of Understanding Regarding Water Meter Replacement Program
FIRST AMENDMENT TO MEMORANDUM OF UNDERSTANDING REGARDING WATER METER REPLACEMENT PROGRAM

THIS FIRST AMENDMENT TO MEMORANDUM OF UNDERSTANDING ("Amendment") is made and entered into this ____ day of ________, 2019 by and between the Citrus Heights Water District, City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, Sacramento Suburban Water District, and the San Juan Water District.

RECITALS

A. The parties to this Amendment are currently L3 and L1 Parties under that certain Memorandum of Understanding Regarding Water Meter Replacement Program ("MOU").

B. The parties wish to clarify their participation in the Planning Study and its various Components as set forth in this Amendment.

C. Specifically, City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, and the Sacramento Suburban Water District wish to participate as L2 Parties in various Components of the Planning Study as set forth in this Amendment.

D. Citrus Heights Water District and San Juan Water District shall remain L3 Parties and participate in the Planning Study as such.

TERMS

NOW, THEREFORE, the above parties in consideration of the mutual promises set forth in this Amendment, agree as follows:

1. Selection of Consultant and Approval of Planning Study. Pursuant to Section 3 of the MOU, Citrus Heights Water District shall execute the Consultant Agreement with Harris & Associates to perform the Planning Study. The Consultant Agreement shall be substantially in the form as set forth in Exhibit 1 and incorporated by this reference.

2. Participation of the Parties. Each party to this Amendment shall participate in the Planning Study as set forth in the Consultant Agreement attached to Exhibit 1. City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, and the Sacramento Suburban Water District shall participate in the Planning Study as L2 Parties. Citrus Heights Water District and San Juan Water District shall participate as L3 Parties. This Amendment shall supersede any allocation of costs for the Planning Study set forth in the MOU. Below is an overview of the phases of the Planning Study. Each phase shall constitute a Component, with the agencies participating as follows:
<table>
<thead>
<tr>
<th>PHASE #</th>
<th>Phase Name</th>
<th>Participating Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Individual Agency Assessment</td>
<td>Citrus Heights Water District, City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, Sacramento Suburban Water District, San Juan Water District</td>
</tr>
<tr>
<td>2</td>
<td>Next Generation Program Options</td>
<td>Citrus Heights Water District, City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento Suburban Water District, San Juan Water District</td>
</tr>
<tr>
<td>3</td>
<td>Meter Testing Program Strategy</td>
<td>Citrus Heights Water District, City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, Sacramento Suburban Water District, San Juan Water District</td>
</tr>
<tr>
<td>4</td>
<td>Implementation Strategy</td>
<td>Citrus Heights Water District, City of Sacramento, Placer County Water Agency, Sacramento Suburban Water District, Sacramento County Water Agency, San Juan Water District</td>
</tr>
<tr>
<td>5</td>
<td>Long-Term Planning</td>
<td>Citrus Heights Water District, City of Sacramento, Placer County Water Agency, Sacramento Suburban Water District, Sacramento County Water Agency, San Juan Water District</td>
</tr>
<tr>
<td>6</td>
<td>Final Report/Plan Adoption</td>
<td>Citrus Heights Water District, City of Folsom, City of Sacramento, Placer County Water Agency, Sacramento County Water Agency, Sacramento Suburban Water District, San Juan Water District</td>
</tr>
<tr>
<td>7</td>
<td>Public Outreach Strategy</td>
<td>Citrus Heights Water District, San Juan Water District</td>
</tr>
</tbody>
</table>
3. **Approval of Planning Study.** As required by Section 3.2, all parties to this Amendment shall approve the relevant phase(s) of the Planning Study in which they are participating as an L2 or L3 Party. The approval shall be by the method preferred by that party consistent with legal requirements and shall be documented in a writing distributed to all other parties.

4. **Funding Provisions.** The total estimated cost to complete the Planning Study is estimated at $642,537. A not-to-exceed estimate of $800,000 was established to allow for a contingency in the event of unanticipated expenses. The respective share of the estimated and not-to-exceed budgets for each party to this Amendment are further described and attached hereto as Exhibit 2. Each L2 and L3 Party shall remit their share of each Component for the Planning Study as set forth in Exhibit 2. Failure to timely remit a party’s share of the Component may result in excluding that party from the Planning Study or suspension or termination of the Planning Study at Citrus Heights Water District’s election. At the conclusion of the Planning Study, Citrus Heights Water District will provide a final accounting to all parties and return any unused share of Planning Study funds to each party.

5. **Dispute Resolution.** Section 2.5 of the MOU is amended to read in full as follows:

   “2.5 Dispute Resolution. If the L3 Parties, which include any L2 Parties for applicable Components as set forth in Section 2.2, disagree on a specific issue and a tie vote ensues on a decision on that issue under Subsection 2.3, the L3 Parties shall meet and confer and negotiate in good faith to resolve the issue. If the Parties are unable to resolve the specific issue in dispute after good faith negotiations, they shall either agree to: (1) appoint a panel composed of representatives of the other, non-disputing Parties to hear the disputed issue and render a decision in favor of one side or the other; or (2) engage an outside mediator to attempt to resolve the disputed issue. The L3 Parties may proceed with all other aspects of the Planning Study or Program Project not affected by the dispute. Nothing in this Subsection 2.5, however, prohibits any Party to the dispute from exercising its option to reduce its participation in this MOU to L2 or L1 Party status in accordance with Subsection 2.4.”

6. **Harris Payment Schedule.** Citrus Heights Water District shall pay all costs incurred under the Consultant Agreement according to the schedule set forth in Section 2.c and Exhibit B of the Consultant Agreement. Citrus Heights Water District shall forward all invoices for costs attributable to each party within fifteen (15) days of receipt. Such party shall promptly review the invoice and notify Citrus Heights Water District of any objections within thirty (30) days of transmittal of the invoice by Citrus Heights Water District. If a party has no objections, Citrus Heights Water District shall pay the invoice from funds provided by that party under the schedule set forth in Exhibit 2.
7. **L1 Parties.** As set forth in Section 2.1, the parties to this Amendment shall permit the participation of any L1 Parties in the Planning Study.

8. **Adding New L2 Parties.** Notwithstanding any provision in the MOU to the contrary, the parties to this Amendment may add new L2 Parties to the Planning Study by a majority vote of the General Manager, City Manager or chief administrative officer of each participating agency. All agencies shall be entitled to one vote. Any vote to add a new L2 Party shall include a consideration of whether an allocation of initial costs as set forth in Section 2.4 of the MOU will be charged and the amount of such fee. Upon a majority vote of affected agencies approving the addition of a new L2 Party, such new L2 Party shall execute a writing indicating its assent to be bound by the terms and conditions of this Amendment. The form of such writing shall be developed by Citrus Heights Water District after consultation with all other parties to this Amendment.

9. **Lowering Participation Level.** Notwithstanding any provision in the MOU to the contrary, L2 and L3 Parties may decrease the level of participation after the award of a Consultant Agreement for the Planning Study only in a written amendment to this Amendment approved and signed by all other L2 and L3 Parties. Such amendment shall identify how costs of the Planning Study (those incurred to date and future costs) will be allocated between the Parties.

10. **MOU.** Except as otherwise modified by this Amendment, the MOU remains in full force and effect. All capitalized terms shall have the meaning ascribed to them in the MOU unless otherwise noted in this Amendment. In the event of any conflicts between the MOU and this Amendment, this Amendment shall control.

[SIGNATURE PAGE FOLLOWS]
IN WITNESS WHEREOF, this MOU was executed by the parties hereto as of the date first above written.

[INSERT SIGNATURE BLOCK]
CITRUS HEIGHTS WATER DISTRICT
PROFESSIONAL SERVICES AGREEMENT

This Agreement is made and entered into as of ________________, 2019 by and between the Citrus Heights Water District, an irrigation district organized and operating under the laws of the State of California with its principal place of business at 6230 Sylvan Road, Citrus Heights, California (“District”), and Harris & Associates, Inc., a California corporation, with its principal place of business at 1401 Willow Pass Road, Suite 500, Concord, CA 94520 (hereinafter referred to as “Consultant”). District and Consultant are sometimes individually referred to as “Party” and collectively as “Parties” in this Agreement.

RECATALS

A. District is a public agency of the State of California and is in need of professional services for the following project:

Citrus Heights Water District Meter Replacement Program Planning Study Project (hereinafter referred to as “the Project”).

B. The District is the lead agency for the Project, and public agencies participating in the Project include the District, Carmichael Water District, City of Folsom, City of Sacramento, Fair Oaks Water District, Golden State Water Company, Orange Vale Water Company, Placer County Water Agency, Regional Water Authority, Sacramento County Water Agency, Sacramento Suburban Water District, and San Juan Water District - Retail (collectively known as the “Consortium”). Each of these public agencies is considered a member of the Consortium.

C. Consultant is duly licensed and has the necessary qualifications to provide such services.

D. The Parties desire by this Agreement to establish the terms for District to retain Consultant to provide the services described herein.

AGREEMENT

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Services.

Consultant shall provide the District with the services described in the Request For Proposal Scope of Services attached hereto as Exhibit “A.”

2. Compensation.

   a. Subject to paragraph 2(b) below, the District shall pay for such services in accordance with the Schedule of Charges set forth in Exhibit “B.”
b. In no event shall the total amount paid for services rendered by Consultant under this Agreement exceed the sum of $800,000.00. This amount is to cover all printing and related costs, and the District will not pay any additional fees for printing expenses.

c. Consultant shall submit to District an invoice under the schedule set forth in Exhibit B which includes a detailed description of the work performed for the District and Consortium members by Consultant. The District shall review the invoice and identify any clear errors or other areas of dispute. The District shall pay all non-disputed and approved charges to the Consultant within 60 days of the District receiving the invoice. District’s payment of an invoice or failure to dispute a charge shall not waive or limit its ability to do so according to applicable law. Consultant shall not request or attempt to recover any payment from any Consortium member.

3. Additional Work.

If changes in the work seem merited by Consultant or the District, and informal consultations with the other party indicate that a change is warranted, it shall be processed in the following manner: a letter outlining the changes shall be forwarded to the District by Consultant with a statement of estimated changes in fee or time schedule. An amendment to this Agreement shall be prepared by the District and executed by both Parties before performance of such services, or the District will not be required to pay for the changes in the scope of work. Such amendment shall not render ineffective or invalidate unaffected portions of this Agreement.


Books, documents, papers, accounting records, and other evidence pertaining to costs incurred shall be maintained by Consultant and made available at all reasonable times during the contract period and for four (4) years from the date of final payment under the contract for inspection by District.

5. Time of Performance.

Consultant shall perform its services in a prompt and timely manner and shall commence performance upon receipt of written notice from the District to proceed (“Notice to Proceed”). Consultant shall complete the services required hereunder as specified in Exhibit C. The Notice to Proceed shall set forth the date of commencement of work.


a. Neither District nor Consultant shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the non-performing party. For purposes of this Agreement, such circumstances include but are not limited to, abnormal weather conditions; floods; earthquakes; fire; epidemics; war; riots and other civil disturbances; strikes, lockouts, work slowdowns, and other labor disturbances; sabotage or judicial restraint.
b. Should such circumstances occur, the non-performing party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement.

7. **Compliance with Law.**

   a. Consultant shall comply with all applicable laws, ordinances, codes and regulations of the federal, state and local government, including Cal/OSHA requirements.

   b. If required, Consultant shall assist the District, as requested, in obtaining and maintaining all permits required of Consultant by federal, state and local regulatory agencies.

   c. If applicable, Consultant is responsible for all costs of clean up and/or removal of hazardous and toxic substances spilled as a result of his or her services or operations performed under this Agreement.

8. **Standard of Care**

   Consultant’s services will be performed in accordance with generally accepted professional practices and principles and in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions.

9. **Assignment and Subconsultant**

   Consultant shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the District, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement. Nothing contained herein shall prevent Consultant from employing independent associates, and subconsultants as Consultant may deem appropriate to assist in the performance of services hereunder.

10. **Independent Consultant**

    Consultant is retained as an independent contractor and is not an employee of District. No employee or agent of Consultant shall become an employee of District or Consortium members. The work to be performed shall be in accordance with the work described in this Agreement, subject to such directions and amendments from District as herein provided.

11. **Insurance.** Consultant shall not commence work for the District until it has provided evidence satisfactory to the District it has secured all insurance required under this section. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has secured all insurance required under this section.

   a. **Commercial General Liability**
(i) The Consultant shall take out and maintain, during the performance of all work under this Agreement, in amounts not less than specified herein, Commercial General Liability Insurance, in a form and with insurance companies acceptable to the District.

(ii) Coverage for Commercial General Liability insurance shall be at least as broad as the following:

1) Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 00 01) or exact equivalent.

(iii) Commercial General Liability Insurance must include coverage for the following:

1) Bodily Injury and Property Damage
2) Personal Injury/Advertising Injury
3) Premises/Operations Liability
4) Products/Completed Operations Liability
5) Aggregate Limits that Apply per Project
6) Explosion, Collapse and Underground (UCX) exclusion deleted
7) Contractual Liability with respect to this Contract
8) Broad Form Property Damage
9) Independent Consultants Coverage

(iv) The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; (3) products/completed operations liability; or (4) contain any other exclusion contrary to the Agreement.

(v) The policy shall give the District and each member of the Consortium, their officials, officers, employees, agents and designated volunteers additional insured status using ISO endorsement forms CG 20 10 01 and 20 37 10 01, or endorsements providing the exact same coverage.

(vi) The general liability program may utilize either deductibles or provide coverage excess of a self-insured retention, subject to written approval by the District, and provided that such deductibles shall not apply to the District or Consortium members as additional insureds.

b. Automobile Liability

(i) At all times during the performance of the work under this Agreement, the Consultant shall maintain Automobile Liability Insurance for bodily injury and property damage including coverage for owned, non-owned and hired vehicles, in a form and with insurance companies acceptable to the District.
(ii) Coverage for automobile liability insurance shall be at least as broad as Insurance Services Office Form Number CA 00 01 covering automobile liability (Coverage Symbol 1, any auto).

(iii) The policy shall give the District and each member of the Consortium, their officials, officers, employees, agents and designated volunteers additional insured status.

(iv) Subject to written approval by the District, the automobile liability program may utilize deductibles, provided that such deductibles shall not apply to the District or Consortium members as additional insureds, but not a self-insured retention.

c. **Workers’ Compensation/Employer’s Liability**

(i) Consultant certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing work under this Agreement.

(ii) To the extent Consultant has employees at any time during the term of this Agreement, at all times during the performance of the work under this Agreement, the Consultant shall maintain full compensation insurance for all persons employed directly by him/her to carry out the work contemplated under this Agreement, all in accordance with the “Workers’ Compensation and Insurance Act,” Division IV of the Labor Code of the State of California and any acts amendatory thereof, and Employer’s Liability Coverage in amounts indicated herein. Consultant shall require all subconsultants to obtain and maintain, for the period required by this Agreement, workers’ compensation coverage of the same type and limits as specified in this section.

d. **Professional Liability (Errors and Omissions)**

At all times during the performance of the work under this Agreement the Consultant shall maintain professional liability or Errors and Omissions insurance appropriate to its profession, in a form and with insurance companies acceptable to the District and in an amount indicated herein. This insurance shall include a limited form of contractual liability applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against negligent, acts, errors or omissions of the Consultant. “Covered Professional Services” as designated in the policy must specifically include work performed under this Agreement. The policy must “pay on behalf of” the insured and must include a provision establishing the insurer's duty to defend.

e. **Minimum Policy Limits Required**

(i) The following insurance limits are required for the Agreement:
Combined Single Limit

<table>
<thead>
<tr>
<th>Insurance Type</th>
<th>Coverage Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial General Liability</td>
<td>$1,000,000 per occurrence / $2,000,000 aggregate for bodily injury, personal injury, and property damage</td>
</tr>
<tr>
<td>Automobile Liability</td>
<td>$1,000,000 per occurrence for bodily injury and property damage</td>
</tr>
<tr>
<td>Employer’s Liability</td>
<td>$1,000,000 per occurrence</td>
</tr>
<tr>
<td>Professional Liability</td>
<td>$1,000,000 per claim and aggregate (errors and omissions)</td>
</tr>
</tbody>
</table>

(ii) With the exception of Professional Liability, defense costs shall be payable in addition to the limits.

(iii) Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. Any available coverage shall be provided to the parties required to be named as Additional Insured pursuant to this Agreement.

f. Evidence Required

Prior to execution of the Agreement, the Consultant shall file with the District evidence of insurance from an insurer or insurers certifying to the coverage of all insurance required herein. Such evidence shall include original copies of the ISO CG 00 01 (or insurer’s equivalent) signed by the insurer’s representative and Certificate of Insurance (Acord Form 25-S or equivalent), together with required endorsements. All evidence of insurance shall be signed by a properly authorized officer, agent, or qualified representative of the insurer and shall certify the names of the insured, any additional insureds, where appropriate, the type and amount of the insurance, the location and operations to which the insurance applies, and the expiration date of such insurance.

g. Policy Provisions Required

(i) Consultant shall provide the District at least thirty (30) days prior written notice of cancellation of any policy required by this Agreement, except that the Consultant shall provide at least ten (10) days prior written notice of cancellation of any such policy due to non-payment of premium. If any of the required coverage is cancelled or expires during the term of this Agreement, the Consultant shall deliver renewal certificate(s) including the General Liability Additional Insured Endorsement to the District at least ten (10) days prior to the effective date of cancellation or expiration.

(ii) The Commercial General Liability Policy and Automobile Policy shall each contain a provision stating that Consultant’s policy is primary insurance and that any
insurance, self-insurance or other coverage maintained by the District or any named insureds shall not be called upon to contribute to any loss.

(iii) The retroactive date (if any) of each policy is to be no later than the effective date of this Agreement. Consultant shall maintain such coverage continuously for a period of at least three years after the completion of the work under this Agreement. Consultant shall purchase a one (1) year extended reporting period A) if the retroactive date is advanced past the effective date of this Agreement; B) if the policy is cancelled or not renewed; or C) if the policy is replaced by another claims-made policy with a retroactive date subsequent to the effective date of this Agreement.

(iv) All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to waiver of subrogation in favor of the District and each member of the Consortium, their officials, officers, employees, agents, and volunteers or shall specifically allow Consultant or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Consultant hereby waives its own right of recovery against District and Consortium members, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(v) The limits set forth under General Liability and Automobile Liability shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Consultant from liability in excess of such coverage, nor shall it limit the Consultant’s indemnification obligations to the District or Consortium members and shall not preclude the District from taking such other actions available to the District under other provisions of the Agreement or law.

h. Qualifying Insurers

(i) All policies required shall be issued by acceptable insurance companies, as determined by the District, which satisfy the following minimum requirements:

(1) Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and admitted to transact in the business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

i. Additional Insurance Provisions

(i) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Consultant, and any approval of said insurance by the District, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Consultant pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.
(ii) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, District has the right but not the duty to obtain the insurance it deems necessary and any premium paid by District will be promptly reimbursed by Consultant or District will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, District may cancel this Agreement.

(iii) The District may require the Consultant to provide complete copies of all insurance policies in effect for the duration of the Project.

(iv) Neither the District nor Consortium members nor any of their officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

j. Subconsultant Insurance Requirements. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the District that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the District and Consortium members as additional insureds using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, District may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

12. Indemnification.

a. To the fullest extent permitted by law, Consultant shall defend (with counsel reasonably approved by the District and Consortium members), indemnify and hold the District and Consortium members, their officials, officers, and employees free and harmless from claims, demands, causes of action, suits, actions, proceedings, costs, expenses, liability, judgments, awards, decrees, settlements, loss, damage or injury, in law or equity, to property or persons, including wrongful death, (collectively, “Claims”) arising out of, pertaining to, or relating to any negligent acts, errors or omissions, or willful misconduct of Consultant, its officials, officers, employees, subcontractors, consultants or agents in connection with the performance of the Consultant’s services, the Project or this Agreement, including without limitation the payment of all expert witness fees and attorneys’ fees and other related costs and expenses. Notwithstanding the foregoing, to the extent Consultant’s services are subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to Claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant. Consultant's obligation to indemnify shall survive expiration or termination of this Agreement and shall not be restricted to insurance proceeds, if any, received by the District or Consortium members, their officials, officers, employees, agents or volunteers.

b. Additional Indemnity Obligations. If Consultant’s obligation to defend, indemnify, and/or hold harmless arises out of Consultant’s performance as a “design professional” (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant’s
indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by a court of competent jurisdiction, Consultant’s liability for such claim, including the cost to defend, shall not exceed the Consultant’s proportionate percentage of fault.

13. **California Labor Code Requirements.**

   a. Consultant is aware of the requirements of California Labor Code Sections 1720 et seq. and 1770 et seq., which require the payment of prevailing wage rates and the performance of other requirements on certain “public works” and “maintenance” projects. If the services are being performed as part of an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws, if applicable. Consultant shall defend, indemnify and hold the District and Consortium members, their officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws. It shall be mandatory upon the Consultant and all subconsultants to comply with all California Labor Code provisions, which include but are not limited to prevailing wages, employment of apprentices, hours of labor and debarment of contractors and subcontractors. It shall be mandatory upon the Consultant and all subconsultants to comply with all California Labor Code provisions, which include but are not limited to prevailing wages (Labor Code Sections 1771, 1774 and 1775), employment of apprentices (Labor Code Section 1777.5), certified payroll records (Labor Code Section 1776), hours of labor (Labor Code Sections 1813 and 1815) and debarment of contractors and subcontractors (Labor Code Sections 1777.1).

   b. If the services are being performed as part of an applicable “public works” or “maintenance” project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants performing such Services must be registered with the Department of Industrial Relations. Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants, as applicable. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Consultant’s sole responsibility to comply with all applicable registration and labor compliance requirements.

14. **Verification of Employment Eligibility.**

   By executing this Agreement, Consultant verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time, and shall require all subconsultants and sub-subconsultants to comply with the same.

15. **Laws and Venue.**

   This Agreement shall be interpreted in accordance with the laws of the State of California. If any action is brought to interpret or enforce any term of this Agreement, the action
shall be brought in a state or federal court situated in the County of Sacramento, State of California.

16. Termination or Abandonment

a. District has the right to terminate or abandon any portion or all of the work under this Agreement by giving ten (10) calendar days written notice to Consultant. In such event, District shall be immediately given title and possession to all original field notes, drawings and specifications, written reports and other documents produced or developed for that portion of the work completed and/or being abandoned. District shall pay Consultant the reasonable value of services rendered for any portion of the work completed prior to termination. If said termination occurs prior to completion of any task for the Project for which a payment request has not been received, the charge for services performed during such task shall be the reasonable value of such services, based on an amount mutually agreed to by District and Consultant of the portion of such task completed but not paid prior to said termination. District shall not be liable for any costs other than the charges or portions thereof which are specified herein. Consultant shall not be entitled to payment for unperformed services, and shall not be entitled to damages or compensation for termination of work.

b. Consultant may terminate its obligation to provide further services under this Agreement upon thirty (30) calendar days’ written notice to District only in the event of substantial failure by District to perform in accordance with the terms of this Agreement through no fault of Consultant.

17. Documents. Except as otherwise provided in “Termination or Abandonment,” above, all original field notes, written reports, drawings and specifications and other documents, produced or developed for the Project (“Documents & Data”) shall, upon payment in full for the services described in this Agreement, be furnished to and become the property of the District. Nothing contained in this Section shall be construed as limiting or depriving Consultant of its rights to use its basic knowledge and skills to carry out other projects or work for itself or others, whether or not such other projects or work are similar to the work to be performed pursuant to this Agreement. Consultant shall have the right to retain and use copies of any Documents & Data furnished or to be furnished by Consultant less any specific details provided by the District unless such details are within the public realm. All Documents & Data are instruments of service and are not intended to be modified or represented to be suitable for reuse on other projects by District except as may be contemplated pursuant to the terms of this Agreement. Any such modification or reuse without Consultant's prior written approval will be at District's sole risk, without liability or legal exposure to Consultant. Rights to intellectual property developed, utilized, or modified in the performance of the services under this Agreement including the Documents & Data developed hereunder ("Intellectual Property") shall remain the property of Consultant. Consultant hereby grants to District an irrevocable, nonexclusive, royalty-free license to utilize Intellectual Property provided to District as part of the Services for the purposes set forth in this Agreement.

18. Organization
Consultant shall assign Eric Vaughan as Project Manager. The Project Manager and project team members shall not be removed from the Project and/or substituted without the prior written consent of the District.

19. **Limitation of Agreement.**

This Agreement is limited to and includes only the work included in the Project described above.

20. **Notice**

Any notice or instrument required to be given or delivered by this Agreement may be given or delivered by depositing the same in any United States Post Office, certified mail, return receipt requested, postage prepaid, addressed to:

**DISTRICT**
Citrus Heights Water District
6230 Sylvan Road
Citrus Heights, California 95610
Attn: David Gordon, Operations Manager

**CONSULTANT:**
Harris & Associates, Inc.
1401 Willow Pass Road, Suite 500
Concord, California 94520
Attn: Eric Vaughan, Project Manager

and shall be effective upon receipt thereof.

21. **Third Party Rights**

Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the District, Consortium members, and the Consultant.

22. **Equal Opportunity Employment.**

Consultant represents that it is an equal opportunity employer and that it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex, age or other interests protected by the State or Federal Constitutions. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

23. **Entire Agreement**

This Agreement, with its exhibits, represents the entire understanding of District and Consultant as to those matters contained herein, and supersedes and cancels any prior or contemporaneous oral or written understanding, promises or representations with respect to those matters covered hereunder. Each party acknowledges that no representations, inducements, promises or agreements have been made by any person which are not incorporated herein, and
that any other agreements shall be void. This Agreement may not be modified or altered except in writing signed by both Parties hereto. This is an integrated Agreement.

24. **Severability**

The unenforceability, invalidity or illegality of any provision(s) of this Agreement shall not render the provisions unenforceable, invalid or illegal.

25. **Successors and Assigns**

This Agreement shall be binding upon and shall inure to the benefit of the successors in interest, executors, administrators and assigns of each party to this Agreement. However, Consultant shall not assign or transfer by operation of law or otherwise any or all of its rights, burdens, duties or obligations without the prior written consent of District. Any attempted assignment without such consent shall be invalid and void.

26. **Non-Waiver**

None of the provisions of this Agreement shall be considered waived by either party, unless such waiver is specifically specified in writing.

27. **Time of Essence**

Time is of the essence for each and every provision of this Agreement.

28. **District’s Right to Employ Other Consultants**

District reserves its right to employ other consultants, including engineers, in connection with this Project or other projects.

29. **Prohibited Interests**

Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, District shall have the right to rescind this Agreement without liability. For the term of this Agreement, no director, official, officer or employee of District or Consortium members, during the term of his or her service with District or Consortium members, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

[SIGNATURES ON FOLLOWING PAGE]
SIGNATURE PAGE FOR PROFESSIONAL SERVICES AGREEMENT
BETWEEN THE CITRUS HEIGHTS WATER DISTRICT
AND HARRIS & ASSOCIATES, INC.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

CITRUS HEIGHTS WATER DISTRICT   HARRIS & ASSOCIATES, INC.

By: _______________________________  By: _______________________________
    Hilary M. Straus                      Its: ____________________________
    General Manager                     Printed Name:____________________

Federal ID No. 94-2385238
Business License Number 91042203 (City of Concord)
METER REPLACEMENT PROGRAM
PLANNING STUDY

CARE OF: CITRUS HEIGHTS WATER DISTRICT

April 22, 2019 (Second Revised Submission)
February 1, 2019 (Revised Submission)
October 25, 2018 (Original Submission)
B. LETTER OF TRANSMITTAL
April 22, 2019

Rex Meurer  
*Water Efficiency Supervisor*  
Citrus Heights Water District  
6230 Sylvan Road  
P.O. Box, 286  
Citrus Heights, CA 95610

**Re: Meter Replacement Program Planning Study**

Dear Rex:

The Harris Team has prepared a second revision to the proposal that reflects the following changes:

**Scope**

Phase 1, Task D – The scope of the task has been changed to focus on collecting information related to the costs associated with each agency's meter program.

Phase 2, Task C - The pilot program analysis has been removed, reducing the scope of Phase 2.

Phase 4, Task C – The pilot program analysis has been added to the scope of Phase 4.

Phase 5, Task A – The scope of the task has been reduced to focus on cost only rather than a complete financial analysis of each agency.

**Budget**

The budget tables have been revised based on the scope changes described above. The level of effort and associated costs related to the pilot program analysis have been moved from the budget of Phase 2 to Phase 4. The level of effort and associated costs in Phase 5 have been reduced to reflect the reduction in scope from a financial analysis to a cost analysis.

We look forward to working with you and the consortium partners on this important work. Please do not hesitate to contact me should you have any questions.

Sincerely,

Harris & Associates, Inc.

---

Eric Vaughan  
*Project Manager*  
925.969.8015  
Eric.Vaughan@WeAreHarris.com

Lisa Larrabee Andrews  
*Principal-in-Charge*  
925.969.8051  
Lisa.Larrabee@WeAreHarris.com
February 1, 2019

Rex Meurer  
Water Efficiency Supervisor  
Citrus Heights Water District  
6230 Sylvan Road  
P.O. Box, 286  
Citrus Heights, CA 95610

Re: Meter Replacement Program Planning Study

Dear Rex:

The Harris Team has undertaken a comprehensive value-engineering effort that cuts across all phases of the project. As a result of this process, we are pleased to submit to you a revised proposal that achieves the same outcomes and deliverables at significant cost savings. In this revised workflow, the Project is accomplished with a greater focus on meetings and activities that are carried out at the Consortium level. This achieves significant cost savings as a result of a streamlined process that prioritizes Consortium-level interaction between the Harris Team and the TAC rather than with agencies on an individual basis. The revised workflow is described in Section H: Schedule.

In the revised budget, the costs associated with each Phase emphasize Consortium-level efforts. There are additional costs associated with agency-level work, but these costs are much smaller than those associated with the Consortium-level efforts. As a result, there is significant savings when additional agencies participate. This is because the fixed Project costs are shared with an increasing number of agencies with only a small amount of incremental costs associated with the addition of another agency. The revised budget is described in Section G: Project Costs.

Our intent for this planning effort remains consistent with its original one. Our primary objective is to help participating agencies achieve greater individual value through opportunities for integrating aspects of your meter programs at a pace and sequence that makes sense. We intend to help the Consortium identify sensible integration options at a much more accessible cost through a more collaborative process than originally proposed.

We look forward to working with you on this important project. Please do not hesitate to contact me should you have any questions on our qualifications.

Sincerely,

Harris & Associates, Inc.

Eric Vaughan  
Project Manager  
925.969.8015  
Eric.Vaughan@WeAreHarris.com

Lisa Larrabee Andrews  
Principal-in-Charge  
925.969.8051  
Lisa.Larrabee@WeAreHarris.com
October 25, 2018

Rex Meurer  
Water Efficiency Supervisor  
Citrus Heights Water District  
6230 Sylvan Road  
P.O. Box, 286  
Citrus Heights, CA 95610

Re: Meter Replacement Program Planning Study

Dear Rex:

Citrus Heights Water District and Consortium Partners understand that the utility of the future will operate in a different paradigm; one that is largely built on public and stakeholder trust, along with cooperation and collaboration with adjoining entities with common interests. You also know that if there is one word that water utility managers and other professionals use a lot these days, it’s complexity. Generations of water professionals before us have never had to face the multi-trillion-dollar price tag of replacing an in-service water system, not to mention doing it with more regulations; decreasing demand (and potential revenue streams); a shrinking skilled workforce, increased demand for public outreach and technological advances such as AMR and AMI that offer the promise of efficiencies but can also bring about cultural and organizational challenges. In this complex environment, a well thought out strategy coupled with a clear decision-making and participatory framework is critical.

The Harris Team, led by our Project Manager, Eric Vaughan, our Principal-in-Charge, Lisa Larrabee, and Consortium Lead, Steve Winchester, know how to lead utilities through complex decision-making efforts that are aligned with their vision and that will result in a meter replacement implementation and business plan built with future generations in mind. Our team brings expertise in the areas of water meter planning and operations (M.E. Simpson’s John Van Arsdel, Steve Davis and Steve Dennis), global meter technology (Isle Utilities Steve Farabaugh and Tim Day), water utility operations (Tony Herda), utility financial planning (Ann Hajnosz) and public outreach (Laura Mason-Smith). We are an agile, responsive, independent and experienced team of water utility and water meter professionals who understand your goals and the goals of your community through our work with the Customer Advisory Committee (CAC).

The District and neighboring Sacramento water utilities have a unique opportunity to leverage advanced meter technology and joint decision making efforts to install meter systems that provide benefits beyond the primary function as the “cash register” of a utility, enabling utilities to optimize asset management and reduce non-revenue water; more accurately control water system pressures, and better understand infrastructure condition and customer needs. Knowing how critical it is to get as many neighboring utilities on-board with this meter replacement planning study as possible, we propose a new Phase 0 that will benefits to all participating agencies beyond the initial joint meter replacement planning efforts.

Phase 0 includes building a decision making model that will reflect the rapidly changing and increasingly complex water utility environment and will consider various areas for cooperation, collaboration and cost-savings, including:

- Equipment – sharing testing or other high-value items
- Staffing – a deeper pool of relevantly skilled staff in the Sacramento area
- Capital – sharing large capital investments such as communications towers
- Common software platforms – greater potential for collaboration
- Lessons learned – higher performance at the regional scale
- Redundancy – increased collaboration making it easier to react and respond to risk
- Shared inventory – cost savings and quicker access to inventory
Working with you on the 2030 Main Replacement Project, our team knows what success looks like to you and your team. Our experienced team brings not only the expertise needed to meet your expectations on this Project, but real cost saving efficiencies in how the efforts on this Project are documented, vetted for presentations to your CAC and ultimately adopted by your team.

The table below summarizes the Harris Team.

<table>
<thead>
<tr>
<th>HARRIS &amp; ASSOCIATES</th>
<th>M.E. SIMPSON</th>
<th>ISLE UTILITIES</th>
<th>MASON-SMITH SUCCESS STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Project and Program Management</td>
<td>• All facets of water meter expertise</td>
<td>• Global water meter experience</td>
<td>• Public Engagement</td>
</tr>
<tr>
<td>• Consortium Facilitation and Leadership</td>
<td>• CA water meter experience</td>
<td>• Innovation in water meter planning</td>
<td>• Strategic Planning</td>
</tr>
<tr>
<td>• Financial Analysis</td>
<td>• Water meter policy, regulatory and AWWA industry leadership experience</td>
<td>• Systems Integration</td>
<td>• Change Management</td>
</tr>
<tr>
<td>• Technical Memoranda and Report Management</td>
<td></td>
<td></td>
<td>• Consensus Building &amp; Meeting Facilitation</td>
</tr>
</tbody>
</table>

We look forward to working with you on this important project. Please do not hesitate to contact me should you have any questions on our qualifications.

Sincerely,
Harris & Associates, Inc.

Eric Vaughan
Project Manager
925.969.8015  Eric.Vaughan@WeAreHarris.com

Lisa Larrabee Andrews
Principal-in-Charge
925.969.8051  Lisa.Larrabee@WeAreHarris.com
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INTRODUCTION

To quote Stephen Covey, we “begin with the end mind.”

Citrus Heights Water District (District) has created a unique opportunity for neighboring water agencies to explore potential benefits in developing a collaborative framework to procure, manage and deploy meter technology now and, as technology changes, into the future. The District already understands that the utility of the future will operate in a different paradigm; one that is largely built on public and stakeholder trust, along with cooperation and collaboration with adjoining entities with common interests. The intended outcomes of this ambitious and exciting Meter Replacement Program Planning Study (Project) are numerous in potential and yet cannot be predicted due to the dynamic nature of participating agencies and their respective level of involvement (i.e., L1, L2, L3). To respond to this unique opportunity, the Harris Team has designed an innovative Project approach based on the notion that early and more participation is better. Our approach overlays a strategic and change management process that encourages early agency participation and then adapts according to when and how much involvement the participating agencies… participate!

Because the outcome of this Project is largely driven by level and type of participation, we are proposing the addition of a new Phase, “Collaboration-Level Opportunities Assessment Phase 0” as shown below in Figure 1.

Figure 1. The project approach, including a proposed Phase 0, will help to build a “climate for participation”
KEY PROVISIONS OF THE PROPOSAL

Two complementary disciplines are required to achieve success on this Project; one of project management, which involves the basics of leading the team, communication, following scope, schedule and budget. This is important here as well, but clearly this discipline is insufficient to have the broadest and most comprehensive results possible with a project of this unique nature and scope. To compliment the project management side, we propose a framework that strategically applies change management principles, which include:

- Creating the climate for change (Phase 0)
- Adapting to the level of participation (Phase 0-1)
- Engaging stakeholders throughout the process (Phase 0 – 7)

Leading toward the creation of the Implementation Plan (Phase 6).

By creating a “climate for change” or more practically speaking a “climate for participation”, we emphasize that the status quo (and ergo the future) for many agencies is far less desirable than participating in the program. We must demonstrate to agencies that now is the time to catch this momentum and further the mindset that this opportunity to be better stewards of the public resources can be more effectively realized through the power of participation. Phase 0 will find the “sweet spot” between full cooperation by all agencies and independent agency action as shown in the figure below.

Figure 2, The purpose of Phase 0 is to help agencies find the “sweet spot” between independent and collaborative action

Moreover, with agencies making decisions early in the process (Phase 0) we will adapt the plan accordingly and thereby participating agencies, i.e. the consortium, can have greater certainty in level of effort and outcomes, i.e. cost savings and more benefits. Throughout the process it will be crucial to maintain open dialogue, participatory decision making, and other avenues to enhance trust and utilize best practices from the consortium.
WHY THE HARRIS TEAM?

Complexity. If there is one word that water utility managers and professionals use a lot these days, it is complexity. For CHWD and SJWD, replacing first generation meters is a high priority; the complexity around making this decision is significant given the changes in meter and communications technology, that offer the promise of efficiencies but can also bring about cultural and organizational challenges.

Participating agencies also face similar complexities. In this increasingly complex environment, water utilities must plan for multiple future scenarios. They must envision their organization as part of a larger community of utilities and economic drivers, and plan and budget accordingly in order to fulfill their mission of stewardship in the most economical manner.

The Harris Team is specifically designed to meet the challenges of complexity with Trusted Advisors in Harris & Associations and Laura Mason-Smith; Meter Technology Experts, M.E. Simpson and Forward-Thinking Insights from Isle Utilities. We know how to lead utilities through complex planning efforts that result in a robust decision making framework for meter replacement planning, implementation and funding built with future generations in mind.

Most importantly, our team is completely independent of any water meter manufacturer or technology vendor, which will ensure you receive an impartial and comprehensive review of all of the technology platforms, meter options, and service offerings in the marketplace.

Our team includes experts who are singularly focused on water meters, including current issues impacting water meters and water meter testing; impacts of low flow fixtures and reduced water demand. Our meter experts work with water meters on a daily basis so they have the most up-to-date perspectives on meter costs, includes the cities of Folsom, Santa Barbara and San Diego, and the San Juan Water District and Golden State Water Company.

Key attributes of the Harris Team include:

• Water meter experts in M.E. Simpson that work exclusively in the water meter industry, i.e. not with electric and gas utilities; who have contributed to the advancement of the industry through their participation in American Water Works Association (AWWA) meter-related committees, including holding committee leadership positions and authoring meter standards for AWWA as well as numerous papers and presentations for national meter, water loss and water audit presentations and who are familiar with the Sacramento water landscape having worked with three of the ten participating agencies, Golden State Water, City of Folsom and the San Juan Water District.

• Water meter experts in Isle Utilities who serve as an objective third-party expert to help water end users assess current trends in the smart metering and smart grid sectors in the US and around the world. They provide a diverse perspective for solving challenges such as water loss, accurate billing, leak detection and water conservation and to address concerns about AMI metering such how to manage and effectively use all the data. Isle does not design, build or engage in onsite technology deployment, which eliminates potential conflict of interest when evaluating solutions and practices.

• Public outreach specialist Laura Mason-Smith who knows your stakeholders well; who brings 30 years of experience driving key infrastructure decision making in the District and neighboring areas.

• Finally, Harris & Associates, specifically Steve Winchester and Eric Vaughan, who know the context and understand how to guide utilities through complex planning and decision-making efforts.

Collectively, our respective companies total approximately 350 staff, which means we are an agile, responsive, independent team with a strong entrepreneurial spirit. Our most experienced staff in the areas of meters, public engagement, utility operations and decision maker facilitation, some of whom include our principals, are accessible to CHWD, SJWD, and all participating agencies as part of this Project. No other team can match this level of expertise, independence and accessibility, and ultimately bring the highest value for the District’s and Participating agencies’ investment in this critical infrastructure decision.
APPROACH TO PROJECT MANAGEMENT
At Harris, we view project management as a key task that crosses all other project elements; it is not a separate task per se. When working through complex organizational challenges that involve diverse stakeholders, project management is especially important for ensuring fluid and accurate communication across all project elements; making sure scopes and budget expectations are clear and adhered to throughout the project and enforcing QA/QC procedures for all project deliverables. All are elements of strong, proactive project management and are integral to every Harris project and of particular importance for CHWD and participating agencies.

Eric’s approach to project management is to be fully involved and engaged in all aspects of the project. You will be able to call him with a question about the status of any task and get an immediate response. With multiple team members and subconsultants performing interconnected tasks, it is critical that your Project Manager be up-to-speed on all of these items. One of Eric’s hallmark traits is open and direct communication with the District, his project team, and other project stakeholders. This approach will also allow him to be present and actively engaged at all meetings. This secures a continuity in the outreach and messaging, as well as building trust with these important participants.

In summary, the Harris team provides the right balance of trusted advisors and seasoned experts with combined experience in the areas of meter planning, evaluation, procurement, installation, O&M, financing, water loss and water audits; public outreach with the CAC; working with joint utility organization and project management. This expertise will deliver Meter Replacement Implementation Plans built on robust technical and financial analyses; thorough and thoughtful public outreach and engagement and will align with each participating agency’s expectations for the Project.
COMMON VISION

Our vision for this project is to provide participating agencies with a clear meter replacement strategy that yields integrated solutions across agency systems, and is both framed in and adaptable to the larger emerging smart water trends (See Figure 3).

![Diagram]

Figure 3. Meters are a part of an interconnected set of systems that comprise a water agency. Changes in meter technology echo across the ecosystem and should be developed through a robust change management process and comprehensive planning.

Though the investment decision of each participating agency will be guided by its individual context and priorities, this Project represents a golden opportunity to form a basis for securing the benefits of a more collaborative path forward among Sacramento Area water agencies. This collaboration can yield many potential advantages such as:

- Equipment – sharing testing or other high-value items
- Staffing – a deeper pool of relevantly skilled staff in the Sacramento area
- Capital – sharing large capital investments such as communications towers
- Common software platforms – greater potential for collaboration
- Lessons learned – higher performance at the regional scale
- Redundancy – increased collaboration making it easier to react and respond to risk
- Shared inventory – cost savings and quicker access to inventory

The additional investments required to adopt smart meter systems are not trivial. If individual agencies go it alone, the costs to upgrade can be substantial. Individual participating agencies are best placed to make the investment decisions that best serve their customers’ needs. The best opportunity for participating agencies to reap the benefits of collaboration are in isolating the individual priorities that are common across agencies, which will be accomplished in Phase 0. Some possible areas of collaboration are shown in figure 4 on the following page, which could include the operations...
and maintenance of different hardware and software, installation, testing, customer service, leak detection, and compliance monitoring systems to name a few. There could be conditions in which agencies might find it advantageous to collaboratively outsource some of these elements to third party vendors. This could be a compelling option, for example, for tasks related to previous generation meter technology; i.e. outsourcing the previous generation meter reads as an agency converts its inventory to AMI meters.

Figure 4. There are numerous aspects of the larger meter systems that agencies could benefit from collaboration.

Incorporating new meter technology constitutes a serious challenge to water agencies because they are complex and represent the “cash register” of a utility; a critical function that demands high performance in order to ensure revenue stability. The decision about which meter technology to adopt must be considered within the larger agency ecosystem, including operational systems and asset management, and capital planning (Figure 2). Moreover, in order to gain the benefits gained through consortium collaboration, the challenge of how to share assets, resources, and decisions must be dealt with. This complexity requires a strategic and deliberate approach as described in more detail in our new proposed Phase 0 below.
DETAILED PHASE DESCRIPTIONS
Figure 5 below depicts our overall approach to this project. Individual phase descriptions follow, including the new proposed Phase 0.

Figure 5. The project approach is framed by a consortium-level opportunities assessment and informed by public outreach.

(NEW) PHASE 0
In a program involving multiple agencies, the importance of strategic planning as the means to create a “climate for participation” should not be underestimated. It is vital in order to fully understand the goals and objectives of each participant, as well as identify common goals at the outset. The cohesion, viability and sustainability of the Consortium depends upon it.

While each agency likely shares a similar mission of providing a reliable supply of safe drinking water in an affordable manner, they also face a unique set of circumstances (from legacy customer information systems to varying levels of water meter technology adoption) thereby creating a unique set of needs and objectives for each agency from this collaboration. While many of these needs and objectives will be shared amongst potential participating agencies, some will not be. In fact, it is entirely possible some of these needs will be in conflict with the needs and objectives of other members.

Yet, the Consortium has great potential to elevate the level of service to the customers of each individual agency while reducing their costs on a regional basis. Therefore, the greatest potential will be achieved by building consensus through a vision-based strategic plan. The purpose of “Phase 0”, is to properly explore and address each agency’s unique set of needs and objectives in the context of determining the optimal levels of both participation and collaboration as illustrated in Figure 6 on the following page.
Each Agency operates in isolation

Full cooperation between agencies

Figure 6. Across the spectrum, from fully independent action to full cooperation between agencies, the Project will aim to find the optimal degree of cooperation that balances the individual needs of each agency with the benefits of cooperative action.

PHASE 0
Phase 0 is planned to take place after the Harris Team is selected but before final contract execution. The position of Phase 0 relative to the other phases is shown in Figure 5. Harris proposes a three-step process (as seen in Figure 7 below) to be carried out at the beginning of the Project (in Phase 0) that will serve as a framework for the entire effort and clearly inform all participants of their roles and commitments.

**Individual Agency Engagement**
Identify the key interests and priorities related to each Agency's meter program. Isolate the common interests across the consortium.

**Step 1**, Individual Agency Engagement - The Harris Team will meet individually with each agency to discuss and gather information on requirements, preferences, expectations and constraints related to vendor selection, site conditions, specific needs, standards of service and methods of service delivery. This is not a data collection process; rather, it is a process to inform us what data to collect and the importance each member agency places on those data.

**Deliverable**: Compilation of information gathered from each agency organized by category and analyzed for trends, including requirements, preferences, expectations, and constraints related to their meter program.

**Step 2**: Develop a Unifying Vision – The Harris team, led by Steve Winchester will facilitate a stakeholder meeting with diverse representatives from each member agency of the Consortium. The purpose of the meeting is to develop
a unifying vision for all issues related to water meters that is consistent with the MOU. We will use our compilation from Step 1 as a starting point to find common ground and areas of agreement, identify and facilitate debate on areas of divergence, and lead the group through a consensus-building process to define a shared vision for the Consortium.

**Deliverable:** A consortium Vision Statement, Consortium-level common evaluation criteria for vendors, current conditions, technology and services.

**Step 3: Develop a Vision-Based Strategy** – The Harris Team, led by Steve Winchester will facilitate a stakeholder meeting with decision-makers from each member agency of the Consortium. The purpose of the meeting is to outline strategic initiatives that align with the Consortium’s vision, to identify potential partnerships that generate clear mutual advantages and synergies, and to define the nature and limits of shared investments and services.

**Deliverables:** A Mission Statement, body of strategic initiatives, framework for partnering, framework for shared assets and services

This vision-based strategic planning process will inform and lay the foundation for executing the following tasks:

- Phase 2.B. Evaluation of vendor identified by the Consortium
- Phase 2.C. Evaluate which technology would be best for Consortium program, combining multiple agencies
- Phase 2.D.iii. Evaluation of the best options for the Consortium
- Phase 3.D. Meter Testing Program – Consortium
- Phase 3.C.ii. Identify the pros/cons associated with partnering, combining all programs into one region-wide program, or outsourcing all meter testing.
- Phase 4. Blueprint for action that the Consortium will utilize

The advantages to facilitating a vision-based strategic planning process as an initial step include:

- Buy-in from all the member agencies on the Consortium’s vision and mission based on mutual respect and participation
- Early identification of potential partnerships to cultivate and nurture during project execution
- Consistent and comprehensive evaluation criteria to improve compatibility among the phases and to avoid duplication of effort in data collection, analysis and reporting

**PHASE 1**

The purpose of this Phase is to assemble and assess relevant agency information associated with the development of agency-specific meter replacement programs. This information includes the existing deployed meter inventory for each agency; the billing (CIS), CMMS, MV-RS, and other meter-related software systems and databases specific to each agency; and individual agency budgets and revenue sources. The RFP identifies six tasks associated with this phase. The following describes the Harris Team’s approach to each of the prescribed tasks. The approach applies to each participating agency.

**A. Assemble a Deployed Meter Inventory**

The Harris Team, led by Steve Davis will request a file of all existing, relevant meter information in Microsoft Excel format for subsequent sorting and evaluation. The requested information will include for each water meter:

- Meter identification number
- Meter manufacturer
- Meter model
- Meter type
- Meter size
- Year of installation (to compute age)
- Units of measurement
- Register information (type, number of digits)
- Customer classification
- Customer usage for last 24 months
- Meter box lid material (for AMI compatibility)
- System pressure information (systemwide and location specific)
- Meter accuracy test data
- Meter failure information
- Delivered water quality information (systemwide and location specific)
B. Assess condition of Deployed Meter Inventory

The Harris Team will sort the Microsoft Excel deployed meter database by meter size and type. To establish meter accuracy relationships between meter age by size and type and meter throughput by size and type at AWWA low flow, intermediate flow, and high flow ranges for each meter size and type, we will:

- Use local accuracy test results for each meter size and type for representative pulled meters, if available.
- Use Utah State University mathematical relationships from the 2011 Water Research Foundation/EPA Project 4028 meter accuracy study results for small meters sized 5/8 by 3/4-inch through 2-inch performed at the Utah Water Resources Lab in order to apply a credible surrogate meter accuracy estimate by age and volumetric throughput for every meter evaluated in the Deployed Meter Inventory.
- Calculate predicted meter accuracy for all system meters for low, intermediate, and high flow ranges based on age and cumulative throughput.
- Determine estimated customer usage patterns for all meter sizes at low, intermediate, and high flow rates.
- Use time of day information by meter size for specific utility service area, if available.
- Use AWWA M6 assumptions of 15-70-15 for small meter sizes.
- Use 1/3, 1/3, 1/3 assumption for large meter sizes greater than two inches.
- Apply percentages to low, intermediate, and high flow rates for all meters in the database to calculate average weighted meter accuracy for each meter.
- Calculate average meter accuracy for each meter size.

If no meter accuracy test data are available, the Team will recommend a meter sampling, harvesting, and testing plan that will provide alternative sample sizes to obtain margins of error of 5, 10, and 15 percent in accordance with standard statistical methods. We will use standard statistical definitions and standard tables as applied to each meter size to determine the alternative sample sizes. Following meter harvesting and testing by the utility, the Harris Team will evaluate test results to compare with AWWA Manual M6 accuracy requirements for new and repaired meters and manufacturer-specific product data sheets. This information is already available in Microsoft Excel format from recent meter investigation and evaluation studies performed by M.E. Simpson, so little mobilization and learning are required for application to each agency. The results of the sampled meter accuracy testing program will be used to generate agency-specific mathematical relationships between accuracy at three test levels specified by AWWA for each meter size. These relationships will be used to predict flow-specific (low, normal, high) and weighted meter accuracy for the entire deployed meter Inventory. The assessment will include a determination of pass-fail of each meter with regard to AWWA accuracy standards and a ranking of each meter in terms of predicted annual water loss due to meter under-registration. The assessment can be used to look for poorly performing meter manufacturers and meter types for specific meter sizes.

The Team will use the Deployed Meter inventory in Phase 2 work to assess compatibility with specific providers of Advanced Metering Infrastructure (AMI) systems and to estimate costs for meters, meter registers, and meter box lid replacements/hole drilling.
C. Inventory and Describe Agency Meter-Related Software and Databases
The Harris Team will obtain the names, providers, functionality, and descriptions of each agency’s software and databases associated with the meter-to-bill functions and meter operation and maintenance functions. This will require the identification of key personnel in each agency related to the meter reading (Readcenter, MVRS, etc.), meter maintenance, meter testing, billing (CIS), work order management (CMMS), and other similar functions; the collection and review of software documentation; and summarizing software functionality and compatibility for expansion and upgrade to AMI.

D. Inventory the Costs Associated with each Agency’s Meter Program
The overall goal of this task is to develop a baseline for the costs associated with each agency’s meter program. This baseline will be used to assess future meter program investments in phases 2, 4, and 5. The baseline will be comprised of information including but not limited to costs of equipment, staffing and system upgrades related to existing meter programs. In future phases, we will use this information to test different meter investment scenarios with varying key assumptions such as major meter testing, replacement, AMI programs and related operating costs, cost escalators, staffing requirements and other financial drivers that will be developed in subsequent phases.

E. Conduct One-on-One Interviews to Discuss Phase 1 Information
The Harris Team will require collaborative and informative meetings with key agency staff to understand information provided above. These staff shall be identified at the project kickoff meetings held with each agency. Results of tasks B, C, and D will be provided in draft to relevant staff to confirm the Team understands and obtain consensus on the findings and conclusions.

Phase 1 Deliverables
A Phase 1 Working Paper will be created for distribution, discussion, and review/comment before finalization for participating agencies. The contents will include a detailed agency meter inventory assessments for each participating agency as described above. The contents will also include a detailed financial resources analysis related to agency meter programs. The information will be organized in sections per participating agency.

The Harris Team will also provide a summary matrix of information submitted by each participating agency for quick reference and comparison.
**PHASE 2**
The purpose of this phase is to equip each participating agency and the consortium to evaluate different meter technology options and select one for piloting. The Harris Team, led by Steven Farabaugh will provide consortium agencies forward-thinking insights on the range of existing, new, and cutting edge meter technologies. The evaluations will be structured in a way that allows each participating agency to compare the costs and benefits of ‘going it alone’ compared to consortium-level investments and strategies where interest has been identified in Phase 0.

**A. Incorporate the following criteria when evaluating each technology option**
The Harris Team, through Isle Utilities, will provide participating agencies with a comprehensive breakdown of available meter technology options. This will be done in combination of individual agency and consortium level as decided during Phase 0. Consortium-level work will be done in collaboration with the Inter-agency Working Group. We propose the following key elements:

1. The Harris Team will employ a scenario planning processes in order to help agencies assess the key trends and uncertainties related to each meter technology. For example, the price of cellular data is expected to fall in the coming year, making it more and more competitive. These kind of trends will be included so that participating agencies can understand the longer-term viability, uncertainties and risks of technology choices made today. We will provide unit costs associated with startup and operations for each of the meter options, including the influence of key trends (such as cellular data, for example). This will help agencies understand how meter technology costs related to hardware, software, meter reading platforms, and other associated equipment can be expected to change over time so agencies can be more strategic with their choices.

2. The Harris Team will provide a comparison of the different meter options provided by vendors. This comparison will focus on pricing differences, technical service support, and customer service support. The team will support decision makers at each participating agency to evaluate how these options meet their requirements and priorities. We will provide each agency with key information from their individual agency assessments in order to assist in the evaluation. Each agency will identify the products of 3-5 meter vendors to make its final selection. As an outcome of this workshop, meter options that seem to function best across the consortium will be identified as options for consortium-level action.

3. The Harris Team will provide a comparison of the different software options offered by vendors. This comparison will focus on pricing differences, technical service support, and customer service support. The Team will support decision makers at each participating agency to evaluate how these options meet their requirements and priorities. For example the financial model developed in Phase 1 will be used to identify each agency’s financial capacity to fund meter investments and provide system rate impacts, if any, for the meter options under review. We will provide each agency with key information from their individual agency assessments in order to assist in the evaluation. Each agency will identify the products of 3-5 meter vendors to make its final software selection. As an outcome of this workshop, software options that seem to function best across the consortium will be identified as options for consortium-level action.
B. Evaluation of the top 3-5 meter vendors identified by the Consultant and the Consortium

The Harris Team will have provided participating agencies with a detailed evaluation of the top 3-5 meter vendors based on Phase 2A. Two key factors will be the existing meters and the type of meter pit lids, specifically if the lids are radio friendly. An important consideration is whether the utility plans to change out the existing meters or just add endpoints (communication devices). Examples of potential performance metrics include installation requirements and meter data management systems. The evaluations may also include additional vendors if those that have identified appear to function well at the consortium-level but were not selected by the individual agency. The purpose of this is to determine the costs and benefits of a consortium-level choice on individual agencies if that option is not in their top 3-5. Criteria will include, but not be limited to:

- Performance and reliability
- Nominal lifespan (age and use)
- Cost
- Scaleability
- Fire Sprinklers (pressure losses)
- Lead-free materials
- Additional technology included
- References

Phase 2 Deliverables:

A Phase 2 Working Paper will be created for distribution, discussion, and review/comment before finalization for participating agencies. The contents will include:

- A detailed narrative describing relevant meter technology trends, a comprehensive breakdown of the technology options, and vendor products

- A comprehensive evaluation of the top 3-5 vendor options for each participating agency and at the consortium-level organized in individual sections for reference and comparison

Optional – KPI Dashboard inputs for technology trends that might influence future next generation meter investments
**PHASE 3**

The purpose of this phase is to equip participating agencies with a robust, accurate, and efficient meter testing program. Meter accuracy is critical to a water utility. The ability of a meter to provide accurate readings is a function of many factors, including age, model, batch, and use. If a test plan is not designed and carried out properly, improperly performing meters will lead to inaccurate billing. Secondly, meters billing will need to be estimated. This means a customer’s bill will not reflect their actual use, which leads to either over or undercharging. A higher amount of malfunctioning meters also places a greater operational burden on a water agency.

It is imperative for agencies to adhere to a strict method of testing while taking into consideration the AWWA meter performance standards and accepted practices for meter testing. The Harris team, led by John Van Arsden, will help participating agencies put a meter testing program in place that provides an optimal replacement schedule; one that is tailored specifically for their unique meter inventory. We will enable each agency to systematically diagnose the performance of their meter inventory based on several flow rates across that specific meter’s size and type beyond the AWWA’s three tests (minimum, intermediate, and maximum).

**A. Meter Testing Program – Individual Agency Assessment**

The Harris Team will prepare a comprehensive review of each participating agency’s current water meter testing program (if one exists) and explore the available (in-house and regional) water testing facilities that may be able to be utilized by the Consortium. We will develop a meter testing program that identifies what each agency should be doing in order to maximize revenues and comply with the evolving regulatory environment in California.

**For each agency with a meter testing program**

The Harris team will evaluate the agency’s current meter testing programs for effectiveness/efficiency, and provide direction on how to optimize performance. We will review the agency’s data regarding any previous large and small meter testing and repair programs for each participating agency. The following will need to be gathered; a listing of large and small metered accounts and past consumption records (per Phase 1), meter reading books, field cards, notes, computer copies of the large meter database, and billing data, if available. Additionally, other records such as amounts pumped into the system may need to be reviewed along with access to past AWWA water audits completed for each system. The review of the testing program for meters, along with the records reviewed, shall yield updated adjusted consumption records of each agency’s meters as well as supplying valuable information regarding the general condition of the water meter revenue generating system.

**Consideration will be given to the following:**

- Ideal size/type of water meter test bench needed by each participant. Consideration will be given to the potential to “share” testing facilities with other agencies. Given the range of the size of the systems and the proximity of the systems to each other, all options will need to be looked at.
- Staffing Model (i.e., single agency or multi-agency in-house program versus single agency or multi-agency contract program)
- Staffing requirements using fully trained technicians for either in house or shared facilities
- Representative sample size needed for meter testing by sizes and meter types
- Evaluation criteria based on meter size, age, type and water usage
- Evaluation methodology (IE: how best to analyze meter test data as well as data collected based on the above criteria)
- Identify the accuracy percentage rate which triggers a warranty replacement (per meter manufacturer)
- Identify what warranty items should be covered
- AWWA Standards/Best Practices based on the M6, M22, and C-700 meter standards.
- Any other additional items that may be identified during the meter evaluations.

**For each agency without a current meter testing program,** the Harris team will develop a meter test program and program schedule to include:

- Ideal size/type of water meter test bench needed by each participant. Consideration will be given to the potential to “share” testing facilities with other agencies
- Cost of a test bench versus cost allocation by the agency
- Staffing Model (i.e., single agency or multi-agency in-house program versus single agency or multi-agency contract program)
• Staffing requirements, using fully trained technicians for either in house or shared facilities

• Representative sample size needed for meter testing by sizes and meter types

• Evaluation criteria based on meter size, age, type and water usage

• Evaluation methodology (IE: how best to analyze meter test data as well as data collected based on the above criteria)

• Consideration of future State water loss compliance and meter testing requirements

B. Meter Testing Program - Consortium
The Harris Team will help participating agencies develop a meter testing program at the consortium-level in order to attain a larger economy of scale and standardized methods. We will evaluate how each agency can integrate their meter testing programs into a multi-agency program. Items to be explored include:

• Which agency(s) would have the ability (staff, space, etc.) to house the meter testing program?

• The project team would study and identify the transition, start-up technical issues and costs

• The project team would identify the cost sharing arrangements for the participating agencies for the ongoing program

• Costs will consider short-term and long-term investments and recapitalization costs

• The project team would explore and identify any barriers for each agency (e.g., policies, programs, projects or issues) that need to be addressed for program integration.

• Any other additional items that may be identified during Agency evaluations

Phase 3 Deliverables
A Phase 3 Working Paper for distribution, discussion, and review/comment before finalization for participating agencies. The contents will include:

• An evaluation of each agency’s meter testing program and recommendations for optimized performance

• For agencies without a meter testing program, the Working Paper will include a recommended meter testing program and program schedule

• A technical and financial assessment of a consortium-level meter testing program

• The significant pros and cons associated with maintaining independent agency-specific programs, the combining of some Consortium agencies partnering, and the combining all agency specific programs into one collective region-wide program.
PHASE 4

The purpose of this Phase is to develop a meter replacement implementation strategy for participating agencies that evaluates and recommends actions for each agency individually and as a consortium. The alternative strategies and evaluations will be based on information received and assessed by the Harris Team, as described in Phases 1 through 3 relating to meter technology and meter reading technology. The Harris Team, led by Steve Davis, has specific relevant past experience performing similar studies for at least one member of the potential participants (City of Folsom) and has subsequently prepared recommended meter replacement and AMR/AMI implementation strategies for various sized utilities throughout the United States. In developing the recommended meter replacement and meter reading implementation strategy, the Team generally concurs with the required elements of the strategic plan and the tasks listed in the RFP scope of work. The following are proposed tasks and methodologies for developing individual agency-specific plans. The approach applies to each participating agency.

A. Identify Elements of the Strategic Meter Replacement Plan

The Consultant will work collaboratively with each agency to identify specific elements of their potential meter replacement plan. These elements fall under four major asset categories as indicated below:

**Hardware Assets**
- Water Meters
- Meter Registers
- Meter Box Lids
- Meter Point Technologies
- Data Collectors/Repeaters
- Collector Mounting Towers
- Data Storage Hardware
- Meter Testing Facility and Equipment

**Software Assets**
- Meter Reading
- Billing (CIS)
- Data Storage
- Data Analytics
- Network Performance/Status
- CIS Integration
- CMMS Integration
- Other Desirable Integration (SCADA, GIS, hydraulic modeling, etc)
- Customer Web-based Portal

**Organization and Staffing Assets**
- Customer Service Representatives (CSRs)
- Meter Readers
- Meter Testing Staff (Individually and Collectively)
- New AMI Technologists

**Financial Assets**
- Revenue Sources (rates, connection fees, bonds, loans, grants, etc)
- Life Cycle Costs
  - Initial capital costs
  - Recurring operational costs
  - Recurring licensing and data hosting costs
  - Communication costs
  - Avoided costs
  - Economies of Scale

The Harris Team will conduct a workshop and individual agency interviews to obtain consensus regarding implementation strategy elements and assumptions. Additional information not requested in Phase 1 may be required in this Phase to better define the strategic meter and meter reading technologies to be evaluated and the associated evaluation criteria and economic assumptions.

B. Develop the Recommended Implementation Strategy

The Harris Team will develop a meter replacement and meter reading implementation strategy for each agency based on evaluations of information collected in Phases 1 and 2, described above assuming individual agency implementation and funding. Per the RFP task E, alternative implementation strategies could include:

1. Replace all meters at once (most capital and staffing intensive)
2. Phased replacement of meters and meter reading including the multiple hardware, software, staffing, and financial elements system
3. Methods for handling combined new and existing meter and meter reading systems
4. Alternative funding and financing methods
5. Staffing and organizational changes affected by alternative strategies
C. Identify size, scope, and location of a Pilot Program to include option most appropriate for each agency and top scoring vendor based on evaluation criteria. Evaluate which technology option would be best suited for each participating agency. Separately, evaluate which technology option would be best for Consortium program, combining multiple agencies.

The purpose of a meter technology pilot is to prove out the entire system including data collection, data storage, data transmission, communication infrastructure, meter data management software, analytics, billing system compatibility, etc. Following from the Phase 2 evaluation, the Harris Team will work with participating agencies to develop a pilot program for selected meter technologies. The program will incorporate the technologies selected by individual agencies and the Consortium.

The Harris Team will develop a pilot program based on the size and scale of each agency. The program will incorporate elements of the entire system including data collection, data storage, data transmission, communication infrastructure, meter data management software, analytics, billing system compatibility, etc. The Team will also identify similar nearby efforts that may be an alternative to piloting if the selected technology is already proven in similar environments.

The Harris Team will identify pilot locations that are representative of the agency’s service area and include a majority of the meter types that make up the system. Once a technology is selected, the challenges inherent with the technology and with the agency’s service area will be identified (e.g. cellular dead zones, installation sites, etc.) and the pilot should be set up to address these. The size of AMI pilots, for example, is generally in the 100 to 1000 services range. This provides an adequate sample size without driving up the cost of the pilot. The number of services should be adequate to conduct testing on all meter types and be representative of installation sites (e.g. pit meters) in the system.

D. Identify Opportunities for Cost Efficiencies
The Harris Team will develop consortium-level meter program strategies based on Phase 0 dialogue and ongoing project collaboration with participating agencies. At this stage in the project, consortium-level opportunities will be fully evaluated for agency consideration through inter-agency meetings supported by the Harris Team. The Harris Team will provide a complete analysis of efficiencies resulting from consortium-level cooperation of upfront and recurring costs. As discussed earlier, potential elements offering cost efficiencies include:

- Meter and meter component purchases
- Meter reading system purchases (hardware and software)
- Meter accuracy testing facility and staffing
- Program funding options
- Installation contracting
- Database Integration software and long-term maintenance
- Data hosting services
- AMI technology staff

The Harris Team will provide efficiency tradeoffs to participating agencies in a matrix format to facilitate comparisons and individual agency decision-making.

E. Identify and Discuss Policies, Programs, and Tasks Necessary to Accomplish the MRP as a Consortium
Subsequent to the identification of potential cost efficiencies in Task C above, the Harris Team will identify and evaluate current abilities and barriers to accomplish specific efficiencies through joint rather than individual action. A matrix of potential consortium approach advantages and methods for successful achievement will be prepared.

F. Implementation Plan for Meter Replacement Phasing – Agency and Consortium Strategies
The Harris Team will support agency staff to evaluate the tradeoffs for different meter replacement phasing strategies and determine an optimal timeframe to phase in next generation meter technologies. The evaluation will incorporate findings from the previous phases, including both technical and financial factors. The phasing strategy will incorporate financing options as well as the organizational changes required. This work will be performed for individual agencies and at the consortium-level as required.
**Phase 4 Deliverables**

A Phase 4 Working Paper will be created for distribution, discussion, and review/comment before finalization for participating agencies. The contents will include:

- A detailed description of the key elements that underpin the implementation strategy, including all relevant hardware, software, staffing, and financial elements
- A detailed meter replacement and meter reading implementation strategy for each agency and the consortium, including piloting.
- A full analysis of consortium-level opportunities for efficiency and Policies, Programs, and Tasks necessary to implement them
- A full assessment and implementation plan for meter replacement phasing at the individual agency and consortium-level
- An implementation Schedule and Funding Program for each participating agency and consider individual agency metering needs, wants, internal capabilities, available staff, financial resources, Consortium opportunities, and plan risks and unknowns.

Summary matrices of alternative implementation plan elements and costs will be prepared for individual agency study and decision-making relative to unilateral or joint funding.

**Phase 5**

The purpose of this phase is to establish long term plans for future generations of meter replacements at both individual agency and consortium levels. Cost analyses will be developed for each agency to support this analysis.

Plans will include both tools and strategies in order to enable agency staff to adaptively manage their meter systems through changing conditions and future uncertainty.

**A. Develop a Cost Analysis for each Agency and the Consortium.**

i. Identify cost escalators.
ii. Identify estimated cost of equipment, staffing and system upgrades.

The Harris team, led by Ann Hajnosz, will work with agency staff to develop a long-range cost analysis tool for FY2020 to 2040. The tool will compare baseline (business as usual) scenarios to meter testing and meter replacement alternatives that emerge from the results of phases 2, 3, and 4 analyses. The team will develop cost escalators and estimated costs of equipment, staffing, and system upgrades for individual and consortium-based future scenarios. The analysis tool will be used to help agencies at the individual and consortium level evaluate different replacement timing options as well as sensible integration options for their meter programs.
B. Replacement Timing for Future Generations of Meter Replacements (e.g., 15, 20 or 25 Years)

The optimal timing for the replacement of existing meter technology with next generation options should be the result of a cost benefit analysis. The cost-benefit analyses developed for Phase 2 will be combined with the financial model developed here to help participating agencies establish a meter technology replacement schedule. This will be based on factors such as start-up investment costs for new infrastructure and software packages, staffing and skillset adjustments, and other costs established in Phase 2. Based on the results of Phase 4, the financial model will evaluate financial results, i.e. system rate increases and financial assurance targets, for agency meter replacement scenarios at different time periods (i.e. 15, 20 and 25-year time periods) in order to help agencies select one that best suits their needs.

In addition, the financial model evaluation for the Consortium focused results for future generation of meter replacements may include additional benefits derived from the following key assumptions:

- Shared equipment planning and operations
- Shared staffing resources
- Shared capital investment
- Vendor discounts on equipment and service contracts

Depending on the financial results, alternative meter replacement strategies will be considered to align meter replacement needs with the financial objectives of each Agency and the Consortium.

C. Develop best practices of a MRP from qualitative and quantitative perspectives.

The results of Phases 1-4 will yield numerous key performance indicators (KPIs), lessons learned and best practices that will be organized and prioritized to reflect the combined objectives for the Consortium. The approach for each of the Phases 1-4 will include a specific task to identify KPIs, lessons learned and best practices as the Agencies are evaluated and other technologies and case studies are examined (especially in Phase 2). We will ask for this information in a way that is consistent so that “apples to apples” comparisons can be prepared now and into the future. For example, combining meter testing datasets across the consortium might enable each agency to develop more accurate meter replacement schedules. Where there is interest, a limited benchmarking effort may be considered. If so, we can discuss appropriate platforms, such as Power BI, that could be used as a dashboard for KPIs. We will discuss with the Inter-agency Working Group to determine the need for this effort and its potential on-going role for spreading lessons learned and best practices in a semi-structured way.

Examples of KPIs, Lessons Learned and Best Practices that we would anticipate using include:

**KPIs**
- Agency-specific weighted meter accuracy by size
- Agency-specific average and range of meter age by size
- Agency-specific average and range of meter throughput by size
- Agency-specific prioritized meter replacement list ranked by value of Non-revenue Water

**Lessons Learned**
- Each utility has a unique water quality environment
- Each meter has a unique accuracy response and decay rate
- Tools exist for estimating meter accuracy and value of lost water and revenue
- Each utility has its own needs and justifications for meter replacement and technology upgrade
- New static meter technology has life cycle cost advantages over mechanical meter technology

**Best Practices**
- Apply existing data management tools to evaluate deployed meter population
- Leverage any existing agency-specific meter accuracy testing data
- Determine specific utility meter reading data needs now and in the future
- Determine alternative solutions to meet identified needs
- Evaluate solutions based on consensus weighted criteria
- Recommend the best solution achieving utility MRP criteria
- Develop a recommended MRP implementation plan

**Phase 5 Deliverables:**
A Phase 5 Working Paper for distribution, discussion, and review/comment before finalization for participating agencies. The contents will include:

- A detailed cost analysis for each agency and the consortium including cost escalators including future upgrades
- Replacement timing for future generations of meter replacements
- Qualitative and quantitative best practices for meter program development including adaptive management

Optional – A KPI Dashboard for either individual agencies or consortium-level
Phase 6 - Final Report
The Harris Team, led by Eric Vaughan, will develop an overall study report in PDF form for each participating agency. We will respond to comments and produce one hard copy of the final report along with a pdf file of the report and corresponding appendices. Each study report will be comprised of:

- An Executive Summary that briefly describes the goals, objectives, key assumptions, methodologies and results of the project
- Report chapters comprised of the different Working Papers tied to phases 0 through 5
- All appendices tied to phases 0 through 5

The Harris Team will also develop an additional overall study report for the Consortium combining all consortium-related results from Phases 0-5. This report will be structured in the same way as the individual agency reports.

Phase 7 - Public Outreach Strategy
The purpose of this phase is to support successful public outreach and engagement with participating agencies. “Early engagement and no surprises” is our motto for this task. The Harris Team, led by Laura Mason Smith understands that early and effective public outreach and engagement with stakeholders and stakeholder groups is a best management practice that will be vital to successfully developing the Meter Replacement Program Planning Study. This is not merely an exercise in notifying stakeholders of water district plans; the goal is to educate, receive input from, and gain stakeholder support for the Study. We propose the following key elements.

Public Outreach Strategy for Citrus Heights Water District
1. Customer Advisory Committee (CAC): The Harris Team, will support the Citrus Heights Water District in collaborating with their existing 24-member Customer Advisory Committee, which is a balanced and representative group of District customers who will work with the consulting team throughout various phases of the Study. The CAC will serve as a focus group as policy options are identified as well as consider the consulting team’s policy alternatives and policy recommendations. In addition, CAC members can act as well informed communication links within the District.

The Harris Team will incorporate the input from the CAC throughout the study for the benefit of all District customers. Recognizing that CAC members likely will have different perspectives, ideas, and concerns, the Team will create a productive CAC meeting environment that encourages input and demonstrates respect for all the diverse voices in the room.

To formulate the CAC meeting process, a Public Outreach Strategy Planning Session will be designed/facilitated by Laura Mason Smith with the District’s Meter Replacement Program Planning Study Manager and project staff. We envision that this will be a one-day high-level strategy session to storyboard each of the CAC meetings, clarify the initial desired outcomes for each CAC meeting, identify the key topics to be covered at each meeting, set CAC meeting dates, and clarify the project communications strategy.

To prepare for each CAC meeting, we will:

1. Design/facilitate a planning meeting with the District’s Meter Replacement Program Planning Study Manager, project staff, and Harris Team Project Manager to clarify the more specific desired outcomes for each CAC meeting, develop the meeting agenda and activities, and identify/review the information that will be presented at the meeting, and

2. Design/facilitate a “dry run” meeting with the District and the Harris Team.

The Harris Team will design/facilitate each CAC meeting, encouraging active participation and productive interactions, keeping the meeting process on track and on time, and recording key ideas and results. Following each meeting, the consultant will develop a meeting summary, including questions and answers, and provide the summary along with the meeting materials to the District’s communications team.

The four CAC meetings requested by the District are:

- CAC Meeting 1: Project Orientation and Review Phase 1 Findings
- CAC Meeting 2: Review Phase 2 Findings
- CAC Meeting 3: Review Phase 3 and 4 Findings
- CAC Meeting 4: Review Final Report and Make Recommendation to the District Board of Directors

2. Board Meeting Updates: The Harris Team provide three project updates to the District Board of Directors throughout the Study. In advance of each Board Update, we will meet with the District’s Meter Replacement Program Planning Study Manager, the staff project team, the Outreach consultant, and the Harris Team Project Manager and team to clarify the desired outcomes for each update, develop the update agenda, identify/review the information that will be presented at the update, and clarify presenter roles. In addition, the appropriate members of the Harris team will participate in the Board Updates.

The three Board Updates requested by the District are:
• Board Progress Update 1: Upon Completion of Phase 2
• Board Progress Update 2: Upon Completion of Phase 4
• Board Progress Update 3: Upon Completion of Phase 5

However, to achieve economies of scale and also coincide with the scheduling of the Board Updates requested by SJWD-R, we suggest that the three District Board Updates be modified as follows:

• Board Progress Update 1: Upon Completion of Phase 2
• Board Progress Update 2: Upon Completion of Phase 4
• Board Progress Update 3: Upon Completion of Phase 6 and Study Completion

3. Communication and Media Strategy Support:
Support the District’s communications team in ensuring that the CAC and the public are kept informed on an ongoing basis by:

• Providing clear CAC meeting and project materials -- such as CAC meeting agendas, handouts, and summaries; project overviews; answers to questions; results to date; public input; and recommendations – which can be posted by the District’s communications team to the District website Meter Replacement Program Planning Study page and other social media as desired by the District.
• Providing input for the creation of a special Meter Replacement Program Study page or pages at CHWD’s website.
• Providing input on the use of any other social media or other media and channels of communication.

Public Outreach for San Juan Water District Retail (SJWD-R)
SJWD-R will use their current information outlets to share project information and may organize special meetings throughout SJWD-R to bring information to their customers.

To keep the Board of Directors well informed of the Project, the Harris Team, led by Laura Mason Smith, will provide three project updates to the SJWD-R Board of Directors throughout the Project.

In advance of each Board Update, The Team will conduct a meeting with the District Manager/Project team to clarify the desired outcomes for each update, develop the update agenda, identify/review the information that will be presented at the update, and clarify presenter roles. In addition, the appropriate members of the consultant team will participate in the Board Updates.

The three Board Updates requested by SJWD-R are:

• Board Progress Update Meeting 1: Upon Completion of Phase 2
• Board Progress Update Meeting 2: Upon Completion of Phase 4
• Board Progress Update Meeting 3: Upon Completion of Phase 6 and Study Completion
F. BACKGROUND AND EXPERIENCE

1. CONSULTING TEAM

Harris & Associates
Office Location Serving Study:
3620 American River Dr.
Suite 175
West Sacramento, CA 95864

M.E. Simpson Co., Inc.
3406 Enterprise Ave.
Valparaiso, IN, 6483

Isle Utilities
2345 Yale Street,
1st Floor
Palo Alto, CA 94306

Mason Smith Success Strategies
Office Location Serving Study:
2016 French Camp Circle,
Suite B
Gold River, CA 95670

2. BACKGROUND/HISTORY

HARRIS & ASSOCIATES

Years In Practice: 44 Years
Integrating strategic services, program management, planning, engineering and public finance expertise that helps our clients find the ideal solution to their infrastructure challenges has been a hallmark of our business since our founding in 1974. Our team members include the industry’s premier thought leaders who have devoted their careers to helping communities plan, fund, design and build infrastructure to deliver critical utility services. With rising complexity in utility operations, sound decision-making for utility leaders is critical as you seek to balance short-term pressures of rising costs, limited resources, increasing regulations and technology advancements with long-term responsibilities of the stewardship of finite natural resources. Harris’ team of consultants, licensed engineers, planners, finance and rate-making experts, environmental consultants and construction managers cover all aspects and angles of infrastructure challenges, providing strategic and technical advice, that enables you and your decision makers to make the best choices for your communities, now and into the future.

Infrastructure and Financial Planning Expertise. Our infrastructure services reflect today’s complexities in utility planning and operations. We staff our team with experienced professionals skilled in the latest sustainable planning, funding, engineering and construction management techniques to keep your projects in step with and in some cases, ahead of, water industry trends. For example, our clients and their constituents both benefit from our expertise in trenchless technology which enables the rehabilitation of water and sewer lines without digging up streets and sidewalks. Some of our proudest infrastructure contributions include sustainable water initiatives such as the largest desalination project in the U.S., located in Carlsbad, California.

What differentiates Harris is our proven ability to integrate strategic business and financial acumen with engineering expertise to drive success for our clients and their stakeholders. For infrastructure capital planning projects, this means we have a more in-depth understanding of key utility planning, operating, engineering and capital assumptions, enabling us to guide you through complex decision-making efforts that are aligned with your vision and that will result in the implementation of business plans built with future generations in mind.

M.E. SIMPSON CO., INC.

Years In Practice: 62 Years
M.E. Simpson Co., Inc. was founded as an “S” corporation in 1979 by Marvin E. Simpson. With our current staff of 67 employees, our firm has become an industry leader in developing and providing programs and services that aid our clients in maximizing their peak performance for their water distribution systems. We offer our clients the highest quality Technical and Professional Services, using state-of-the-art technologies and highly skilled and trained professionals. "Crumbling infrastructure, inaccurate records, conservation, sustainability, water quality, water loss, economic conditions, revenue shortfalls, being
green, having enough water”; these are all statements and buzz words in today’s society. Currently, these words are our reality, thus making them our responsibility. We have been offering Water Loss Control programs for over 38 years. To date we have provided Water Loss Control programs that have included over 75,000 Large Water Meters serviced (Commercial and water production metering), over 100,000 miles of Leak Detection services and Water Auditing in various forms since the early 1990’s. Our Asset Management services have documented over 500,000 valves located and exercised. Our Fire Hydrant Flow testing program has recorded 70,000 fire hydrants flowed and water main capacity information developed.

M.E. Simpson Co., Inc is able to provide Water Loss Control Programs, and water loss assessment field service work for utilities based on our intimate and long history of understanding of where water losses occur; both Apparent losses (metering) and Real losses (leakage). Currently members of our senior staff are members of the AWWA Water Loss Committee (M36) with one being the Past Chair of the committee, as well as members of the M6, M22, M33 committees and Meter Madness at ACE. Our staff are frequent trainers and presenters at various AWWA Section events as well as AWWA association events such as ACE, WIC, and NAWL. Staff members have also held offices at the Section level as well as at the Association level. M.E. Simpson Co., Inc. has teamed with national engineering firms to provide engineering and field services to validate data used in the water audits as well as perform audits. Our firm has seen many of the eventual pitfalls of water loss both in the field services end as well as the accounting and billing end. Our work process uses the audit process, both from a “top down” to a “bottom up” audit. The results have been very dramatic and eye opening for some utilities. Our abilities range from large Venturi meter testing (up to 108” diameter) for verification of total water supplied, to sample testing small meters in large groups, to performing leak programs to validate real losses and provides support for the audit by providing real time field data to the audit process.

**ISLE UTILITIES**

**Years In Practice:** 7 Years

Isle is an independent technology and innovation consultancy that brings together technical and commercial specialists to facilitate relationships. Their team is highly skilled engineers and scientists with extensive and diverse consulting expertise.

Isle Utilities use this valuable expertise to identify technology deal-flow, undertake due diligence, provide market intelligence, and work with investors.

They have extensive in-house experience in bringing new technologies to market and an established framework to support innovation, technology development, strategy and growth, and investment.

**Isle’s core capabilities lie in:**
- Identifying, qualifying and quantifying market opportunities;
- Identifying and assessing novel technological solutions;
- Facilitating relationships to accelerate technology development and commercialization, including co-ordinating, managing and delivering innovation projects;
- Maintaining relationships with a large and diverse range of stakeholders.

**MASON SMITH SUCCESS STRATEGIES**

**Years In Practice:** 30 Years

Based in California’s Capitol region for over 25 years, Mason-Smith Success Strategies partners with clients who operate in a wide array of industries locally, nationally, and internationally public agencies, community organizations, both large and small businesses, and professional associations. In partnership with professional firms who are providing public agencies with engineering, infrastructure and financial planning expertise for public projects, Mason-Smith Success Strategies has provided expertise in public engagement, stakeholder outreach, strategic planning, partnering, and team development to support these projects. Mason-Smith’s services have included designing and facilitating public engagement plans and stakeholder advisory input processes for public projects related to water and power utility services; stormwater quality management; municipal planning and community development programs; new highway installations; public transit system; regional transportation plans; municipal parking programs; public safety programs; technology enhancements and program adjustments; organizational restructuring; public housing development and administration; and public agency strategic planning processes.
3. FIRM EXPERTISE | HARRIS PROJECT EXPERIENCE

Project 2030 Water Main Replacement Study
Citrus Heights, CA
Citrus Heights Water District

**Description**

Project 2030 is a Water Main Replacement Study for the Citrus Heights Water District (CHWD). CHWD is currently using a 30-year Capital Improvement Plan that was developed in 1998 as a key planning tool in determining annual capital improvement projects, which includes water main replacement. As the District looks ahead, significant water main replacements may be needed, as the water mains installed in the 1960’s reach 70 years old. The key elements of the Study include: 1) Asset Inventory and Project Polygon Development, 2) Water Demand Forecast, 3) Water Main Assessment, 4) Water Main Replacement Phasing Options and Preferred Option, 5) Project Cost Estimates, 6) Funding Strategy, including Water Rate Options and Debt Service Options, and 7) Implementation Plan.

This is an ongoing project where Harris leadership of multiple subconsultants is playing a key role. Harris is guiding the District’s Customer Advisory Committee (CAC) though workshops and expects to assist them in key decision-making and policy recommendations to the Board. In addition Harris is guiding technical subconsultants in the evaluation and prioritization of main replacement options. This effort also includes a financial planning component to determine rate impacts of main replacement scenarios.

Peer Review of Financial Plan, Cost of Service Study, and Rate Development
Honolulu, HI
Honolulu Board of Water Supply (BWS)

**Description**

The Honolulu Board of Water Supply (BWS) is in the middle of an important master planning effort that will set the course for water system improvements for the next 30 years. Over the next 22 months, Harris is providing senior-level technical review of the BWS’s rate consultant’s work product including a review of the revenue requirements, cost of service and rate design analyses and development of financial policies. A key aspect of the project is to optimize several processes related to the BWS meter system. Eric Vaughan has been assessing the meter connection process and working with BWS staff in Customer Care, Service Engineering, Field Operations, Finance and IT to streamline their process and improve efficiency and quality. Through Ann Hajnosz, our team’s experience with BWS and all of the other county water agencies in the state also provides unique insights into the concerns of ratepayers and other stakeholders - a key component on this project. In addition, the desired impact of this project will be the development of rate-making expertise in BWS staff. Harris’ expertise will provide the highest value to BWS staff, arming them with the right questions at the right time during this important financial planning and ratemaking effort.
3. FIRM EXPERTISE | HARRIS PROJECT EXPERIENCE

Potable Water Meter Replacement and Maintenance Study
San Diego, CA
City of San Diego

Description
The City of San Diego had estimated their apparent water losses were 5.6 million gallons per day (mgd) as a result of the inaccuracy of their small water meters. The Harris Team carried out a study to study, evaluate, and recommend a replacement cycle for their small (2-inch and smaller) potable meter inventory with the goal of reducing these losses. The Team also evaluated the maintenance program for large commercial potable meters. The Team collected, reviewed, and synthesized available data and developed a series of Technical Memos to outline recommended elements of a comprehensive meter management plan. The Tech Memos were (1) Catalogued Data Listing and Preliminary Data Analyses, (2) Review of Existing Meter Management Program, (3) Meter Efficiencies and Life Spans and (4) Proposed Meter Management Program. A Final Report was prepared to combine and summarize the four Technical Memos. The key deliverables included a revised meter replacement schedule, an optimized meter testing program, and an improved data management system.

City of Rio Vista Metering Project
Rio Vista, CA
Veolia Water North America

Description
The City of Rio Vista elected to replace its aging meter inventory with AMI smart meters. The Harris Team was responsible for oversight, coordination, purchasing, and scheduling the $3.5 million Meter Replacement Project. In this capacity, the Harris team managed the installation of 4500 Sensus AMI Water Meters and replacement of 600 connections from the meter to the Main. The Team was responsible for ensuring water meters were correctly installed (on time and on budget) by the subcontractors per City of Rio Vista requirements. The Team was also responsible for coordinating with the County of Solano to locate the receiving/transmitting antenna AMI signals. The Team was responsible for running weekly meetings with the City and addressing implementation issues as they arose, including resident feedback, meter installation issues.
Field Accuracy Testing  
Granite Bay, CA  
San Juan Water District

**Description**  
M.E. Simpson Co., Inc. performed field accuracy testing for the large production Venturi and Mag style Flowmeters as part of an overall program of water loss control. These tests were conducted at various sites at the utility’s water production facilities. Seven flowmeters ranging in size from 24” to 72” in diameter were evaluated. Six out of the seven flowmeters were able to be flow tested on site without disruption to water production. During the testing the primary elements were tested (the flowmeters) for accuracy while the secondary elements (SCADA reporting) were monitored to locate discrepancies between the flowmeter and the SCADA readings. All data was collected, evaluated, and meter recalibration set points submitted to the utility. The test results helped with the overall water audit reporting by the Utility by helping to verify and validate the total water supplied into the water distribution system.

Standardized Water Loss Control Program  
Ontario, CA.  
Golden State Water Company

**Description**  
M.E. Simpson Co., Inc. is the lead for a project team of Arcadis and Metering Technology Consultants that is currently providing consulting services to develop a company-wide standardized water loss control program. The goals of the water loss control program are to assist the company in mitigating water losses and to position GSWC to be in compliance with the schedule for water loss performance standards laid out in SB 555 (2015). State Water Loss Control performance standards are due to be completed and going into effect in 2019–2020.

When completed, the company wide water loss control program will:

- Provide a detailed description of the required testing, records, data, etc. that must be collected and maintained for validation purposes for the annual water loss audits that are required for the seventeen (17) large systems.

- Provide metrics that can be derived from the audit results using the AWWA Free Water Audit Software to determine when additional water loss control measures (i.e. leak detection surveys, enhanced pressure management, enhanced meter testing, billing system audit, etc.) should be employed for each specific system.

- Provide tools and methodology to determine the most cost-effective water loss control practices for each system.

- Provide a suite of best practice water loss control protocols as company standard protocols ready to be incorporated into a system specific water loss control programs.
Water Loss Assessment and Water Loss Reduction Plan
Miami, Florida
Miami-Dade Water and Sewer Division (WASD)

Description
M.E. Simpson Co., Inc. worked with Malcolm Pirnie Engineers (now Arcadis) to conduct a Water Loss Assessment and Water Loss Reduction Plan for Miami-Dade WASD. This included the assessment of water loss issues within the WASD distribution system. M.E. Simpson Co., Inc. provided a critical analysis and review of current leak detection methods and equipment employed by WASD leak crews on the 5,600 mile distribution system. M.E. Simpson Co., Inc. field crews performed random sample field testing of areas for leaks and provided a statistical analysis of the overall effectiveness of the efforts to reduce leakage by WASD field staff over the last 10 years. M.E. Simpson Co., Inc. also completed an analysis and testing of flow meter accuracies for the water supply of the distribution system to determine the true amounts of water delivered to the system. This included site analysis of 120 well meters and Venturi production meters. Additionally a sample of wholesale and commercial meters were inspected and tested for proper meter applications and accuracy levels. A review of past water audits was performed as well. A 20-year Water Loss Reduction Plan was developed for WASD, was submitted and accepted by the South Florida Water Management Agency based on the findings of the field work and review of the system records. Florida’s loss requirements were to limit losses to 10% for Non-Revenue Water.

Meter Evaluations and testing
Chicago, IL
Department of Water Management (DWM)

Description
M.E. Simpson Co., Inc. is currently performing large meter evaluations and testing for 2000 commercial/industrial accounts and 200 wholesale metering locations for the City of Chicago’s Department of Water Management (DWM). M.E. Simpson Co., Inc. is providing the field services expertise, field supervision, testing equipment, vehicles and the field personnel for this comprehensive meter evaluation and accuracy testing project. This project was developed to assist the DWM in controlling the apparent water losses in the large commercial, industrial meters and wholesale metered accounts. Over 2000 – 3” and larger meters are being inventoried, classified, and tested for accuracy. All meter locations are having digital photos taken of each meter setting along with drawings depicting piping configurations that might have an effect on meter accuracy. A large meter database is being custom created to be used with the DWM’s GIS system. The field work was started in January 2013. After the field work is completed, a complete evaluation of all the meters inspected and tested will be performed and subjected to statistical analysis for creating a complete on-going meter evaluation and maintenance program for use by DWM field staff. The large meter population will be set up so regular meter testing intervals can be based on meter revenue as well as meter size and type. This program is part of the larger effort to properly meter all water consumed in the City.
3. FIRM EXPERTISE | M.E. SIMPSON CO., INC. PROJECT EXPERIENCE

Large Meter Testing Program
Village of Downers Grove, IL
Village of Downers Grove Public Works

Description
M.E. Simpson Co., Inc. performed a Large Meter Testing Program for the Village of Downers Grove, Illinois. A number of large meters are tested and evaluated for sizing, application and accuracy. All field data is gathered and entered into a meter database and a report written documenting the accuracy of each meter prior to repair. The meters are categorized by type and size. An individual report of each meter test was made with the test results and repair comments. This was done so that the Utility staff could easily use the information to observe the recovery of lost revenue from the meter. This project is part of an ongoing effort to reduce revenue loss in the water system.

large Meter Evaluations and Testing Location
Macon, GA
Macon Water Authority

Description
M.E. Simpson Co. Inc. is currently performing large meter evaluations and testing for the Macon Water Authority. The company is providing the field services expertise, field supervision, testing equipment, vehicles and the field personnel for this comprehensive meter evaluation and accuracy testing project. This project was developed to assist the Authority in controlling the apparent water losses in the large commercial and industrial meters. Over 200 – 3” and larger meters are being inventoried, classified, and tested for accuracy. A large meter database has been created to be used with the Customer Service data system. After the each phase of the field work is completed, an evaluation of all the meters inspected and tested is performed for maintaining a complete on-going meter evaluation and maintenance program for use by MWA’s staff. The large meter population has been set up so regular meter testing intervals can be based on meter revenue as well as meter size and type. Also, as part of the program, M.E. Simpson Co. conducted large meter classes for the field staff of the utility so that the utility would have a better understanding of the methods used in the field to test and evaluate large meters. This program is part of the larger effort to reduce and monitor overall water losses.
AMI and Meter Data Management Evaluation
Santa Barbara, CA
City of City of Santa Barbara

Description
Isle is currently conducting a technology scan of AMI metering technologies and agnostic meter data management solutions for the City of Santa Barbara. Santa Barbara’s system includes approximately 30,000 meters and the service area population is approximately 100,000. Their main drivers are customer service for providing water consumption information and alerts and operational improvements for demand management and water loss monitoring. The project includes interviews of utilities of similar size, topography, and concerns to assist Santa Barbara in understanding the alternatives available and how other utilities have addressed similar challenges.

AMI Water Meter Technology Evaluation
Central Point, OR
City of Central Point, OR

Description
Isle conducted a technology scan, benchmarking and workshop to identify and qualify AMI technologies for upgrading an existing AMR water meter system. The primary driver for Central Point’s adoption of AMI technology was to reduce time spent by field staff reading existing meters. The City’s metering system is made up of 6,700 meters serving an area of approximately 3.9 square miles. Implementation is scheduled to take place over 5-years, starting in 2018. After the AMI qualification project was complete, the City contracted Isle for a second project to develop the procurement contract and specifications as well as negotiate implementation terms with the selected vendor.

Smart Metering and Smart Networks for Leakage Management Report
United Kingdom
UK Water Industry Research (UKWIR)

Description
The project investigated, documented and recommended smart metering technologies and analytical tools for leakage management. The project addressed one of the focus areas for the United Kingdom Water Industry Research (UKWIR) Strategy, specifically to answer the question: ‘How do we achieve zero leakage in a sustainable way by 2050.

3-5 Year Smart Metering Roadmap
United Kingdom
Thames Water, UK

Description
Isle conducted a technology scan for Thames Water on the current smart water meters available in the market and presented the future roadmap for AMI technologies. This project supported Thames Water’s goal of deploying over 20 million meters by 2020.

Smart Meter Technology Scan
New Zealand
Christchurch Council

Description
Isle developed a technology scan for leading and emerging smart water meters and presented the competitive landscape for smart water meters technology with a focus on intrusive and non-intrusive metering for multi-tenanted dwelling. Additionally, Isle was asked to provide a report on global best practices for the smart metering of multi-tenanted dwelling. This is based on interviewing water utilities in the UK, Europe, Australia, SE Asia and North America.
3. FIRM EXPERTISE | MASON SMITH SUCCESS STRATEGIES PROJECT EXPERIENCE

Project 2030 Water Main Replacement Study
Citrus Heights, CA
Citrus Heights Water District

Description
Working with the District and Harris & Associates Project 2030 technical team to ensure that the Study and public engagement processes are consistent with the District’s Strategic Plan, which has been developed during a public process previously designed and facilitated by Laura Mason-Smith.

- Support the District in identifying and constituting a representative Customer Advisory Committee (CAC) that reflects the diversity of the District’s customers.

- Design and facilitate a CAC Orientation session and up to six regularly scheduled public CAC meetings throughout the project to (a) educate and inform stakeholders of CHWD’s Project 2030 background information, plans, project status, and questions that need to get answered and (b) gather stakeholder input.

- Ensure that a comfortable CAC meeting environment encourages respect for all the diverse voices in the room, and manage the expectations both in what is expected from stakeholders and what stakeholders should expect for their efforts.

- Solicit and incorporate the input from the CAC throughout the Study for the greater good of all District customers.

- Support the District in keeping the public and stakeholders informed on an ongoing basis with clear meeting and project materials from the technical team which can be posted on the Project 2030 portion of the CHWD website.

- Support the technical team in updating the Board of Directors on project status at the 30%, 60%, and project completion levels.

Results: While the Study is still in progress, the relevant objectives shown above are being achieved at each stage of the Project.

ANNUAL STRATEGIC PLANNING PROCESSES, 2016-17 AND 2017-18
Citrus Heights, CA
Citrus Heights Water District

Description
Responsibilities include designing and facilitating a strategic planning processes for both 2016-17 and 2017-18. Laura works closely with Staff Leadership and Board Members to (1) Clarify desired outcomes for the processes through individual interviews of Board Members and key managers; (2) Design the Strategic Planning Processes; (3) Facilitate the public Strategic Planning Sessions to secure a comfortable and productive environment for all the participants to:

- Build shared understanding and share diverse views
- Strengthen working relationships and collaboration
- Assess the external environment within the District operates
- Develop long-range District goals
- Prioritize one-year objectives to achieve the long-range goals
- Develop a process to monitor results quarterly and make adjustments as appropriate

The creation of mutually agreed-upon Long-Range Goals and Key Annual Objectives to accomplish the Goals which then provide a roadmap for the District for the coming year.
4. OFFICE LOCATIONS

Harris has supporting offices throughout California and Washington. Our Sacramento office is perfectly located in the center of the participating districts. Additionally, our subconsultant, Mason-Smith Success Strategies is also located within the district. Their knowledge of the area and the needs of the residents will play an essential role when covering the Public Outreach portion of work. This allows for more in-person meetings for kick-offs, information gathering and status updates. Sacramento is a growing office and we look forward to serving the region with local staff.

**Harris & Associates**  
3620 American River Drive  
Suite 175  
Sacramento, CA 95864

**M.E. Simpson Co., Inc.**  
3406 Enterprise Ave.  
Valparaiso, IN, 6483

**Isle Utilities**  
2345 Yale Street,  
1st Floor  
Palo Alto, CA 94306

**Mason Smith Success Strategies**  
2016 French Camp Circle,  
Suite B  
Gold River, CA 95670
5. ORGANIZATIONAL CHART

Eric Vaughan – Project Manager. Overall responsibility for meeting the goals of all Phases and overall Project goals. Eric will ensure that team members have a clear understanding of their roles and responsibilities; he will be the single point of contact for the District and will attend all Project meetings and presentations.

John Van Arsdel, Steve Davis and Steve Dennis (M.E. Simpson) – Providing technical proficiency in all aspects of water meter systems (hardware and software) including a clear grasp of Smart Water concepts and the use of meter data for reducing Non-Revenue Water and improved asset management/capital planning. Primary responsibilities include

Steven Farabaugh and Tim Day (Isle Utility) – Providing a global perspective on trends in smart water and supporting technologies that underpin meter systems. Primary responsibilities include Phase 2 with key inputs to Phases 4, 5, and 6.

Lisa Larrabee – Serving as Principle in Charge. Additional responsibilities include adaptive management methods for Phases 4, and 5.

Steve Winchester – Serving as Consortium Lead for the Management Working Group. Additional responsibilities include strategic planning for Phase 2.

Ann Hajnosz – Serving as Financial Lead. Primary responsibilities include the financial components of Phases 1, 2, 4, 5, and 6.

Anthony “Tony” Herda – Serving as QA/QC lead. Tony will work closely with our Project Manager, Eric, to make sure that the right experts are providing QC reviews of all work product, including our sub consultant work product.

Laura Mason Smith – Servicing as Community Engagement Lead. Primary responsibility is Phase 7.
6. PROFESSIONAL QUALIFICATIONS
Lisa Larrabee Andrews  
PROJECT PRINCIPAL

In addition to over 25 years leading complex environmental planning and compliance programs throughout California with a strong resume in water resources, Lisa will bring important competencies to the CHWD Water Meter Replacement Program including:

- Strategy Development
- Program Leadership
- Team Leadership
- Change Mastery
- Project Management
- Communications
- Stakeholder Engagement
- Visioning
- Business and Financial Acumen
- Board Governance
- Public Speaking

These competencies have been honed through decades of C-Suite Leadership Program and Project Leadership, formal coursework, and developing and delivering rigorous leadership and project management training programs.

From character perspective, Lisa approaches opportunities and challenges in the same light seeking to find what is in the best interests of the client’s overall vision for a greater good and outcome. Always sensitive to governance, roles and responsibilities, Lisa has a partnership philosophy offering suggestions, framing tradeoffs all based on best practices and experience.

Lisa brings three things to the CHWD Water Meter Replacement Program including: partnership mindset with CHWD and the Harris Team, leadership wisdom from the school of public projects, and commitment to CHWD stakeholders including being highly accessible due to her longevity in the Sacramento area.

EDUCATION
MS · Geography
BA · Geography

AFFILIATIONS
American Council of Engineering Companies (ACEC)

American Public Works Association (APWA)
Eric Vaughan  
PROJECT MANAGER

Eric has over 10 years of experience managing large programs and projects in the water industry. He currently leads the Risk + Resilience practice in Harris’ Strategic Service Group. Prior to joining Harris, he served as a senior technical advisor for Mercy Corps’ global technical support team. In this role, he led numerous strategic assessments, studies on the topics of water, agriculture, floodplain management, and resilience. Eric has significant experience facilitating workshops and meetings with diverse groups of stakeholders in the water market including water system managers, customers, regulatory staff, and civil society organizations. He brings broad knowledge of water system operations and efficiently organizes and focuses project teams and stakeholders towards the identification of measurable and implementable goals amidst complex issues and operating environments.

The Sacramento area is a familiar context for Eric. He recently worked with Citrus Heights Water District staff and local stakeholders on the Project 2030 Water Main Replacement Study. He continues to be involved in the project providing high level perspectives and strategic advice.

RELEVANT EXPERIENCE

- **Honolulu Board of Water Supply**, Peer Review of Financial Plan, Cost of Service Study, and Rate Development Plan, Miscellaneous Charges Task, Senior Project Engineer. A key component of this project is to assess the meter connection charge, meter testing and meter turn-offs processes at the Honolulu Board of Water Supply (Board), which includes all aspects of meter installation and supporting systems including customer care, billing, accounting, finance, engineering, and field operations. The Board currently provides potable water to approximately 175,000 customer accounts on the island of Oahu, or a service population of 1,000,000. Eric is performing the process analysis and identifying opportunities to streamline and optimize the process in order to reduce the overall time required to establish a new meter connection, establish more effective key performance metrics, and reduce the overall cost. A future task in this effort is benchmarking these meter processes against comparable utilities and reporting lessons learned and best practices in this area to Board staff and management. As part of the preparation for this current effort, Eric reviewed the Board’s plans for replacement of its meters, which use automated meter reading (AMR) technology. Areas that were explored include the Board’s current AMR system; comparison of various meter reading options, and cost/benefit analysis of options.

- **Citrus Heights Water District**, Project 2030 Water Main Replacement Study, Senior Project Engineer. A key component of this project is the demand forecast, which projects how changes in water use affect the way the District replaces and sizes water mains. Eric carried out a land-use based approach to estimate water demand for different types of residential, commercial, industrial, and public users by using digitally mapped data. This work included presenting the results of the study to the District’s Community Action Committee (CAC). Eric continues to be involved in the project providing high level perspectives and strategic advice to the Harris team centered on presenting technical results and options to the CAC so that they are best prepared to make decisions on the main replacement options. Eric’s familiarity with the CAC will play a valuable role as he leads the Harris team in the

EDUCATION

M.S., Environmental and Water Resources Engineering  
B.S., Mechanical Engineering

CERTIFICATIONS

Eric Vaughan

Meter Replacement Planning Study as he will be able to effectively and efficiently determine the appropriate information to present to the group; his connection to Project 2030 will also be valuable as the Meter Study explores financial impacts. Eric will be able to evaluate these impacts in the context of the financial impacts of Project 2030.

- **City of Berkeley, Public Works and Parks, Recreation, and Waterfront, Development of Measure T1 Bond Policies and Procedures Manual, Project Manager.** Eric led this effort in which Harris is developing detailed procedures for defining performance metrics and requirements for project evaluation, project evaluation and selection methods, including through public engagement, program management structuring, financial control standards, and reporting methods. These procedures and guidelines will ensure T1 proceeds will be spent in a manner that is consistent with City goals and the specific goals of the bond measure. Eric is working with City officials to develop policies and guidelines that reflect the needs of stakeholders and are consistent with industry best practices in capital project delivery. Eric’s program management experience, effectively working with multiple and diverse experts across management, engineering, finance, and other stakeholders will benefit the Meter Replacement Study as he works with our teaming partners, ME Simpson and Isle Utilities.

- **USAID, Food for Peace, Strategic Resilience Assessment, Nepal 2015. Senior Technical Advisor, Resilience.** Eric provided key instructions on the framework and process of a strategic assessment process, led the analysis that included a multi-stakeholder workshop and co-authored the final report. He was instrumental in developing the resilience goals and performance metrics across agricultural, financial, disaster preparedness, health, water, and market development outcomes. This enabled program staff to develop and implement resilience-building approaches in a $37 million, five-year program designed to achieve food security among vulnerable populations in the hill and mountain regions of Midwestern and Far West Nepal recognizing that increasing risks and hazards have been undermining socio-economic development gains.

- **DfID, Integrated Maji infrastructure & Governance Initiative for Eastern Congo Socio-Economic Feasibility Study, 2014. Technical Advisor, Water Economics.** As a member of the inception phase team, Eric led the socio-economic feasibility study for a four-year, $60 million program to expand water supply systems to 1.55 million additional residents of Goma (North Kivu Province), Bukavu (South Kivu Province) and Bunia (Ituri Territory, Orientale Province). He developed the study framework, survey instruments, and analysis methods in order to characterize potential social and economic factors related to water supply markets and develop program strategies to mitigate the corresponding risks. As a result, the programs infrastructure investments were tailored to better meet people’s water needs in terms of affordability, safety, and accessibility.
John H. Van Arsdel  
TECHNICAL LEAD

Mr. Van Arsdel has over 27 years’ experience directing projects for water utilities concerning water loss, water audits, mapping programs, metering programs, condition assessment programs, and flushing programs. He has presented seminars for water operators for over twenty years. This includes various topics for the ISAWWA Education Committee, several presentations at Illinois, Indiana, Wisconsin and Michigan AWWA Section meetings, as well as papers at ACE in 2007, 2009, 2012, 2015, 2016 and papers at the 2010, 2011, 2012, 2013, 2014, 2015, and 2016 AWWA Water Infrastructure Conference. He has maintained an active role in local and state water works organizations including holding offices on various boards and committees.

John has been a member of AWWA since 1991 and currently is a member in several sections including Illinois, Indiana, Michigan, Wisconsin, Georgia, North Carolina, Virginia, Chesapeake, and Florida. In 2003 he was one of two trainers for the “RAM-W Modified” Vulnerability Assessment training for the Illinois Section. He has served as the Illinois Section AWWA Chair, 2013, as well as other Board positions. He served as ISAWWA Chair for the Membership Committee (2006-2009) and received the national AWWA Zenno Gorder Award (2006 and 2009) and a Diamond Pin Membership Award (2006 and 2009), as well as the AWWA Ambassador Award (2009) for membership. John also serves on the Education Committee, Water Efficiency Committee, and Water for People Committee. He received the ISAWWA Clifford Fiore award and the George Warren Fuller Award in 2015. John is a past chair of the national AWWA Water Loss Committee (2010-2014), a member of the Apparent Water Loss sub committee, and was involved with review and editing of the rewrite of the M-36 Water Loss Control Manual. Local water works memberships include the South Suburban, Mid Central, North Suburban Water Works Associations, and the West Shore Water Producers.

RELEVANT EXPERIENCE

- Selected Water Loss Control Programs, Water Audits, Metering Issues, Leak Detection (from 450 to 410,000 connections)

- Asheville Water Authority, Asheville, NC, Water Audit (2003-2004), teamed with Brown & Caldwell Engineers

- Miami-Dade Water and Sewer Division (WASD) Water Loss Reduction Plan, Miami, FL (2006-2008), teamed with Malcom Pirnie, Inc.

- Pittsburgh Water and Sewer Authority (PWSA) Water Audit, Pittsburgh, PA (2006-2008), teamed with HDR, Inc.

- City of Lake Forest, IL Water Audit (2010), lead role

- City of Baltimore, MD. Water Audit and Leak Detection, (2010-2012), teamed with KCI Engineers

- Valparaiso City Utilities, Valparaiso, IN, Water Audit (2010-2011), lead role

- Michigan City Water Works, Michigan City, IN Water Audit, (2012), lead role
• Tom Bean, TX, Water Audit, (2012) lead role

• Joint Base Charleston Naval Weapons Station, Goose Creek SC, Water Audit (2012), lead role, teamed with Atriax Group

• JEA, Jacksonville, FL. Water Loss Program Technical Assistance, (2013) teamed with Arcadis, Inc.

• Culver, IN, Water Audit (2013) lead role

• Cordry Sweetwater Conservancy District, Princess Lakes, IN Water Audit (2013) lead role

• Indio Water Authority, CA, Water Audit, (2013) lead role

• Bozeman, MT, Water Audit (2014), tech lead role

• Welton, AZ Water Audit, (2014), lead role

• Joshua Basin Water District, CA, Water Audit (2015), lead role

• Oscoda Township, MI, Water Audit (2015), lead role

• Lake Havasu City, AZ, Water Audit, (2016) lead role
Steve Dennis
SENIOR TECHNICAL ADVISOR

Steve Dennis has been with M.E. Simpson Co., Inc. since 2016. Prior to his start with M.E. Simpson Co., Inc. Steve was with the Alameda County Water District. He has a BS in Business Administration from Phoenix University.

RELEVANT EXPERIENCE

Alameda County Water District, H&S / Emergency Services Supervisor:
- Retired February 2016 - District Employment 37+ years – Position Responsibilities:
  - Health and Safety Program Management 2011 to 2016
  - Security Program Management 2001 to 2016
  - Environmental / Hazmat Compliance Officer 2000 to 2016
  - Emergency Response Coordinator 1998 to 2016
  - Lead Distribution System Maintenance Operator 1979 to 1988
- Development and operation of the District’s leak detection program. This program included full distribution system leak detection on a five-year rotational basis.
- Operation of meter maintenance and replacement program. Field and shop meter testing and rebuild. Oversight of residential meter replacement program.

EDUCATION
BS in Business Administration

AFFILIATIONS
American Water Works Association: Current Board Director / Vice President
Association level activity:
Security Committee Member, Strategic Development Advisory Committee Member, Presidential Ad-Hoc Committee Co-Chair – The Water Equation, Special Project participation
City of Pleasanton, Energy and Environment Committee: Current Member
California/Nevada Section American Water Works Association: Current Director, Past Section Chair, Board Trustee, Operations and Maintenance Division Chairperson, Chair Security and Emergency Planning Committee
Stephen E. Davis, P.E., BCEE
SENIOR TECHNICAL ADVISOR

Mr. Davis has over five decades of experience in potable water, wastewater, reclaimed water, and water recharge system evaluation, planning, research, modeling, and design. He has directed and managed municipal utility projects involving water meter specifications and bidding evaluation, water AMR/AMI assessments/RFQs/RFPs, water system auditing, and economics of meter replacement; water use efficiency and conservation plans; life-cycle cost evaluations; and national water and reclamation research. Mr. Davis has recently authored AMI and meter replacement RFQs and RFPs for Ft. Worth, TX, Tempe, AZ, and Parker Water and Sanitation District, CO. In California, Mr. Davis has managed infrastructure planning projects for San Diego, Oxnard, San Leandro, the Municipal Water District of Orange County, Paso Robles, Clovis, Folsom, and the California Department of Public Health. In Arizona, Mr. Davis has managed infrastructure-planning projects for Phoenix, Scottsdale, Glendale, Peoria, Tempe, Mesa, Chandler, Gilbert, Apache Junction, El Mirage, Avondale, Flagstaff, Tucson, Marana, MDWID, Oro Valley, and Pima County. Mr. Davis has managed and participated in multiple projects for the Water Research Foundation. Mr. Davis managed Malcolm Pirnie's Tucson office for 16 years, managed the Sacramento office for four years, worked in the Irvine office for 4 years, and is now living and working in Phoenix. Mr. Davis is a registered engineer in Arizona and Texas. Prior to becoming a consultant, Mr. Davis spent ten years with the City of Tucson Water Utility responsible for infrastructure analysis and planning. Mr. Davis is immediate past chairman of the AWWA Customer Metering Practices Committee and is the current Chair of the Apparent Losses Subcommittee of the AWWA Water Loss Control Committee. Relevant project experience is summarized below.

RELEVANT EXPERIENCE

- As Principal of Metering Technology Consultants, Inc., Phoenix, AZ:
  - WSSC, MD: Program Management for AMI Implementation. Five-year program to assess metering and AMI needs for AMI implementation as subconsultant to Arcadis
  - Golden State Water Company, CA: Preparation of Water Loss Management Plan and water audit validations as subconsultant to M. E. Simpson Company
  - Valor Water Analytics, SF, CA: Water Meter Expert Consulting
  - Tucson Water, AZ: Tucson Water Meter Study. Major meter sizing and manufacturer comparison study as subconsultant to Carollo Engineers
  - Water Research Foundation, CO: Project 4689-Assessing Water Demand Patterns to Improve Sizing of Water Meters and Service Lines, Co-Principal Investigator
  - City of Flagstaff, AZ: Water Meter Bid Specifications and Assistance
  - City of Mesa, AZ: Water Meter Bid Specifications and Assistance
  - City of Buckeye, AZ: Customer Water Meter Billing Accuracy Study
  - Mount Pleasant Waterworks, SC: AMI Implementation Assistance

EDUCATION
Graduate studies in PhD Civil Engineering and Urban Planning.

BS Civil Engineering

MS Civil Engineering

CERTIFICATIONS
Licensed Land Surveyor
Professional Engineer AZ, TX
Board Certified Environmental Engineer (BCEE)

AFFILIATIONS
AZ Water Association, Past President
American Academy of Environmental Engineers
American Society of Civil Engineers (Life)
American Water Resources Association, Past President, Arizona Section
American Water Works Association (Life)
National Science Foundation Fellowship for PhD, UA
Southern Arizona Water Resources Association, Past President
Tau Beta Pi - The Engineering Honor Society
Water Environment Federation
• **City of Folsom**: Water Meter Implementation Plan/ Folsom CA. Project Principal for evaluation of technical approaches for metering and meter reading in a major community in the Sacramento area. Evaluation of touch pad, *drive-by* AMR, and fixed network AMR was performed to recommend a *cost-effective* metering program in response to California surface water agreements and *State-legislated* metering deadlines. The plan recommends that a fixed network be piloted for 1000 residences to assess application to the entire City.

• **City of Scottsdale.** Residential Water Meter Study Scottsdale AZ. Project Principal for evaluation of *time-of-day* residential water usage for the winter and summer seasons and meter accuracy for determining optimum cumulative metered use for meter replacement. The study evaluated the value of water loss due to meter inaccuracy and *over-sizing* of meters to serve residences required to install fire sprinkler systems due to residence size. Four meter sizes were tested and evaluated, including 5/8-inch, 3/4-inch, 1-inch, and 1 1/2-inch. Data from time of day recorders, the City’s water billing system, and a 1000-service ITRON drive-by AMR system were investigated.

• **City of Tucson Water Department**: Tucson Water AMI Strategic Plan/ Tucson AZ. Project Manager for development of a strategic plan for implementing *system-wide* Advanced Metering Infrastructure. The project involved determining functional requirements for a future *meter-reading* system, development of meter reading alternatives, and a present worth economic evaluation for recommending an implementation plan. Alternative AMI/AMR metering plans evaluated included hybrid manual reading/AMR, all drive by AMR, hybrid AMI/AMR, and all fixed network AMI. The evaluation included potential fixed network sharing with the Tucson Electric Power Company.
Steve Winchester, SVP Chief Development Officer
CONSORTIUM LEAD

Steve is the Chief Development Officer at Harris. He has more than 30 years of experience providing senior oversight, management and leadership in an entrepreneurial environment, with a focus on water and wastewater. Steve has overseen over 20 Urban Water Management Plans for CA water utilities. His water master planning experience include senior oversight roles at Huntington Beach and Modesto. Steve’s role on this project brings the necessary "big picture" perspective and oversight for our proposed Project Manager, Eric Vaughan, as well as being an added senior and water industry resource to Rex Meurer, Citrus Heights Water District’s Project Manager.

RELEVANT EXPERIENCE

- **Citrus Heights Water District**, *Main Replacement Study*. Principal-in-Charge. This project 2030 is a Water Main Replacement Study for the Citrus Heights Water District (CHWD). CHWD is currently using a 30-year Capital Improvement Plan that was developed in 1998 as a key planning tool in determining annual capital improvement projects, which includes water main replacement. As the District looks ahead, a tidal wave of water main replacements may be needed beginning in the year 2030 and carrying several years forward, as the water mains installed in the 1960’s reach 70 years old. The key elements of the Study include: 1) Asset Inventory and Project Polygon Development, 2) Water Demand Forecast, 3) Water Main Assessment, 4) Water Main Replacement Phasing Options and Preferred Option, 5) Project Cost Estimates, 6) Funding Strategy, including Water Rate Options and Debt Service Options, and 7) Implementation Plan.

- **City of Temple City/Sunny Slope Water Company**, *Water Supply Assessment*. Principal-in-Charge. The City of Temple City is preparing a Specific Plan for the area along Rosemead Boulevard between the Los Angeles County Flood Control Channel to Hermosa Avenue. The Specific Plan will provide for additional development in the area and appropriate development standards. The City is requesting the Sunny Slope Water Company to prepare a Water Supply Assessment. Harris is supporting the effort by gathering data through research and developing a Water Supply Assessment for the Sunny Slope Water Company.

- **Winchester Consulting Group**, *Chief Executive Officer*. The Winchester Consulting Group provided strategic and management consulting services to water utilities, as well as engineering, technology and venture capital firms serving the water industry. Steve’s services included strategic planning, mergers and acquisitions, marketing and sales, business planning, and business optimization. Representative clients and projects include:

  - **Microvi Biotechnologies, Inc.** Commercialization services for this biotech start-up with a water treatment technology focused on the removal of nitrate, perchlorate, NDMA and VOCs. Services provided by Steve ranged from assisting with funding to strategic and business planning to market introductions for their product.

  - **United Water/Suez Environmental**. Steve provided strategic planning assistance to this investor-owned water utility.

Through objectivity-devoid of self-interest, Steve is able to take a complex situation and re-frame and simplify it into important and actionable pieces. His excellent relationship building skills allow him to quickly build trust. This asset alone is very important in the consortium environment. Steve listens intently, beyond the spoken word allowing him to fully understand the self-interests of each consortium member and develop solutions that aligns with the interest of the consortium as a whole.

EDUCATION

MBA · Business Administration
BS · Business Administration

AFFILIATIONS

American Water Works Association (AWWA)
Association of California Water Agencies (ACWA)
California Association of Sanitation Agencies (CASA)
Water Environment Federation (WEF)
• **Sunny Slope Water Company.** Steve assisted with strategic planning activities including identifying 10 emerging trends in the water utility space and their implications to the company.

• **True North Venture Partners.** Steve provided a market assessment for this venture capital firm related to potential investment in a wastewater tech firm. Aveta Life Sciences Pty Ltd. Provided business planning services for this life sciences firm based in India as well as assistance in negotiations with strategic partners.

  – **NJBSoft LLC.** Steve developed ‘go-to-market’ and funding strategies, business plan and valuation model for this water/wastewater software firm.

  – **Aveta Life Sciences Pty Ltd.** Steve provided business planning services for this life sciences firm based in India as well as assistance in negotiations with strategic partners.

• **Psomas,** *Water/Wastewater* Division Head. Representative California Water/Wastewater projects completed under Steve’s oversight:
  – Design of the expansion of Placer County, CA wastewater treatment plant
  – Numerous sewer rehabilitation projects for the City of Anaheim, CA
  – Introduction of APT Water’s membrane biofilm reactor (MBfR) technology to Cucamonga Valley Water District including a pilot project for nitrate removal
  – Completion of over 20 Urban Water Management Plans for various Orange County, CA water districts
  – Water master plan for the City of Huntington Beach, CA
  – Studies for the Water Reuse Research Foundation

• **Black & Veatch, Various Projects.** Senior Vice President/Regional Manager. The representative projects listed below were completed under Steve’s oversight:
  – Design and build of a membrane water treatment facility for California Water in Bakersfield
  – Design of a membrane water treatment facility for the South San Joaquin Irrigation District in Manteca
  – Design of the expansion of the Randall Bold water treatment facility for the Contra Costa Water District in Concord
  – Water master plan for the City of Modesto
Ann Hajnosz, PE
FINANCIAL LEAD
Ann Hajnosz has worked closely with water, wastewater, electric, and solid waste utilities for 30 years in the areas of financial planning, rates, best practices, and general utility planning and operations. She has experience working with utility staff, senior management, and utility stakeholders, including utility boards, city councils, and large customers. Ann is familiar with the wide range of issues facing utilities today including the need for creative approaches to capital financing, cost recovery through implementation of user fees, the increasingly complex competitive nature of the utility industry, and the growing need to balance a number of conflicting stakeholder needs. Her combined civil engineering and finance background provide clients with an in-depth perspective in the development and implementation of utility rates.

RELEVANT EXPERIENCE

• **City of Gonzales**, Water and Sewer Rate Study, Gonzales, California, Project Manager. Ann is currently leading a rate study to update the City's water and sewer rates. She is overseeing the development of a revenue requirements model, cost of service analysis and rate design efforts. Key issues include addressing how the City will pay for significant future capital expenditures. The study will include efforts to comply with Proposition 218 and City Council presentations.

• **City of Santa Clarita**, Sewer Rate Study, Santa Clarita, California Task Lead. Ann has developed the proposed sewer rate charge for a new development in the City in collaboration with other related analyses for this project. She developed a pro-forma model that projected revenues, operating expenses and capital expenses for a 15-year time period. The study will include efforts to comply with Proposition 218 and meetings with the City.

• **City of Soledad**, Reclaimed Water Rate Analysis, Soledad, California Task Lead. Ann has developed a proposed reclaimed water rate study for the City in collaboration with other related analyses to expand the reclaimed water system. She has developed a pro-forma model that will project future revenues and expenses for a contemplated reclaimed water enterprise fund. The study will include efforts to comply with Proposition 218 and meeting with the City.

• **Honolulu Board of Water Supply**, Peer Review of Financial Plan, Cost of Service Study, and Rate Development. Project Manager The Honolulu Board of Water Supply (BWS) is in the middle of an important master planning effort that will set the course for water system improvements for the next 30 years. The critical component of this effort will be the development of a financial plan and rate study. Over the next 22 months, Harris will be providing senior level technical review of the BWS's rate consultant's work product including a review of the revenue requirements, cost of service and rate design analyses and development of financial policies. Harris’ Project Manager, Ann Hajnosz, will be assisting Board staff in the preparation for and attendance at Stakeholder Advisory Committee (SAG) meetings and other public meetings, including Board and City Council meetings. A key role for Harris is providing added assurance to BWS staff that the goals of the financial planning and rate development process will be consistent with the master planning effort and the overall goals of the BWS. Ann's experience with all of the county water agencies in the state provides unique insights into the concerns of ratepayers and other stakeholders - a key component on this project.

EDUCATION

MBA · Business Administration
BS · Civil Engineering

CERTIFICATIONS

Professional Civil Engineer WA
In addition, the desired impact of this project will be the development of rate-making expertise in BWS staff. Harris’ expertise will provide the highest value to BWS staff, arming them with the right questions at the right time during this important financial planning and ratemaking effort.

- **Honolulu Board of Water Supply.** Peer Review of Financial Plan, Cost of Service Study, and Rate Development Plan, Miscellaneous Charges Task, Senior Project Manager. A key component of this project is to assess the meter connection charge, meter testing and meter turn-offs processes at the Honolulu Board of Water Supply (Board), which includes all aspects of meter installation and supporting systems including customer care, billing, accounting, finance, engineering, and field operations. The Board currently provides potable water to approximately 175,000 customer accounts on the island of Oahu, or a service population of 1,000,000. Eric is performing the process analysis and identifying opportunities to streamline and optimize the process in order to reduce the overall time required to establish a new meter connection, establish more effective key performance metrics, and reduce the overall cost. A future task in this effort is benchmarking these meter processes against comparable utilities and reporting lessons learned and best practices in this area to Board staff and management. As part of the preparation for this current effort, Eric reviewed the Board’s plans for replacement of its meters, which use automated meter reading (AMR) technology. Areas that were explored include the Board’s current AMR system; comparison of various meter reading options, and cost/benefit analysis of options.

- **City of Renton.** Washington, 2018 Comprehensive Rate Study and Recommendation for System Development Charge (SDC) for Water, Wastewater and Surface Water Utilities; Renton, WA. Project Director. Harris is updating the rates and SDCs for the City of Renton’s water utilities. Ann Hajnosz is serving as Project Director and QC lead providing project oversight and collaborating with the Project Manager, Karyn Johnson, in the execution of the project. The project includes a comprehensive update of the City’s revenue requirements, cost of service and SDCs for the water, wastewater and surface water utilities. The project is expected to be completed by December 2018.
Anthony Herda
SENIOR ANALYST

Anthony Herda brings eleven years of experience in water utility planning and engineering, specializing in water systems operations, master planning, capital planning, urban water management planning, forensics and peer review, conceptual design, preliminary design and multi-disciplinary studies. Mr. Herda routinely evaluates and applies all pertinent scientific, engineering, organizational, governance, financial, demographic, economic, regulatory and legal aspects towards the resolution of his clients’ complex water issues and challenges. He is accustomed to assembling, directing, supervising and mentoring project teams of engineers and technicians. He is a certified business consultant offering stakeholder facilitation and vision-based strategic planning services to organizations and in support of water utility planning and engineering projects.

RECENT WATER RESOURCES PLANNING AND PROJECT MANAGEMENT EXPERIENCE

• City of Corona 2018 Reclaimed Water Master Plan
• City of Monrovia 2015 Water Master Plan
• City of Arcadia 2015 Water Master Plan
• San Antonio Water Company 2015 Strategic Plan
• Sunny Slope Water Company 2014 Water Master Plan
• Arizona Water Company 2014 Pinetop-Lakeside Water Master Plan
• Santa Clarita Water Division 2013 Water Master Plan
• Sativa Los Angeles County Water District 2013 Water Master Plan
• Valley County Water District 2013 Water Master Plan
• 2013 Groundwater Reliability Improvement Project (GRIP) Feasibility Study
• Jet Propulsion Laboratory 2011 Facility Master Plan
• Fontana Water Company 2011 Sandhill Water Treatment Plant Assessment
• 2011 Feasibility Study for the Multi-Agency Regional Groundwater Recovery Project
• La Habra Heights County Water District 2011 Water Master Plan

EDUCATION

B.S. Civil Engineering
B.A of Music

CERTIFICATIONS

California Professional Civil Engineer
Steve Farabaugh, PE
SENIOR TECHNICAL ADVISOR

Steve is a licensed Professional Engineer (CO & NH) specialized in civil and environmental engineering with a focus on water, wastewater and reuse. Steve has acquired extensive experience in planning, design and project management and has worked on all phases of projects including technology evaluation, water quality analysis, piloting, process and facility design, regulatory compliance, operator training, construction services and start-up. Steve served as project manager and lead consultant for the City of Central Point, OR, AMI project and the ongoing Santa Barbara, CA, AMI and meter data management project.

RELEVANT EXPERIENCE

Isle Utilities, Denver, CO. April 2017 – Present. Senior Consultant:
- Evaluation of innovative technologies to identify solutions to challenges in water and wastewater systems. Conduct technology scans and comparative evaluations to make recommendations for the following challenge areas; biosolids handling and resource recovery, secondary wastewater treatment, backwash water recycling best practices report, asset management/CMMS software, desalination technologies, THM reduction, AMI and meter data management.
- Development of RFPs and Contracts for procurement.

- Project manager and design engineer for two potable reuse projects and treatment systems for radium and iron/manganese.
- Project management includes developing scope and fee documents, schedule and budget for multiple projects and identifying alternatives to reduce client’s costs.

Lennon Smith and Souleret Engineering, Pittsburgh, PA. March 2014 – March 2016. Senior Engineer:
- Lead engineer for design of drinking water treatment technologies and processes including membranes, GAC filters, ultraviolet disinfection, limestone contactors, chlorination, and conventional treatment system.
- Design of a 1 mgd wastewater pump station including pump selection, hydraulic calculations, technical specifications and mechanical design.
- Preliminary design of a wastewater treatment plant consisting of three SBRs.
- Design of an enhanced groundwater and industrial waste treatment systems.
- Design and construction of a 3 mgd conventional water treatment plant.

Hazen and Sawyer, New York City, NY. April 2004 – May 2012. Sr. Principal Engineer:
- Planning, design, process, and project management for water infrastructure: Write engineering specifications, prepare contract drawings and documents, and develop flow control strategies.
- Facility Design: Write engineering specifications, prepare contract drawings and documents, and develop flow control strategies.
- Water Treatment Process: Evaluate and recommend water treatment processes and equipment based on water quality, cost analysis, and site conditions.
- Strategic Water System Planning: Evaluate intermediate and long-term water system needs.
- Construction Mgt: Conduct inspection for complex wastewater infrastructure.
- Design Services During Construction: Shop testing, functional tests, facility startup, operator training and develop SOPs/O&M manuals.
- UV Disinfection: Design, validation, and start-up.

EDUCATION
Master of Science, Civil Engineering
Bachelor of Science, Double Major: Biology and Environmental Health

CERTIFICATIONS
Professional Engineer: Colorado and New Hampshire
Timothy Day
SENIOR TECHNICAL ADVISOR

Tim is an expert in Intelligent networks and IoT encompassing the electricity, gas and water Industries. Tim has over 30 years’ experience in information and communication technologies (ICT) and 20 years’ experience in the utilities sector. Tim has been with Isle for 4 years and has previously worked for Siemens (eMeter), Accenture, SPL (now Oracle), Origin Energy, AGL, AusNet Services, South East Water. With all of these organizations Tim has been involved in major IT/OT systems implementations across retail and distribution for the energy, gas and water sectors. The last 10 years has been spent exclusively within the smart grid/intelligent network space driving progressive programs of work focusing on the selection and implementation of emerging technologies covering telemetry, telecommunications and back end IT systems.

RELEVANT EXPERIENCE

Isle Utilities Pty Ltd, Sydney Australia. 2014 – Present. Business Development Lead:
- Current role is business development and thought leadership across smart networks and associated advanced technologies such as Augmented Reality, Virtual Reality, IoT and Artificial Intelligence.
- From August 2015 to September 2018, Tim was the Managing Director for Isle Utilities in Australia which includes management of a team of twelve people in business development and consulting focusing on the adoption of innovative and disruptive technologies for the electricity, gas and water industries.
- Engaged on the delivery of the following projects for major utilities globally:
  ◊ Best worldwide practices in metering.
  ◊ Development of strategies for rollout of AMI and how this will be affected by the impending changes to the regulatory environment.
  ◊ Delivery of technology adoption programs.
  ◊ Development of a smart metering specification for its AMI rollout and advising on how to innovate around its procurement guidelines to ensure the best outcome for the purchasing of AMI components such as meters, telecommunications, Head End Software, Network Management Software, Meter Data Management which will integrate into legacy systems such as Customer Information Systems, Demand Management Systems, Outage Management Systems, Works Management Systems and SCADA.

- Advance Metering Infrastructure (AMI) Subject Matter Expert for a major water utility.
- Lead trials and pilots, focusing on metering and telecommunications, to test the business case for a full rollout of an intelligent water network.
- Completed an IT impact analysis document and ran requirements gathering sessions to develop the Digital Metering Business Requirements that lead to the development and evaluation of a Telecommunications EOI and development of an RFP for procurement of Meters, Metering Installation, Telecommunications, Meter Data Management and Systems Integration.

EDUCATION

BSc Geology
Laura Mason-Smith
PUBLIC ENGAGEMENT

Laura Mason-Smith of Mason-Smith Success Strategies will be the lead for the Public Engagement/Stakeholder Outreach/Customer Advisory Committee/Presentations efforts for the Harris team. She will work closely with Harris’ project manager, Eric Vaughan.”

For over 30 years, Laura has been a valued resource to hundreds of public agencies, large and small businesses, and professional associations. She creates comfortable and productive environments for people to share their ideas, discuss potentially controversial questions, develop recommendations or make decisions, and plan for the future. Laura has a strong commitment to the value of public input, and meetings are designed and facilitated to allow individuals and groups with widely divergent viewpoints and interests to work together cohesively over the long term to achieve high-value results.

RELEVANT EXPERIENCE

• **Citrus Heights Water Districts.** Laura leads the public engagement effort on Project 2030 which is a Water Main Replacement Study for the Citrus Heights Water District (CHWD). CHWD is currently using a **30-year** Capital Improvement Plan that was developed in 1998 as a key planning tool in determining annual capital improvement projects, which includes water main replacement. As the District looks ahead, significant water main replacements may be needed, as the water mains installed in the 1960’s reach 70 years old. The key elements of the Study include: 1) Asset Inventory and Project Polygon Development, 2) Water Demand Forecast, 3) Water Main Assessment, 4) Water Main Replacement Phasing Options and Preferred Option, 5) Project Cost Estimates, 6) Funding Strategy, including Water Rate Options and Debt Service Options, and 7) Implementation Plan.

• **Citrus Heights Water District,** Annual Strategic Planning Processes. Design and facilitate Strategic Planning Processes. Laura worked closely with Staff Leadership and Board Members to (1) Clarify desired outcomes for the processes through individual interviews of Board Members and key managers; (2) Design the Strategic Planning Processes; (3) Facilitate the public Strategic Planning Sessions.

EDUCATION

BS, Business Administration
7. REFERENCES

Harris & Associates

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M.E Simpson

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Isle Utilities

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City of Central Point
541.664.3321
mmcclenathan@centralpointoregon.gov

Mason-Smith Success Strategies

Hillary Straus
General Manager
Citrus Heights Water District
916.735.7715
hstraus@CHWD.org
A summary table of Projects costs organized by phase and agency is shown below in Table G1. The Project is accomplished through a combination of meetings and activities that are carried out at the Consortium level, (e.g. via the Technical Advisory Committee or TAC) combined with individual agency engagement. This streamlined process prioritizes Consortium-level interaction between the Harris Team and the TAC rather than with agencies on an individual basis.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
<th>Phase 6</th>
<th>Phase 7</th>
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<tbody>
<tr>
<td>Carmichael Water District</td>
<td>$8,991</td>
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<td>TBD</td>
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<td>Citrus Heights Water District</td>
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<tr>
<td>City of Sacramento</td>
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<td>84%</td>
<td>90%</td>
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</tbody>
</table>
In this budget, costs associated with Consortium-level efforts and interactions are emphasized. There are additional costs associated with agency-level work, but these costs are much smaller than those associated with the Consortium-level efforts. As a result there is significant savings when additional agencies participate. This is because the fixed Project costs are shared with an increasing number of agencies with only a small amount of incremental costs associated with the addition of another agency. This is illustrated in Table G1A below for Phases 1-6.

<table>
<thead>
<tr>
<th>Number of Agencies</th>
<th>Phase 1 /Agency</th>
<th>Phase 1 /Phase</th>
<th>Phase 2 /Agency</th>
<th>Phase 2 /Phase</th>
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<th>Phase 6 /Phase</th>
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<td>$30,553</td>
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<td>$27,846</td>
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<td>79%</td>
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<td>$8,124</td>
<td>$64,991</td>
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<td>$663,027</td>
<td>$66,303</td>
<td>83%</td>
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A detailed breakdown for phases 1 to 6 of the hourly rate of each individual and estimated number of hours proposed for each individual for a one agency participation level of effort is shown below in Table G2.

A detailed breakdown for phase 7 of the hourly rate of each individual and estimated number of hours proposed for each individual is shown in Table G2A.
### Table G2 - Team Member Level of Effort for Ten Agencies

<table>
<thead>
<tr>
<th>Phase</th>
<th>Eric Vaughan</th>
<th>Steve Winchester</th>
<th>Ann Hajnosz</th>
<th>Anthony Herda</th>
<th>Admin</th>
<th>Steve Davis</th>
<th>John Van Arsdel</th>
<th>Tim Day</th>
<th>Steve Farabaugh</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Manager</td>
<td>Consortium Lead</td>
<td>Financial Lead</td>
<td>Senior Engineer</td>
<td>Admin</td>
<td>Technical Lead (ME Simpson)</td>
<td>Senior Advisor (ME Simpson)</td>
<td>Senior Advisor (Isle Utilities)</td>
<td>Senior Advisor (Isle Utilities)</td>
</tr>
<tr>
<td>Phase 1</td>
<td>44</td>
<td>8</td>
<td>68</td>
<td>8</td>
<td>8</td>
<td>72</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>Phase 2</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>8</td>
<td>16</td>
<td>0</td>
<td>20</td>
<td>100</td>
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<td>Phase 3</td>
<td>36</td>
<td>16</td>
<td>0</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>226</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Phase 4</td>
<td>44</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>8</td>
<td>364</td>
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<td>0</td>
<td>52</td>
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<tr>
<td>Phase 5</td>
<td>76</td>
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<td>124</td>
<td>8</td>
<td>8</td>
<td>24</td>
<td>8</td>
<td>0</td>
<td>32</td>
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<tr>
<td>Phase 6</td>
<td>32</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>20</td>
<td>16</td>
<td>16</td>
<td>0</td>
<td>16</td>
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</table>

**Rate**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Eric Vaughan</th>
<th>Laura Mason Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Manager</td>
<td>Public Outreach Lead</td>
</tr>
<tr>
<td>CHWD</td>
<td>$230</td>
<td>$300</td>
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<tr>
<td>SJ-R</td>
<td>48</td>
<td>0</td>
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</tbody>
</table>

**Sub-Total**

<table>
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<tr>
<th>Phase</th>
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<tbody>
<tr>
<td></td>
<td>$62,560</td>
<td>$37,500</td>
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**Travel Expenses**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Eric Vaughan</th>
<th>Laura Mason Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
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</tbody>
</table>

**Total for One Agency (Phase 1-6): $380,670**

Table G2A, Detailed breakdown of the hourly rate of each individual and estimated number of hours proposed for phase 7

<table>
<thead>
<tr>
<th>Phase</th>
<th>Eric Vaughan</th>
<th>Laura Mason Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Manager</td>
<td>Public Outreach Lead</td>
</tr>
<tr>
<td>CHWD</td>
<td>$30,360</td>
<td>$39,375</td>
</tr>
<tr>
<td>SJ-R</td>
<td>$11,040</td>
<td>$0</td>
</tr>
</tbody>
</table>

Table G2 showed the level of effort in the case of only one agency participating in the study. Table G3 displays the incremental level of effort to add up to 10 agencies to the Project. This table illustrates how the total level of effort changes as more agencies participate up to the maximum effort it would require to carry out the Project with full agency participation. The incremental increase in hours reflects the additional effort required at the individual agency level as more agencies participate in the Project.
### Table G3, Incremental increase in the total level of effort in hours required to complete phases 1 to 6 based on the number of participating agencies.

|                  | One Agency | Two Agencies | Three Agencies | Four Agencies | Five Agencies | Six Agencies | Seven Agencies | Eight Agencies | Nine Agencies | Ten Agencies |
|------------------|------------|--------------|----------------|---------------|---------------|--------------|---------------|----------------|---------------|--------------|--------------|
| **Phase 1**      |            |              |                |               |               |              |               |                |               |              |              |
|                  | 208        | 224          | 240            | 256           | 272           | 288          | 304           | 320            | 336           | 352          |
| **Phase 2**      |            |              |                |               |               |              |               |                |               |              |              |
|                  | 192        | 206          | 220            | 234           | 248           | 262          | 276           | 290            | 304           | 318          |
| **Phase 3**      |            |              |                |               |               |              |               |                |               |              |              |
|                  | 294        | 348          | 402            | 456           | 510           | 564          | 618           | 672            | 726           | 780          |
| **Phase 4**      |            |              |                |               |               |              |               |                |               |              |              |
|                  | 484        | 524          | 564            | 604           | 644           | 684          | 724           | 736            | 804           | 844          |
| **Phase 5**      |            |              |                |               |               |              |               |                |               |              |              |
|                  | 288        | 319          | 350            | 381           | 412           | 443          | 474           | 505            | 536           | 567          |
| **Phase 6**      |            |              |                |               |               |              |               |                |               |              |              |
| **Total**        | 1,582      | 1,737        | 1,892          | 2,047         | 2,202         | 2,357        | 2,512         | 2,667          | 2,822         | 2,977        |

In summary, the total cost estimate for all ten agencies to fully participate is $743,802 as shown in table G1. This reflects an approach which focuses on Consortium-level efforts. The maximum discount (for phases 1-6), which is achieved when all 10 agencies participate, is 83 percent.
H. SCHEDULE

The following page represents our proposed schedule broken down by major phases of work. We anticipate the project will take no longer then 16-months, however time may need to be added incrementally for each additional agency that participates in a task.

Also shown are the anticipated Phase 7 Workshops (CHWD CAC) and Board of Director updates (CHWD and SJWD). The CHWD CAC Workshops have been scheduled on the first Tuesday of the month to allow planning in advance of the CHWD Board Meetings that are on the third Wednesday of every month.
TECHNICAL ELEMENTS

CAC PUBLIC ENGAGEMENT

METER REPLACEMENT PROGRAM PLANNING STUDY
PUBLIC ENGAGEMENT / CAC WORKSHOPS

MONTH May June July Aug Sept Oct Nov Dec Jan Feb March April May June July Aug Sept Oct Nov Dec

2019 2020

Individual Agency Assessment (1)
Next Generation Program Options (2)
Meter Testing Program Strategy (3)
Implementation Strategy (4)
Long-Term Planning (5)
Final Report / Plan Adoption (6)
Final BOD Update

Workshop #1
7/2/19
- Project Introduction
- Introduction to Meters and Meter Technology
- District Meter Background and Assessment

Documents
- Working Paper #1

Workshop #2
10/1/19
- Next Generation Meter Technology
- Top Meter Vendors
- Pilot Program

Documents
- Working Paper #2

Workshop #3
4/7/20
- Developed Testing Program
- Implementation and Phasing
- Funding Packages

Documents
- Working Paper #3
- Working Paper #4

Workshop #4
7/7/20
- Financial Plan
- Replacement Timing and Best Practices
- Develop Final Board Recommendation

Documents
- Best Practices
- Final Report
I. ADDITIONAL INFORMATION

- Our consultant team will be independent of any manufacturer or vendor to ensure a comprehensive review of all of the technology platforms and meter options in the marketplace.
- Per your request our proposal is valid for 180-days.
11. Insurance.

d. Professional Liability (Errors and Omissions)

At all times during the performance of the work under this Agreement the Consultant shall maintain professional liability or Errors and Omissions insurance appropriate to its profession, in a form and with insurance companies acceptable to the District and in an amount indicated herein. This insurance shall be endorsed to include a limited form of contractual liability applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against negligent acts, errors or omissions of the Consultant. “Covered Professional Services” as designated in the policy must specifically include work performed under this Agreement. The policy must “pay on behalf of” the insured and must include a provision establishing the insurer’s duty to defend.

e. Minimum Policy Limits Required

(ii) With the exception of Professional Liability, defense costs shall be payable in addition to the limits.

g. Policy Provisions Required

(v) The limits set forth herein under General Liability and Automobile Liability shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Consultant from liability in excess of such coverage, nor shall it limit the Consultant’s indemnification obligations to the District and shall not preclude the District from taking such other actions available to the District under other provisions of the Agreement or law.

12. Indemnification.

a. To the fullest extent permitted by law, Consultant shall defend (with counsel reasonably approved by the District), indemnify and hold the District, its officials, officers, employees, agents and volunteers free and harmless from any and all claims, demands, causes of action, suits, actions, proceedings, costs, expenses, liability, judgments, awards, decrees, settlements, loss, damage or injury of any kind, in law or equity, to property or persons, including wrongful death, (collectively, “Claims”) in any manner arising out of, pertaining to, or incident to any alleged acts, errors or omissions, or willful misconduct of Consultant, its officials, officers, employees, subcontractors, consultants or agents in connection with the performance of the Consultant’s services, the Project or this Agreement, including without limitation the payment of all consequential damages, expert witness fees and attorneys’ fees and other related costs and expenses. Notwithstanding the foregoing, to the extent Consultant’s services are subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to Claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant. Consultant’s obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, its officials, officers, employees, agents or volunteers.

a. Additional Indemnity Obligations. Consultant shall defend, with counsel of District’s choosing and at Consultant’s own cost, expense and risk, any and all Claims covered by this section that may be brought or instituted against the District, its officials, officers, employees, agents or volunteers. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against the District, its officials, officers, employees, agents or volunteers as part of any such claim, suit, action or other proceeding. Consultant shall also reimburse District for the cost of any settlement paid by the District, its officials, officers, employees, agents or volunteers as part of any such claim, suit, action or other proceeding. Such reimbursement shall include payment for the District’s attorney’s fees and costs, including expert witness fees. Consultant shall reimburse the District, its officials, officers, employees, agents and volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. Consultant’s obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the District, its officials, officers, employees, agents and volunteers.
K. NON-COLLUSION AFFIDAVIT
AFFIDAVIT OF NON-COLLUSION TO ACCOMPANY BIDS AND PROPOSALS (HEREINAFTER "PROPOSALS")

State of California )

County of Contra Costa )

Lisa Larrabee , being first duly sworn, deposes

Name of Affiant

and states: That he/she is Chief Executive Officer and President

Title

of Harris & Associates

Name of Respondent

and submits herewith the attached Proposal to the CITRUS HEIGHTS WATER DISTRICT; that the Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation; that the Proposal is genuine and not collusive or a sham; that the Respondent has not directly or indirectly induced or solicited any other Respondent to put in a false or sham Proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any Respondent or anyone else to put in a sham Proposal, or that anyone shall refrain from proposing; that the Respondent has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Proposal price of the Respondent or any other Respondent, or to fix any overhead, profit, or cost element of the proposed price, or of that of any other Respondent, or to secure any advantage against the public body awarding the Agreement of anyone interested in the proposed Agreement; that all statements contained in the Proposal are true; and, further, that the Respondent has not, directly or indirectly, submitted his or her proposed price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto; that Respondent has not paid, and will not pay, any fee to any corporation, partnership, company association, organization, Proposal/bid depository, or to any member or agent thereof, to effectuate a collusive or sham Proposal. Respondent further swears under penalty of perjury that all information in this Proposal is correct.


Signature of Affiant

Subscribed and sworn to (or affirmed) before me on this day of , 20

Name of Signature

proved to me on the basis of satisfactory evidence to be the person who appeared before me.

Signature of Notary Public

Please see attached certificate.
CALIFORNIA JURAT WITH AFFIANT STATEMENT

☐ See Attached Document (Notary to cross out lines 1–6 below)
☐ See Statement Below (Lines 1–6 to be completed only by document signer[s], not Notary)

Signature of Document Signer No. 1

Signature of Document Signer No. 2 (if any)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego

Subscribed and sworn to (or affirmed) before me on this 25 day of October, 2018,
by ________________________________
(1) Lisa Larrabee

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Signature ________________________________
Signature of Notary Public

Seal
Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document
Title or Type of Document: Affidavit for proposal to Citrus Heights Water District
Document Date: 10-25-18

Number of Pages: ______ Signer(s) Other Than Named Above:

©2014 National Notary Association • www.NationalNotary.org • 1-800-US NOTARY (1-800-876-6827) Item #5910
EXHIBIT B

Schedule of Charges/Payments

Consultant will invoice District on a monthly cycle in conjunction with the following deliverable schedule. Consultant will inform District regarding any out-of-scope work prior to commencing as stipulated in Item 3, Additional Work.

- Project Execution – 10% of the contract award upon Notice to Proceed
- Completion and District acceptance of Phase 1 deliverables – 12% of total contract award
- Completion and District acceptance of Phase 2 deliverables – 10% of total contract award
- Completion and District acceptance of Phase 3 deliverables – 24% of total contract award
- Completion and District acceptance of Phase 4 deliverables – 23% of total contract award
- Completion and District acceptance of Phase 5 deliverables – 18% of total contract award
- Completion and District acceptance of Phase 6 deliverables – 3% of total contract award
- Phase 7 work will be identified when applicable on a monthly invoice for each Consortium member as services are incurred.
EXHIBIT C

Project Schedule

Phase 1: Individual Agency Assessment  August 2019
Phase 2: Next Generation Program Options  August-November 2019
Phase 3: Meter Testing Program Strategy  October 2019-February 2020
Phase 4: Implementation Strategy  December 2019-July 2020
Phase 5: Long-Term Planning  June 2020-October 2020
Phase 6: Final Report/Plan Adoption  October 2020-December 2020
Phase 7: Public Outreach  TBD
EXHIBIT 2

PAYMENT SCHEDULE

Parties shall provide Citrus Heights Water District with payment for each Component as set forth below:

- Within 30 days of commencement of Phase 1 – $11,301
- Within 30 days of commencement of Phase 2 – $9,901
- Within 30 days of commencement of Phase 3 – $20,000
- Within 30 days of commencement of Phase 4 – $25,412
- Within 30 days of commencement of Phase 5 – $16,077
- Within 30 days of commencement of Phase 6 – $3,325
- Within 30 days of commencement of Phase 7 – $11,040

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<th>Participating Phases</th>
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<td>San Juan Water District</td>
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<tr>
<td>City of Sacramento</td>
<td>1-6</td>
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<td>Sacramento Suburban Water District</td>
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<tr>
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