NOTICE OF REGULAR MEETING OF THE PROJECT AGREEMENT 22 COMMITTEE
Interregional Landscape Water Demand Reduction Program

Committee Members:
Shivaji Deshmukh, General Manager, Inland Empire Utilities Agency
Heather Dyer, General Manager, San Bernardino Valley Municipal Water District
Paul D. Jones, General Manager, Eastern Municipal Water District, Chair
Michael Markus, General Manager, Orange County Water District, Vice Chair
Craig Miller, General Manager, Western Municipal Water District

THURSDAY, JANUARY 23, 2020 – 8:00 A.M.

AGENDA

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE (Paul D. Jones, Chair)

2. PUBLIC COMMENTS

Members of the public may address the Committee on items within the jurisdiction of the Committee; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

3. APPROVAL OF MEETING MINUTES: JUNE 27, 2019 AND NOVEMBER 21, 2019

4. COMMITTEE DISCUSSION/ACTION ITEMS

A. ADOPTION OF BUREAU OF RECLAMATION AGREEMENT (PA22#2020.1)  
   Presenter: Ian Achimore  
   Recommendation: Authorize the General Manager to execute the Memorandum of Agreement by and between the Department of Interior, Bureau of Reclamation (BOR) and the Santa Ana Watershed Project Authority (SAWPA) for the Santa Ana River Watershed-Wide Water Budget Decision Support Tool.

B. STATE AERIAL IMAGERY FOR RETAIL WIDE WATER BUDGET – STATUS (PA22#2020.2)  
   Presenter: Ian Achimore  
   Recommendation: Receive and file.

C. CONSERVATION-BASED WATER RATES UPDATE (PA22#2020.4)  
   Presenter: Ian Achimore  
   Recommendation: Receive and file.

D. SMARTSCAPE UPDATE (PA22#2020.3)  
   Presenter: Ian Achimore  
   Recommendation: Receive and file.
E. RECONSIDER PROJECT AGREEMENT 22 COMMITTEE REGULAR MEETING SCHEDULE
Presenter: Rich Haller
Recommendation: Effective March 2020, regular meetings of the Project Agreement (PA) 22 Committee will be held at 8:30 a.m. on the second Tuesday of every month, at 11615 Sterling Avenue, Riverside, California; and, the February 27, 2020 regular meeting is cancelled.

5. FUTURE AGENDA ITEMS

6. ADJOURNMENT

PLEASE NOTE:
Americans with Disabilities Act: Meeting rooms are wheelchair accessible. If you require any special disability related accommodations to participate in this meeting, please contact (951) 354-4220 or kberry@sawpa.org. Notification at least 48 hours prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at www.sawpa.org, subject to staff’s ability to post documents prior to the meeting.

Declaration of Posting
I, Kelly Berry, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on Thursday, January 16, 2020, a copy of this agenda has been uploaded to the SAWPA website at www.sawpa.org and posted at the SAWPA office, 11615 Sterling Avenue, Riverside, California.

/s/

Kelly Berry, CMC

2020 Project Agreement 22 Committee Regular Meetings
Fourth Thursday of Every Month
(Note: All meetings begin at 8:00 a.m., unless otherwise noticed, and are held at SAWPA.)

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>April</th>
<th>June</th>
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<th>October</th>
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<tr>
<td>1/23/20</td>
<td>Regular Committee Meeting</td>
<td>2/27/20</td>
<td>Regular Committee Meeting</td>
<td>4/23/20</td>
<td>Regular Committee Meeting</td>
<td>8/27/20</td>
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<td>May 5/28/20</td>
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<td>July 7/23/20</td>
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<td>September 9/24/20</td>
<td>Regular Committee Meeting</td>
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<td>November 11/19/20*</td>
<td>Regular Committee Meeting*</td>
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* Meeting date adjusted due to conflicting holiday.
COMMITTEE MEMBERS PRESENT
Michael Markus, General Manager, Orange County Water District [Vice Chair]
Shivaji Deshmukh, General Manager, Inland Empire Utilities Agency [via conference call]
Doug Headrick, General Manager, San Bernardino Valley Municipal Water District
Craig Miller, General Manager, Western Municipal Water District

COMMITTEE MEMBERS ABSENT
Paul D. Jones, General Manager, Eastern Municipal Water District [Chair]

STAFF PRESENT
Dean Unger, Ian Achimore, Karen Williams, Katie Lucht, Kelly Berry, Larry McKenney, Mark Norton, Matt Howard, Rick Whetsel, Zyanya Ramirez

1. CALL TO ORDER
The meeting was called to order at 8:00 a.m. by Vice Chair Markus at the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California, and by telephone conference at 6075 Kimball Avenue, Chino, California, 91708. Roll call was duly noted.

2. PUBLIC COMMENTS
There were no public comments.

3. APPROVAL OF MEETING MINUTES: March 28, 2019
Committee Member Deshmukh stated he was not present at the March 28, 2019 meeting and would accordingly abstain from voting.

MOVED, approve the March 28, 2019 meeting minutes.

Result: Adopted by Roll Call Vote (Passed)
Motion/Second: Miller/Headrick
Ayes: Markus, Headrick, Miller
Nays: None
Abstentions: Deshmukh
Absent: Jones
4. **COMMITTEE DISCUSSION ITEMS**

**A. PROJECT AGREEMENT 22 COMMITTEE BUDGET FOR FISCAL YEARS ENDING 2020 AND 2021 (PA22#2019.7)**

Ian Achimore provided a PowerPoint Presentation titled, *Committee Budget for Fiscal Years Ending 2020 & 2021*; the presented version had been revised since the posting of the agenda packet.

Vice Chair Markus requested staff provide an overall total grant funding amount broken down into the different components for the next budget update. He asked for a status of funds allocated to the High Visibility Turf Removal and Retrofit Project. Achimore stated that they are scheduled to pay $1M in turf removal invoices this month and $1.5M next month. All turf removal work has been completed; staff is processing paperwork. All paperwork needs to be submitted to the Department of Water Resources by November 2019. Committee Member Miller asked if the turf removal was being audited. Achimore responded yes, some agencies are performing their audit through third parties or in-house.

Vice Chair Markus noted that the recommendation brought forth to the Committee had already been adopted by the SAWPA Commission in the FYE 2020-2021 SAWPA budget.

**MOVED**, adopt the PA22 Committee Budget for Fiscal Year Ending (FYE) 2020 and 2021

*Result: Adopted by Roll Call Vote (Unanimously)*

*Motion/Second:* Headrick/Miller

*Ayes* Markus, Deshmukh, Headrick, Miller

*Nays:* None

*Abstentions:* None

*Absent:* Jones

**B. CITY OF HEMET CONSERVATION-BASED RATE STUDY PROCESS (PA#2019.8)**

Ian Achimore provided a PowerPoint presentation on City of Hemet’s Conservation-Based Water Rates process contained in the agenda packet on pages 23–26.

In May 2019, the City of Hemet’s rate study was 95% complete, but the City is choosing not to move forward with finalizing the study due to direction of new city management and the approaching deadline of the grant. SAWPA staff has worked with the City of Chino Hills, another SAWPA rates sub-grantee, who acquired an approximately $1M billing system to help assist conservation-based rates, and the City is able to utilize the approximately $376,000 in Hemet’s unutilized contract.

Vice Chair Markus raised concerns about the City of Chino Hills receiving the remaining funds. He encouraged staff to evaluate their funding allocation process for future funding for Conservation-Based Water Rates Programs and stated he would have wanted to see the funds be distributed to more entities or be used to fund other programs.

Three out of the initial nine participants in the Conservation-Based Water Rates Program elected to set up budget-based rates. SAWPA staff agreed and stated that they are currently working to improve their incentives and possibly identify other projects to fund in place of Conservation-Based Water Rates Program under the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP).
MOVED, approve payment of grant funding for the City of Hemet’s work-to-date of the implementation of a rate analysis as complying with the PA22 Committee conservation-based rates policy statements.

Result: Adopted by Roll Call Vote (Unanimously)

Motion/Second: Miller/Headrick
Ayes Markus, Deshmukh, Headrick, Miller
Nays: None
Abstentions: None
Absent: Jones

After the approval of Agenda Item No. 4.B., Committee Member Deshmukh left the meeting at 8:36 a.m. and ended the telephone conference at 6075 Kimball Avenue, Chino, California.

C. CONSERVATION-BASED WATER RATES PROGRAM CHANGES FOR THE SANTA ANA RIVER CONSERVATION AND CONJUNCTIVE USE PROGRAM (SARCCUP) (PA22#2019.9)

Ian Achimore provided the PowerPoint presentation included in the agenda packet on pages 29–35. The presentation outlined recommended changes to the Conservation-Based Water Rates Program for the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) that would streamline implementation, increase incentives with limited funding, and adapt to the “post-drought” mindset that is discouraging entities to continue with the Conservation-Based Water Rates Program. A total of $1.2M is being allocated to this Program.

Based on small number of participants from the Conservation-Based Water Rates component under the Emergency Drought Grant Program, Achimore recommended the Committee assess other options for the allocation of the $1.2M. It was noted that if the PA22 Committee would want to repurpose the funds for another water-use efficiency project, an approval from the PA23 Committee is not necessary; moving funds to another component of SARCCUP not involving water-use efficiency may require an amendment to the SARCCUP Grant Agreement and approval by the PA23 Committee.

Vice Chair Markus expressed his desire to defer this item until there is a broader discussion on whether the Committee wants to dedicate the $1.2M to the Conservation-Based Water Rates Program under SARCCUP. Committee Member Miller concurred, suggesting the Committee review all options prior receiving a recommendation. Staff was directed to provide options at a future meeting for discussion.

Agenda Item No. 4.C. was deferred to a future meeting by consensus of the PA22 Committee, and no action was taken.

D. RETAIL WATER AGENCY METER GEOCODING AND BUSINESS TYPE CLASSIFICATION PROGRAM (PA22#2019.10)

Rick Whetsel and Doug Mende, Millar Spatial Services LLC, provided the PowerPoint presentation on Retail Water Agency Meter Geocoding and Business Type Classification Program contained in the agenda packet on pages 39–41. A demonstration of the Meter ArcGIS Online Application was presented. There was no discussion.

This item was for informational and discussion purposes; no action was taken on Agenda Item 4.D.
E. SMARTSCAPE UPDATE (PA22#2019.11)
Ian Achimore provided a PowerPoint presentation titled Smartscape Update contained in the agenda packet on pages 45-49. The Smartscape program is a partnership between SAWPA member agencies and OC Coastkeeper; it supports water customers that have transitioned from turf grass to drought tolerant landscaping. Based on projections the project is scheduled to end on time.

This item was for informational and discussion purposes; no action was taken on Agenda Item 4.E.

5. FUTURE AGENDA ITEMS
• A discussion about possibly reallocating the $1.2M in funds from the Conservation-Based Water Rates Program under SARCCUP to another component within SARCCUP, whether or not it be related to water-use efficiency.

6. ADJOURNMENT
There being no further business for review, Vice Chair Markus adjourned the meeting at 9:08 a.m.

Approved at a Regular Meeting of the Project Agreement 22 Committee on Thursday, January 23, 2020.

Paul D. Jones, Chair

Attest:

Kelly Berry, CMC
Clerk of the Board
COMMITTEE MEMBERS PRESENT
Shivaji Deshmukh, General Manager, Inland Empire Utilities Agency
Craig Miller, General Manager, Western Municipal Water District

COMMITTEE MEMBERS ABSENT
Paul D. Jones, General Manager, Eastern Municipal Water District [Chair]
Michael Markus, General Manager, Orange County Water District [Vice Chair]
Doug Headrick, General Manager, San Bernardino Valley Municipal Water District

STAFF PRESENT
Richard Haller, Karen Williams, Kelly Berry, Katie Lucht, Mark Norton, Ian Achimore,
Dean Unger, Zyanya Ramirez

1. CALL TO ORDER
The PA22 Committee meeting was called to order at 8:15 a.m. by Committee member Craig Miller
at the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California.; however, a quorum was not present. Accordingly, the record will reflect that no actions were taken
by the Committee. The Committee did receive informational reports as outlined.

2. PUBLIC COMMENTS
There were no public comments.

3. APPROVAL OF MEETING MINUTES: JUNE 27, 2019
Due to lack of a quorum, Agenda Item No. 3 will be brought before the Committee for
consideration at a future meeting.

4. COMMITTEE DISCUSSION ITEMS

A. GRANT AGREEMENT AMENDMENT NO. 2 AND GRANT COST SAVINGS
   (PA22#2019.12)
Ian Achimore provided the PowerPoint presentation contained in the agenda packet on pages
13-17.

The Proposition 84 2014 Drought Round Grant Agreement was executed in 2015 and it includes
Project 1: Conservation Based Reporting Tools and Rate Structure Implementation, and
Project 2: High Visibility Turf Removal and Retrofit. The Grant Agreement was set to expire
December 31, 2019. There is an estimated savings of $261,000 that cannot be expended by
the deadline. SAWPA staff met with the Department of Water Resources (DWR) on
November 5, 2019 and they agreed to a one-year extension.

DWR stated that funding cannot be moved between Project 1 and Project 2. To ensure that the
grant cost savings is spent before the deadline, staff suggested funding be allocated on a first
come, first serve basis amongst the project leads in the Santa Ana River Watershed. This
includes the SAWPA member agencies and the Municipal Water District of Orange County
under Project 2.
It was the consensus of the Committee to support the first come, first serve basis approach to ensure the remaining cost savings are expended. Craig Miller asked if a motion is required to move forward. Achimore advised that approval is not required, the feedback was helpful enough.

Richard Haller stated that a formal action could not be taken and suggested a special meeting be coordinated to have this item approved. SAWPA will reach out to Eastern Municipal Water District and the San Bernardino Valley Municipal Water District to inform them of what was discussed.

Due to lack of quorum, Agenda Item 4.A. will be brought before the Committee for consideration at a future meeting.

B. SMARTSCAPE UPDATE (PA22#2019.13)
Ian Achimore provided the PowerPoint presentation contained in the agenda packet on pages 21-23.

The current total cost of the Orange County Coastkeeper Smartscape sub-agreement amount is $400,000. Achimore noted that the Orange County Water District’s (OCWD) SARCCUP local cost share funding originally intended for Smartscape was added to the Conservation-Based Water Rates portion of SARCCUP based on direction from the PA22 Committee and OCWD’s request. The Smartscape Program is scheduled to end March 2020.

This item was for informational and discussion purposes; no action was taken on Agenda Item 4.B.

C. SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) AERIAL IMAGERY CONSORTIUM (PA22#2019.14)
Ian Achimore provided the PowerPoint presentation contained in the agenda packet on pages 29-32.

SAWPA is evaluating opportunities to acquire imagery to complete the Watershed-Wide Water Budget Decision Support Tool. The Tool received $597,500 in Bureau of Reclamation funding and will possibly receive $500,000 from the Department of Water Resources (DWR) Proposition 1 Integrated Regional Water Management (IRWM) Round 1.

The Southern California Association of Governments’ (SCAG) is seeking to obtain aerial imagery data for the government entities within its service area. Over the past year, SCAG has negotiated a procurement strategy with each of the three counties in SAWPA’s service area to acquire high resolution imagery (including infrared), building footprint data, and an online data viewer tool.

Larger entities who can afford to fund SCAG’s aerial imagery consortium are opting for winter flight time which would not produce usable data for outdoor water conservation. The Municipal Water District of Orange County and Orange County Water District are likely to acquire SCAG’s imagery for the areas of concern to them and SAWPA may then be able to use that imagery for that part of its tool development.

This item was for informational and discussion purposes; no action was taken on Agenda Item 4.C.
D. **CONSERVATION-BASED WATER RATES UPDATE (PA22#2019.15)**

Ian Achimore provided the PowerPoint presentation contained in the agenda packet on pages 35-38.

A brief update of the three cities participating in the Conservation-Based Water Rates was provided:

- **City of Chino** – Implemented rates in December 2019
  - Chino has completed all major work, but is refining some outdoor water budget calculations. The City plans to launch their billing cycle on December 1, 2019

- **City of Chino Hills** – Implemented rates October 2018
  - Chino Hills is still incurring costs through the Emergency Drought Grant Program. Those costs can be covered by the grant savings.

- **City of Hemet** – Completed final rate study draft December 2019.
  - Hemet is no longer invoicing for any further costs as they are not bringing their final rate study to their council within the DWR grant timeline.

In a study done by the University of California Riverside, it was estimated that Conservation-Based Water Rates would conserve about 15% more water. East Valley Municipal Water District adopted the Conservation-Based Water Rates in 2015 and are currently saving 14% more water, which is a total of 11-acre feet. Achimore noted that the Conservation-Based Water Rates can make a difference, but it takes a lot longer time than anticipated and costs vary by agency.

This item was for informational and discussion purposes; no action was taken on Agenda Item 4.D.

5. **FUTURE AGENDA ITEMS**

- Discussion to change the PA22 Committee meeting schedule to possibly every other month on the second Tuesday of the month following the SAWPA General Manager's meeting.

6. **ADJOURNMENT**

There being no further business for review, the meeting ended at 8:51 a.m.

Approved at a Regular Meeting of the Project Agreement 22 Committee on Thursday, January 23, 2020.

________________________________________
Paul D. Jones, Chair

Attest:

________________________________________
Kelly Berry, CMC
Clerk of the Board
DATE: January 23, 2020

TO: SAWPA Project Agreement 22 Committee

SUBJECT: Adoption of Bureau of Reclamation Agreement

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION
It is recommended that the Committee authorize the General Manager to execute the Memorandum of Agreement by and between the Department of Interior, Bureau of Reclamation (BOR) and the Santa Ana Watershed Project Authority (SAWPA) for the Santa Ana River Watershed-Wide Water Budget Decision Support Tool.

DISCUSSION
Per the PA 22 Committee’s approval on March 28, 2019, SAWPA submitted a proposal to the Bureau of Reclamation (Reclamation) on July 15, 2019 under their WaterSMART Water Management Options Pilot Program. The Program is not a grant, instead successful applicants receive in-kind Reclamation staff time and resources to implement a water supply focused project. SAWPA was successful in receiving the full amount of in-kind resources requested, $597,500, for SAWPA’s Watershed-Wide Water Budget Decision Support Tool Project (Project).

The Project will create water budgets based on efficiency at the customer and retail water agency scale through the collection of aerial imagery, weather and other data. It will then be implemented by analyzing high resolution imagery with the aid of imagery processing software to create area measurements of vegetation that is deemed to be irrigated (or has the potential to be irrigated) by the software. By making the water budgets available to retail water agencies through an online decision support tool, retail water agency staff will be able to compare the Project’s water budgets and their customer’s usage.

The benefits to SAWPA and the SAWPA member agencies for adopting the attached Memorandum of Understanding, which allows SAWPA to formally use Reclamation’s in-kind services, includes the following:

- Use the Reclamation’s Geographic Applications and Analysis Group expertise and imagery processing software to:
  - Analyze the acquired imagery, and
  - Conduct quality control on the imagery analysis.
- Save staff time from going through a request for proposals for imagery analysis and quality control;
- Save an estimated 4,775 acre-feet of water per year;
- Reduce local cost shares by over $597,500 for an estimated $1,465,000 project;
- Further strengthen the long-term SAWPA/Reclamation partnership that includes the OWOW 2.0 and OWOW Plan Update 2018 planning projects.
BACKGROUND
The Project will entail the following tasks:

1. Acquiring high resolution aerial imagery for the urbanized Santa Ana River Watershed, as well as areas within southern Orange County and the areas outside the watershed but within Eastern and Western Municipal Water District’s service areas. The total flight area would be approximately 2,600 square miles and cover the service areas of all the SAWPA member agencies, Municipal Water District of Orange County, Rancho California Water District and the water districts in the Big Bear Lake area. This imagery would update the 2015 imagery collected under the Proposition 84 Integrated Regional Water Management (IRWM) Drought Round grant.

2. Analyze the data to create new and updated water budgets at the parcel level, as well as the customer meter level where possible.

3. Create a web-based tool so interested retail water agencies in the Project area can easily view the data, upload their customer water usage information to compare budgets to actual use in a secure private platform, and modify water budgets based on customer input or site visits to the parcel.

The time frame to complete this project is approximately three years (from early 2020 to late 2022) at an estimated total cost of $1,465,000 as shown in the budget below:

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<tr>
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<th>Prop 1 Grant</th>
<th>Reclamation Support</th>
<th>Cost Share</th>
<th>Total Cost</th>
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</thead>
<tbody>
<tr>
<td>$500,000</td>
<td>$597,500</td>
<td>$367,500</td>
<td>$1,465,000</td>
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As shown in the budget table above, SAWPA submitted the Project for $500,000 in Proposition 1 Round 1 IRWM grant funding on November 1, 2019. A draft funding award announcement is expected in winter 2020 by the Department of Water Resources. SAWPA will utilize Reclamation staff time for analysis of the imagery and quality control, and the Proposition 1 grant and cost share would cover the aerial imagery and development of the decision support tool.

CRITICAL SUCCESS FACTORS
The following OWOW critical success factors are addressed by this action:

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.

2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
If the Proposition 1 grant application is successful, a local share match commitment would arise from the SAWPA member agencies. Based on the expected cost of the Project, the cost share is estimated to be $367,500 as shown in the table above.

Attachments:

1. PowerPoint Presentation
2. MOU between SAWPA and Reclamation
Adoption of Bureau of Reclamation Agreement

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.A.
Agreement Purpose

- Allows Reclamation to provide $597,500 worth of in-kind staff time/resources to implement the Watershed-Wide Water Budget Decision Support Tool (Project)

Project Description

- Will create budgets based on efficiency at the customer and retail water agency scale;
- Budgets will be shared with retail water agencies through a web-based tool;
- Retail agencies will target inefficient customers and use tool for compliance with 2018 water conservation legislation* requirements.

What Reclamation staff will help with.

*Assembly Bill 1668 and Senate Bill 606
Scope of New Water Conservation Requirements

Require the following data to calculate agency-wide “objectives” (water budgets):

A. Indoor residential.
B. Outdoor residential.
C. Outdoor dedicated irrigation meters.
D. Efficient water losses (pipe leaks).
E. Approved variances (water use by horse corrals).

Project will help agencies with these categories.
Comparison Between Budget and Consumption Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Water Used</th>
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<tr>
<td>Residential Customer A, B, C…</td>
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<tr>
<td>Dedicated Landscape Customer A, B, C…</td>
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<tr>
<td>Approved Variances</td>
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<tr>
<td>Efficient Water Losses</td>
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The legislation also allow a bonus budget increase for agencies that use potable reuse water. Agencies will receive an additional up to 10% or 15% of total water use objective based on when the reuse facility was established.
SAWPA will use flight or satellite imagery to create the landscape measurement database. Will then use California Irrigation Management Information System (CIMIS) weather stations to calculate water needs of landscapes. Will group dates and flight time to minimize shadows. Note: SAWPA is lead for acquiring imagery while Reclamation will lead the analysis.
Decision Support Tool Functionality

- Turf: 49%
- Trees and Shrubs: 18%
- Pools: 6%
- Dead Vegetation: 27%
Recap of Project Development

Milestones

- **March 28, 2019:** PA 22 Committee supported application to DWR for Proposition 1 funding and Bureau of Reclamation for in-kind Reclamation staff time/resources.

- **July 15, 2019:** SAWPA submitted project proposal to Reclamation.

- **September 23, 2019:** Reclamation announces SAWPA successful in proposal.

- **November 1, 2019:** SAWPA submitted project proposal to Department of Water Resources for Proposition 1 Round 1 IRWM.

- **Winter 2020:** DWR to announce draft funding awards for Proposition 1 Round 1 IRWM grant.
Project Budget

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<th>Prop 1 Grant Amount</th>
<th>Reclamation Support</th>
<th>Cost Share</th>
<th>Total Cost</th>
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<td>$597,500</td>
<td>$367,500</td>
<td>$1,465,000</td>
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Project Schedule
## Budget By Task

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<td>2</td>
<td>Analysis</td>
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<td>3</td>
<td>Decision Support Tool</td>
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<tr>
<td>Total</td>
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<td>$1,465,000</td>
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### Funding Sources
- Prop 1 Grant Share: $500,000
- Bureau of Reclamation Share: $597,500
- Cost Share: $367,500
Benefits to SAWPA and Member Agencies

- Use the Reclamation’s Geographic Applications and Analysis Group expertise and software to:
  - Analyze the imagery, and
  - Conduct quality control on the imagery analysis.
- Save staff time from going through RFP for imagery analysis and quality control;
- Save an estimated 4,775 acre-feet per year;
- Reduce local cost shares by over $590 K for an estimated $1.4 M project; and
- Further strengthen the long-term SAWPA/Reclamation partnership.
Recommendation

Authorize the General Manager to execute the Memorandum of Agreement by and between the Department of Interior, Bureau of Reclamation (BOR) and the Santa Ana Watershed Project Authority (SAWPA) for the Santa Ana River Watershed-Wide Water Budget Decision Support Tool.
MEMORANDUM OF AGREEMENT

BETWEEN

THE DEPARTMENT OF INTERIOR, BUREAU OF RECLAMATION
AND
THE SANTA ANA WATERSHED PROJECT AUTHORITY
FOR THE

SANTA ANA RIVER WATERSHED-WIDE WATER BUDGET DECISION SUPPORT TOOL

THIS MEMORANDUM OF UNDERSTANDING (MOU) for the Santa Ana Watershed Project Authority is made and entered into this _____day of _____________ 2019 by The United States Department of the Interior, Bureau of Reclamation (Reclamation) and Santa Ana Watershed Project Authority agree to work collaboratively to develop the Santa Ana River Watershed-Wide Water Budget Decision Support Tool as part of the WaterSMART Basin Study Program. This Memorandum of Agreement establishes the terms that will guide the performance of the Santa Ana River Watershed-wide Water budget Decision Support Tool Pilot (Pilot) that is funded under Reclamation’s Water Management Options Pilot Program.

ARTICLES

I. Definitions

A. Reclamation means the United States Department of the Interior, Bureau of Reclamation.

B. Non-Federal Partner means Santa Ana Watershed Project Authority (SAWPA).

C. Party or Parties means Reclamation and/or Non-Federal Partner.

D. Agreement means this Memorandum of Agreement.

E. Contributed Funds Agreement means a legal agreement used to receive “all moneys … from any State, municipality, corporation, association, firm, district, or individual for investigations, surveys, construction work, or any other development work incident thereto involving operations similar to those provided for by the reclamation law, are covered into the reclamation fund and shall be available for expenditure for the purposes for which contributed in like manner as if said sums had been specifically appropriated for said purposes,” 43 USC 395.

F. Cost-Share means a specific percentage (%) of identified charges that are allocated to specific entities or Non-Federal Partner.

G. In-kind Services means services provided by a non-Federal entity that substantially contribute to the completion of the work task or task identified.
H. Confidential Information means trade secrets or commercial or financial information that is privileged or confidential under the meaning of 5 USC 552(b)(4).

I. Intellectual Property means any invention that is legally protected through patents, copyrights, trademarks, and trade secrets or otherwise protectable under Title 35 of the United States Code, under 7 USC 2321, et seq., or under the patent laws of a foreign country.

J. Key personnel means - from SAWPA: Richard Haller, Mark Norton, Dean Unger and Ian Achimore; and from the Bureau of Reclamation: Jack Simes and David Salas.

K. Subject Invention means any invention or other intellectual property conceived or first reduced to practice under this Agreement which is patentable or otherwise protectable under Title 35 of the United States Code, under 7 USC 2321, et seq., or under the patent laws of a foreign country.

L. Scope of Agreement means those activities set forth in Appendix 1.

M. Term of Agreement means that period set forth under the Section IV, Article 9, Term of this Agreement.

II. Authorities and Financial Obligations

1. Authorities: Nothing in this Agreement alters the statutory authorities or any other authorities of the Non-Federal Partner or Reclamation. This Agreement is intended to facilitate cooperative efforts for mutual provision of services and support, and technical assistance by both Parties in the conduct of meeting the objectives and scope of this Agreement. This Agreement does not supersede or void existing agreements between the Non-Federal Partner and Reclamation.

Reclamation’s authority to enter into this Agreement:

Non-Federal Partner’s authority to enter into this Agreement:
Santa Ana Watershed Project Authority Commission Agenda Item Decision, dated ____________.

2. Cost Sharing: The costs of the Pilot will be shared between Reclamation and the Non-Federal Partner, with Reclamation providing $597,500 and the Non-Federal Partner providing $867,500. The Non-Federal Partner financial contribution will be in the form of in-kind consideration (i.e., other support than cash) and services. Reclamation’s financial contribution to the Pilot shall not exceed 50% of the total cost. Valuation of in-kind services shall be in accordance with 2 CFR Part 225, Cost Principles for State, Local, and Indian Tribal Governments (OMB Circular A-87).
3. Financial Obligations: This Agreement is not a funding document and does not authorize the obligation or transfer of funds. If a subsequently identified activity or project is identified that may require Reclamation to receive or expend funds received from the Non-Federal Partner for investigations, surveys, construction work, or any other development work incident thereto involving operations similar to those provided for by the Reclamation law, a supplemental Contributed Funds Agreement, pursuant to the Sundry Civil Expenses Appropriations Act for 1922 (43 USC 395), will be executed.

4. Anti-Deficiency Act: All activities, responsibilities, and commitments made under or pursuant to this Agreement (including any Contributed Funds Agreement under this Agreement) are subject to the availability of appropriated funds and each Agency’s budget priorities, as determined by each Agency, and neither the Non-Federal Partner nor Reclamation are obligated in any way under this Agreement to expend appropriations or to enter into any contract, assistance agreement, Contributed Funds agreement, or other financial obligation. No provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. 1341.

III. Publications, Reports, and Confidentiality

1. Publications: The parties understand and agree that this Agreement may be disclosed to the public in accordance with the Freedom of Information Act. Subject to the requirements of confidentiality and preservation of rights in Subject Inventions, either Party may publish the results of this Agreement, PROVIDED:

   a. The other Party is allowed to review the manuscript at least sixty (60) days prior to submission for publication by submission to the key personnel named herein.

   b. The publication shall acknowledge this Agreement and the contributions of each Party’s personnel.

   c. The final decision as to the publication content rests with the Party that writes the publication.

2. Reports: The results of this Agreement and science, engineering, and technology data that are collected, compiled, and evaluated under this Agreement shall be shared and mutually interchanged by Non-Federal Partner and Reclamation. A final report summarizing all data shall be submitted to Reclamation and the Non-Federal Partner through the key contacts identified in Sections V.15.A and B within the performance period of this Agreement, as defined in Section IV.10. The final report will be in the public domain, and will be published on Reclamation’s website.

3. Confidentiality: Any Confidential Information received or used under this Agreement shall be clearly marked confidential or proprietary by the submitter and shall not be disclosed by the recipient without permission of the submitter. To the extent either Party orally submits its Confidential Information to the other Party, the submitting Party will prepare a document marked “CONFIDENTIAL” embodying or identifying in reasonable detail such orally submitted Confidential Information and provide the document to the other Party within thirty (30) days of disclosure.
Neither Party shall be bound by confidentiality if the Confidential Information received from the other Party:

a. Already is available to the public or known to the recipient;
b. Becomes available to the public through no fault of the recipient; or
c. Is nonconfidentially received from another party legally entitled to it.

It shall not be a breach of this Agreement if the Non-Federal Partner is required to disclose the Confidential Information by a valid order of a court or other government body, or as otherwise required by law, or as necessary to establish the rights of either Party under this Agreement; PROVIDED THAT the Non-Federal Partner shall provide prompt prior notice thereof to Reclamation to enable Reclamation to seek a protective order or otherwise prevent such disclosure, and PROVIDED FURTHER THAT the Confidential Information otherwise shall continue to be confidential.

4. Intellectual Property: Unless otherwise agreed by the Parties, custody and administration of inventions made as a consequence of, or in direct relation to, the performance of activities under this Agreement shall remain with the respective inventing Party. In the event that an invention is made jointly by employees of the Parties or an employee of a Party’s contractor, the Parties shall consult and agree as to future actions toward establishment of patent protection for the invention.

IV. Term and Termination

1. Term: This Agreement shall take effect upon the approval of the Parties and, unless terminated per Section IV, Article 11, Termination, will expire three years from the date of the last signature to this Agreement. All Contributed Funds Agreement under this Agreement will be limited to an initial period of performance not to exceed the term of this Agreement, although they may be renewed for additional periods of performance not to exceed the term of this Agreement for any renewal period.

2. Amendment: If either party desires a modification in this Agreement, the parties shall confer in good faith to determine the desirability of such modification. Such modification shall not be effective until a written amendment is signed, and dated by the undersigned representative(s) of both parties.

3. Termination: Either Party may terminate this Agreement prior to its expiration at any time, with or without cause, and without incurring any liability or obligation to the other party, by giving the other party at least ninety (90) calendar days prior written notice of termination.

V. General

1. Liability: It is understood and agreed that neither Party shall be responsible to the other for any damages or injuries arising out of the conduct of activities governed by this Agreement, except to the extent that such damages and/or injuries were caused by the negligent or wrongful acts or omissions of its employees, agents or officers. Reclamation’s liability shall be limited by the Federal Tort Claims Act, 28 USC 2671, et seq. Non-Federal Partner’s liability shall be limited by the Government Claims Act, California Government Code Sections 810 – 996.6.
2. Limitations: This Agreement sets out the Parties’ intentions and objectives and does not direct or apply to any person outside the Non-Federal Partner and Reclamation. This Agreement is not intended to, and does not create, any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity, by anyone against the United States, its agencies, its officers, or any person.

3. Notices and Key Personnel: Notices between the Parties and copies of correspondence among the scientific and/or technical representatives of each Party that interpret or may have a bearing on the legal effect of this Agreement’s terms and conditions shall be sent to the key personnel below. Reclamation’s key personnel is authorized to perform scientific and/or technical activities falling within the Scope of this Agreement. The key personnel is not authorized to change or interpret with authority the terms and conditions of this Agreement.

A. Partner: Richard Haller, P.E.
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503
rhaller@sawpa.org
951-354-4200

B. Reclamation: Jack Simes,
Acting Area Manager
Bureau of Reclamation
Southern California Area Office
27226 Via Industria, Suite A
Temecula, CA 92590
jsimes@usbr.gov
951-695-5310

4. Subcontracting Approval: A Party hereto desiring to obtain and use the services of a third party via contract or otherwise shall give prior notice to the other Party, including details of the contract or other arrangement. This requirement is to assure that confidentiality is not breached and rights in Subject Inventions are not compromised.

5. Assignment: Neither Party has the right to assign this Agreement or any of its responsibilities hereunder.

6. Endorsement: The Non-Federal Partner shall not in any way state or imply that this Agreement or the results of this Agreement is an endorsement by the Department of the Interior, Federal Government, or Reclamation of its organizational units, employees, products, or services except to the extent permission is granted by an authorized representative of Reclamation.

7. Regulatory Compliance: Both parties acknowledge and agree to comply with all applicable laws and regulations of the state, Federal, and local environmental and cultural and paleontological resource
protection laws and regulations as applicable to the activities or projects for this Agreement. These regulatory compliance requirements may include but not limited to, the National Environmental Policy Act (NEPA) including the Council on Environmental Quality and Department of the Interior regulations implementing NEPA, the Clean Water Act, the Endangered Species Act, consultation with potentially affected Tribes, and consultation with the State Historic Preservation Office.

8. Disputes: Any dispute arising under this Agreement, which cannot be readily resolved, shall be submitted jointly to the key personnel officials, identified in Section V, Article 14, Notices and Key Personnel. Each party agrees to seek in good faith to resolve the issue through negotiation or other forms of nonbinding dispute resolution processes mutually acceptable to the parties. Pending the resolution of any dispute or claim pursuant to Section V, Article 19, the parties agree that performance of all obligations shall be pursued diligently.

9. Force Majeure: Neither Party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such Party:

   a. Which causes the Party to be unable to perform its obligations under this Agreement; and
   b. Which it has been unable to overcome by the exercise of due diligence.
   c. This includes, but is not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strikes, labor dispute, failure or sabotage of either party’s facilities or any order or injunction made by a court or public agency.

10. Relationship between the Parties: The Parties are and shall remain independent contractors and nothing herein shall be construed to create a partnership, agency, joint venture, or teaming agreement between the parties.

11. Severability: The illegality or invalidity of any provision of this Agreement shall not impair, affect, or invalidate the other provisions of this Agreement.

12. Governing Law: The construction, validity, performance, and effect of this entire Agreement shall be governed by the laws applicable to the Government of the United States of America in accordance with applicable Federal Law as interpreted by Federal Courts.

13. Waiver: The failure of either Party to enforce any term hereof shall not be deemed a waiver of any rights contained herein.

14. Entire Agreement: The terms and conditions contained in this MOA and its appendices or attachments constitute the entire agreement and understanding by and between the Parties and shall supersede all other communications, negotiations, arrangements and agreements either oral or written, with respect to the subject matter herein.

15. Counterparts: This Agreement may be executed in duplicate and each original shall be equally effective.
SCOPE OF WORK

VI. Purpose

The Pilot will create water budgets based on efficiency at the customer and retail water agency scale through the collection of aerial imagery, weather and other data. The Pilot will be implemented by analyzing high resolution aerial imagery with the aid of imagery processing software to create area measurements of vegetation that is deemed to be irrigated (or has the potential to be irrigated) by the software. The vegetation area measurements will then be clipped by parcel boundaries, also known as Meter Service Areas (MSAs), in order to isolate the vegetation by customers of water agencies. Each MSA will have a water budget by calculating the water demands of the vegetated areas within the MSA. By making the MSA budgets available to retail water agencies through an online decision support tool, agency staff will be able to compare the Pilot’s MSA budgets and their customer’s usage. This comparison will help them identify which customers are inefficient and target conservation programs. The desired outcome is a savings in water use across the watershed. If approximately 10 agencies use the tool, it is estimated that 4,775 acre-feet a year (AFY) of water supply can be saved. The tool is also helpful for regulatory compliance as it will support resource-strapped retail water agencies meet water usage targets that the State has set for 2021 per the adoption of Senate Bill (SB) 606 and Assembly Bill (AB) 1668.

VII. Geographic Area

The Santa Ana River Watershed (referred to as the “Santa Ana Basin” by the Bureau of Reclamation) is located in southern California southeast of the City of Los Angeles. The Pilot’s boundaries include the urban areas of the Santa Ana River Watershed, south Orange County (which covers part of the San Juan Watershed), and possibly portions of the Upper Santa Margarita Watershed. The total size of the Pilot area is 2,679 square miles.

VIII. Tasks and Milestones:

The Pilot is comprised of three major tasks: 1) Imagery; 2) Analysis; and 3) the Decision Support Tool.

**Task 1 Imagery:** Aquire high resolution RGBN (red, green, blue, near infrared) imagery for the entire urbanized Santa Ana River Watershed, South Orange County and potentially areas of the Upper Santa Margarita Watershed.

1a. **Procurement of Imagery:** SAWPA, working with Reclamation, will oversee a procurement process to acquire a consultant that can collect aerial photographs (also known as imagery tiles) across the area of interest and generate an image mosaic of the study area.

1b. **Creation of Tiled Imagery:** The consultant selected through the procurement process, under management of SAWPA, will acquire imager for the area of interest in a timely manner and provide SAWPA with orthorectified image swaths for each collected flight line, as well as an orthorectified image mosaic of the entire study area, and deliver it in formats such as .img or GeoTiff.
1c. **Quality Control Phase 1:** Reclamation and SAWPA will implement a quality control methodology for ensuring that the final image mosaics are radiometrically calibrated and relatively seamless. The percentage of the imagery to be analyzed and the method of analysis will be developed by Reclamation.

**Task 2 Analysis:** Analyze the imagery to identify and measure irrigated landscape and irrigable land with sufficient detail to provide customer parcel level outdoor water budgets to water retail agencies to support the achievement of water efficiency regulations prescribed by the State. Add indoor budgets for residential parcels to calculate total indoor and outdoor water efficiency budgets.

2a. **Analysis of Imagery and Calculation of Budgets:** Reclamation, using image processing software such as ERDAS/Imagine, will interpret pixels of the orthorectified flight-line imagery into various categories of outdoor landscape by relating pixels to image statistics specific to each land cover class. After the imagery from different flight days are processed, the analyzed imagery will be spot checked by Reclamation and SAWPA technicians visually in order to ensure the unique conditions of the different flight days are not being misclassified by the software. After the imagery is processed and verified, the classified pixels will be used to calculate the measurements of the landscape areas within the MSAs. To account for indoor water use, the SAWPA and Reclamation will add a factors for the number of persons likely living in the residential Meter Service Areas (MSAs).

2b. **Quality Control Phase 2:** SAWPA and Reclamation will implement a quality control methodology for ensuring the pixels are interpreted within a specified amount of certainty. This methodology may include visual photo interpretation by staff which will act as a check on the software’s results.

2c. **Technical Sufficiency Review Summary:** SAWPA and Reclamation will summarize their quality control process and findings from the two phases described in Tasks 1 and 2.

**Task 3 Decision Support Tool:** Develop a decision support tool to enable retail water agencies to analyze their customers water usage data in comparison to the MSA water budgets.

3a. **Tool Development and Maintenance:** SAWPA will utilize a web-based tool that displays several data layers such as the MSA and retail water agency boundaries, the watershed imagery, and MSA water budget calculations.

3b. **Outreach to Agencies:** Reclamation and SAWPA will approach retail water agencies in order to market the tool. The agencies who choose to partner with Reclamation and SAWPA will have access to the tool, use it to estimate if they are within budget and be able to identify inefficient customers.

3c. **Reporting Using Agency Feedback:** Reclamation, with SAWPA’s assistance, will work with the retail water agencies who have partnered with Reclamation and SAWPA to report their savings after they have employed the tool. Agencies will be able to choose to share water savings data with SAWPA or estimate their water savings based on conditions such as weather and hydrozone data.
IX. Responsibilities of the Parties

The responsibilities of the Parties are described in Section VIII of this Memorandum of Agreement.

X. Budget

<table>
<thead>
<tr>
<th>Task</th>
<th>Task Description</th>
<th>Cost</th>
<th>SAWPA Share</th>
<th>Reclamation Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Imagery</td>
<td>$560,000</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>1a</td>
<td>Procurement of Imagery</td>
<td>$40,000</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>1b</td>
<td>Flight and Creation of Tiled Imagery</td>
<td>$470,000</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>1c</td>
<td>Quality Control Phase 1</td>
<td>$50,000</td>
<td>40%</td>
<td>60%</td>
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<tr>
<td>2</td>
<td>Analysis</td>
<td>$565,000</td>
<td>38%</td>
<td>62%</td>
</tr>
<tr>
<td>2a</td>
<td>Analysis of Imagery &amp; Calculation of Budgets</td>
<td>$500,000</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>2b</td>
<td>Quality Control Phase 2</td>
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<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>2c</td>
<td>Technical Sufficiency Review Summary</td>
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<td>50%</td>
<td>50%</td>
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<tr>
<td>3</td>
<td>Decision Support Tool</td>
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<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>3a</td>
<td>Tool Development and Maintenance</td>
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<td>10%</td>
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<tr>
<td>3b</td>
<td>Outreach to Agencies</td>
<td>$100,000</td>
<td>50%</td>
<td>50%</td>
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<tr>
<td>3c</td>
<td>Reporting Using Agency Feedback</td>
<td>$40,000</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>$1,465,000</strong></td>
<td><strong>55%</strong></td>
<td><strong>45%</strong></td>
</tr>
</tbody>
</table>

SAWPA Share       $867,500
Reclamation Share  $597,500

XI. Schedule

<table>
<thead>
<tr>
<th>Task</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1 Imagery</td>
<td>01/01/2020</td>
<td>06/30/2021</td>
</tr>
<tr>
<td>Task 2 Analysis</td>
<td>01/01/2021</td>
<td>06/30/2022</td>
</tr>
<tr>
<td>Task 3 Decision Support Tool</td>
<td>07/01/2021</td>
<td>12/31/2022</td>
</tr>
</tbody>
</table>
For the Non-Federal Partner, Santa Ana Watershed Project Authority:

Richard Haller, P.E.  
General Manager  
Santa Ana Watershed Project Authority

Date

For Reclamation:

Terrance J. Fulp, Ph.D.  
Regional Director  
Lower Colorado Basin

Date
DATE: January 23, 2020

TO: SAWPA Project Agreement 22 Committee

SUBJECT: State Aerial Imagery for Retail Wide Water Budget – Status

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION
It is recommended that the Committee receive and file this update.

DISCUSSION
SAWPA has continued to coordinate with the Department of Water Resources (DWR) on the 2015 aerial imagery analysis that was done as part of their Proposition 84 Integrated Regional Water Management (IRWM) Drought Grant. DWR is also continuing to work on their State-wide project where they have contracted with Eagle Aerial and Quantum in order produce a state-wide dataset of irrigable area measurements by water agency. Per the 2018 water conservation legislation (Assembly Bill 1668 and Senate Bill 606) DWR is tasked by the legislature to provide measurements for residential irrigable lands by January 1, 2021. DWR’s contract with Eagle Aerial and Quantum will provide the 400+ urban water agencies across the State with this data. The data has not been processed but the aerial imagery has been acquired through various flights in 2018. These measurements will be available so urban water retailers can calculate their water use objectives, also known as a retail-wide water budget. The water budget will include the following categories:

A. Indoor residential.
B. Outdoor residential.
C. Outdoor dedicated irrigation meters.
D. Efficient water losses (pipe leaks).
E. Approved variances (water use by horse corrals).

The State Water Board, working with DWR, is also working on a rulemaking per the 2018 water conservation legislation to adopt standards that will help set the budgets for each of the categories listed above. The rulemaking is specifically related to the type of Evapotranspiration Adjustment Factor (ETAF) to use as part of categories B and C, as well as the Gallons Per Capita Per Day (GPCD) amount to use for category A. The State Water Board is using data from different regions, including the Santa Ana River Watershed’s 2015 aerial imagery, as part of this rulemaking effort to analyze the environmental and economic impact of using different thresholds of standards, such as ETAFs and GPCD. This environmental and economic impact analysis is required for any rulemaking per the California Environmental Quality Act. Per the State Water Board’s website, the formal rulemaking will begin in 2021.
BACKGROUND
Per PA 22 Committee feedback, SAWPA continues to engage with Peter Brostrom at DWR on their aerial imagery efforts. SAWPA is currently working with him to develop DWR’s specific definition of irrigable areas which DWR will use for the final project with Eagle Aerial and Quantum.

As part of the State Water Board’s rulemaking, they are looking, among other items, the ETAF and GPCD standards that will be incorporated into water budgets. The water budget that they may use is shown in the following formula below:

\[
[\text{PPH} \times \text{GPCD}] + [\text{LA} \times (0.62 \times \text{ETo} \times \text{ETAF})] = \text{Total Water Efficiency Budget}
\]

Indoor Budget       Outdoor Budget

Whereas:

- Gallons Per Capita Per Day (GPCD): The amount of water each person in a particular area uses on a daily basis. Per the 2018 water conservation legislation, the indoor use is aggregated across population in a service area, not each household.
- Landscape area (LA): The area (expressed in square feet) that represent a category of measured landscape, such as irrigable area.
- Reference evapotranspiration (ETo): Often provided by DWR’s California Irrigation Management Information System (CIMIS) weather stations that measure (in inches) a reference vegetation’s evapotranspiration (cool season turf grass).
- ET Adjustment Factor (ETAF): A factor specific to each category of landscape, that when applied to ETo, adjusts for irrigation efficiency and unique features of the landscape. Standard ETAs are available for certain types of vegetation as well as pools.
- 0.62: The conversion factor from inches to gallons per square foot.

The State Water Board staff has aerial imagery data from several regions in the State, in addition to the Santa Ana River Watershed, to use for their economic and environmental impacts analysis. These include East Bay Municipal Utilities District, Padre Dam Municipal Water District, the cities of Santa Rosa and Benicia, and Sacramento Regional Water Authority.

CRITICAL SUCCESS FACTORS
The following OWOW critical success factors are addressed by this action:

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
None.

Attachments:

1. PowerPoint Presentation
State Aerial Imagery for Retail Wide Water Budget - Status

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.B.
Recap of the 2015 Aerial Imagery

- SAWPA contracted with Geophex Ltd. and Statistical Research Inc. (SRI) to acquire 3-inch, four band imagery;
- Activities funded by grant with Department of Water Resources - Prop 84 IRWM Drought Round grant;
- Analysis by SRI created water budgets for 2,473 square mile area that includes 1.5 m parcels;
- Water budgets provided to interested retail water agencies and uploaded to a web-viewer tool that is maintained by ESRI;
- SAWPA done outreach to DWR (Peter Brostrom) and presented at ACWA conference.
DWR and State Water Board Activities Related to the 2018 Water Conservation Legislation

- Per 2018 water conservation legislation, urban water agencies will calculate water use objectives and compare water consumption to water use;
  - Agencies can use DWR’s 2018 aerial imagery data that is currently being analyzed by Eagle Aerial/Quantum

- State Water Board is working on a rulemaking that will define certain standards that will affect the calculation of the objectives;
  - As part of rulemaking, the Water Board is using various imagery to understand the impact of these standards.
State Water Board’s Rulemaking Process

- Per California Environmental Quality Act requirements, their rulemaking requires an economic/environmental impact analysis;
- They have the 2015 Santa Ana River Watershed aerial imagery data, as well as data from East Bay Municipal Utilities District, Padre Dam Municipal Water District, the cities of Santa Rosa and Benicia, and Sacramento Regional Water Authority to assist in this analysis;
- They will also analyze potential changes in water use trends across the State, such as water use declining to drought-era levels.
Calculation of a Water Budget (State Water Board May Use)

\[ \text{Total Water Efficiency Budget} = [\text{PPH} \times \text{GPCD}] + [(\text{LA} \times (0.62 \times \text{ETo} \times \text{ETAF})] \]

Indoor Budget  Outdoor Budget

Landscape Area

Indoor Use

Weather Station

Meter
Determining Standards

\[
[PPH \times GPCD] + [(LA \times (0.62 \times ETo \times ETAF))] = \text{Total Water Efficiency Budget}
\]

Currently 55

Currently 55

Depends on plant type

in landscape area
Next Steps

- DWR to provide 400+ urban water agencies with irrigable land measurements by January 1, 2021;
  - DWR has convened a workgroup of water agency and environmental representatives to provide feedback on imagery process.

- State Water Board to begin formal rulemaking in 2021.
  - Staff and the Water Board’s consultant team will communicate results and allow members of the public to explore conservation scenarios through a tool.
Questions
DATE: January 23, 2020

TO: SAWPA Project Agreement 22 Committee

SUBJECT: Conservation-Based Water Rates Update

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION
Receive and file.

DISCUSSION

Through the Emergency Drought Grant Program, SAWPA has implemented the Conservation-Based Water Rates component by entering into Sub-Grantee agreements with nine retail water agencies in the watershed. The Sub-Grantee agreements allow SAWPA to reimburse the retail agencies using funds provided by the Department of Water Resources (DWR) Proposition 84 Drought Grant. Besides East Valley Water District, which implemented conservation-based water rates in July 2015, there are three agencies remaining in the program: Chino, Chino Hills and Hemet. Their funding status is provided in the table below:

<table>
<thead>
<tr>
<th>Retail Water Agency</th>
<th>Invoiced to DWR</th>
<th>Estimated Future Invoice Costs</th>
<th>Final Costs (sum of invoiced and future invoices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chino</td>
<td>$94,595</td>
<td>$133,602</td>
<td>$228,197</td>
</tr>
<tr>
<td>Chino Hills</td>
<td>$1,052,304</td>
<td>$20,000</td>
<td>$1,072,304</td>
</tr>
<tr>
<td>Hemet</td>
<td>$75,036</td>
<td>$ -</td>
<td>$75,036</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,221,934</strong></td>
<td><strong>$153,602</strong></td>
<td><strong>$1,355,537</strong></td>
</tr>
</tbody>
</table>

Chino: The City adopted budget-based rates in June 2018 and implemented the structure on December 1, 2019. The agency previously had a flat rate structure. The budget-based rate structure includes efficiency-based charges for single family, multi-family and landscape customers. The City’s expected final costs for their rate study and implementation effort totals to $228,197 as shown in Table 1.

Chino Hills: The City adopted budget-based rates for its residential customers in May 2018 and implemented it in October 2018. The agency previously had a tiered rate structure. The City is still incurring costs for minor billing software issues, educating customers on the new billing structure and addressing variances. The City has utilized the cost savings from funding originally assigned to Chino and Hemet but could not use or did not need for their rate implementation efforts.

Hemet: The City finalized their draft rate study on January 3, 2020. The final rate study reflects budget-based rates for the City’s multi-family, single family and irrigation customer classes. Per Committee
action at the June 27, 2019 meeting, Hemet is no longer invoicing for any further costs as they are not bringing their final rate study to their council within the DWR grant timeline. As discussed at that meeting, in May 2019, the City chose not to move forward with finalizing the study due to direction of new city management.

CRITICAL SUCCESS FACTORS

The following OWOW critical success factors are addressed by this action:

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS

None.

Attachments:

1. PowerPoint Presentation
Conservation-Based Water Rates Update

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.C.
Cities Participating

Chino

Prop 218 Hearing:  
June 19, 2018
Implement rates:  
December 1, 2019

Chino Hills

Prop 218 Hearing:  
May 8, 2018
Implemented rates:  
October 1, 2018

Hemet

Final Rate Study Draft:  
January 3, 2020
## Status of funding by agency

<table>
<thead>
<tr>
<th>Retail Water Agency</th>
<th>Invoiced to DWR</th>
<th>Estimated Future Invoice Costs</th>
<th>Final Costs (sum of invoiced and future invoices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chino</td>
<td>$94,595</td>
<td>$133,602</td>
<td>$228,197</td>
</tr>
<tr>
<td>Chino Hills</td>
<td>$1,052,304</td>
<td>$20,000</td>
<td>$1,072,304</td>
</tr>
<tr>
<td>Hemet</td>
<td>$75,036</td>
<td>$ -</td>
<td>$75,036</td>
</tr>
<tr>
<td>Total</td>
<td>$1,221,934</td>
<td>$153,602</td>
<td>$1,355,537</td>
</tr>
</tbody>
</table>
Chino

- City launched budget-based rates billing structure December 1, 2019.
- Under a grace period, customers will be charged the Tier 2 rate for any Tier 3 usage for the first two water bills under the new system.

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Tier 1 Usage</th>
<th>Tier 2 Usage</th>
<th>Tier 3 Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family</td>
<td>Indoor use based on people per household</td>
<td>Outdoor use based on irrigation area</td>
<td>Usage above Tier 2</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>Indoor use based on people per household</td>
<td>Outdoor use based on irrigation area</td>
<td>Usage above Tier 2</td>
</tr>
<tr>
<td>Commercial</td>
<td>Flat Rate</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Landscape</td>
<td>Budget based on irrigated area</td>
<td>Usage above Tier 1</td>
<td>No Tier 3</td>
</tr>
<tr>
<td>Recycled Water</td>
<td>Flat rate</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Chino hills

- City adopted budget-based rates for residential customers (3 tiers);
- City is still incurring costs for:
  - minor billing software issues,
  - educating customers on the new billing structure, and
  - addressing variances.
- Costs are able to be covered by grant savings.
New City management feedback in May 2019 was to not move forward with finalizing rate study.

City finalized draft rate study on January 3, 2020.
Questions
The Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) includes several projects including the water use efficiency focused Smartscape Program. The Program was designed to continue the momentum of the various turf removal rebates that were offered by the Emergency Drought Grant Program and train water agency customers to maintain their drought-tolerant landscapes. Orange County Coastkeeper (OCCK) is a project partner and the lead for implementing Smartscape while SAWPA manages the agreement with OCCK. The SAWPA member agencies are the lead for requesting tasks to be completed by OCCK.

The time frame for Smartscape implementation per the PA 22 approved Smartscape Roles/Responsibilities Memo is from March 2018 to March 2020 and each agency has a $96,509 allocation to spend by using the services of OCCK.

With $306,049 in invoices received through December 31, 2019, the Smartscape Program is 79% implemented.

<table>
<thead>
<tr>
<th>Agency</th>
<th>EMWD</th>
<th>IEUA</th>
<th>SBMVWD</th>
<th>WMWD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation</td>
<td>$96,509</td>
<td>$96,509</td>
<td>$96,509</td>
<td>$96,509</td>
<td>$386,034</td>
</tr>
<tr>
<td>Invoiced</td>
<td>$96,875</td>
<td>$96,349</td>
<td>$65,775</td>
<td>$47,050</td>
<td>$306,049</td>
</tr>
<tr>
<td>Remaining</td>
<td>($366)*</td>
<td>$160</td>
<td>$30,734</td>
<td>$49,459</td>
<td>$79,985</td>
</tr>
</tbody>
</table>

*SASA has small contingency to handle minor overages.

**CRITICAL SUCCESS FACTORS**

- Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
- Data and information needed for decision-making is available to all.
RESOURCE IMPACTS
None.

Attachments:
   1. PowerPoint Presentation
Smartscape Update

Ian Achimore, Senior Watershed Manager
PA 22 Committee | January 23, 2020
Item No. 4.D.
Smartscape is a partnership between SAWPA member agencies and OC Coastkeeper, developed in 2015 during SARCCUP initial grant application effort;

Supports water customers that have transitioned from turf grass to drought tolerant landscaping through specific tasks:

- Landscape site visits
- Develop written training materials
- Workshops, training, etc.

Makes physical improvements to irrigation systems (prevents leaks and overwatering)
Program Overview

- Program descriptions contained in Sub-Agreement and SAWPA Member Agency Roles/Responsibilities

  Memo:
  - Defines two-year schedule (March 2020 end date)
  - Defines scope and qualifications for OCCK training and outreach personnel
  - Task list and their specific costs
  - Deliverables:
    - Photo verification;
    - Customer forms; and
    - Reports on work completed.
Examples of Tasks Implemented

Landscape Designs - WMWD

Irrigation Improvements - IEUA

Rebated Water Capture Feature

House

Driveway

All plants are 1 gallon in size except for
Mausunia, which is a
15 or 25 gallon.
You will need a
minimum of 4 cubic
yards of decomposed granite.
Plant design features 60
plants for 9,984 sq.
measuring the rebate
requirement of 3 plants
per 100 sq. feet.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Plants</td>
<td><em>Cupressus macrocarpa</em></td>
<td>10</td>
</tr>
<tr>
<td>Schoodic Peat Aeration</td>
<td><em>Sphagnum angustifolium</em></td>
<td></td>
</tr>
<tr>
<td>Blue Ranger Sansin</td>
<td><em>Koeleria subsessilis manderliciae</em></td>
<td>24</td>
</tr>
<tr>
<td>Ice Plants</td>
<td><em>Eriogonum fasciculatum</em></td>
<td></td>
</tr>
<tr>
<td>Sunset Maunusia</td>
<td><em>Artemisia ‘Summer’</em></td>
<td>1</td>
</tr>
<tr>
<td>Mexican Bush Sage</td>
<td><em>Pavonia pyriformis</em></td>
<td>2</td>
</tr>
<tr>
<td>Texas Ranger Compacta</td>
<td><em>Larrea tridentata</em></td>
<td></td>
</tr>
</tbody>
</table>

Revision #
Date: 4/2019
Scale: 3/32 = 1’
Landscape Plan: Burnham Residence
Landscape Design by: Inland Empire Waterkeeper
Smartscape Budget

<table>
<thead>
<tr>
<th>Coastkeeper Sub-Agreement Amount</th>
<th>Grant Amount</th>
<th>Local Match*</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$122,000</td>
<td>$278,000</td>
<td>$400,000</td>
</tr>
</tbody>
</table>

*OCWD’s SARCCUP local cost share funding originally intended for Smartscape was added to Conservation-Based Water Rates portion of SARCCUP based on Pa 22 Committee direction and OCWD request.
## Smartscape Spending to Date (Dec 2019)

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79% Implemented
Questions