

Middle Santa Ana River Watershed Bacteria TMDL Task Force

Amendment #2 to Task Force Agreement

**Rick Whetsel, Senior Watershed Manager
SAWPA Commission | May 17, 2022
Item No. 6.A.**



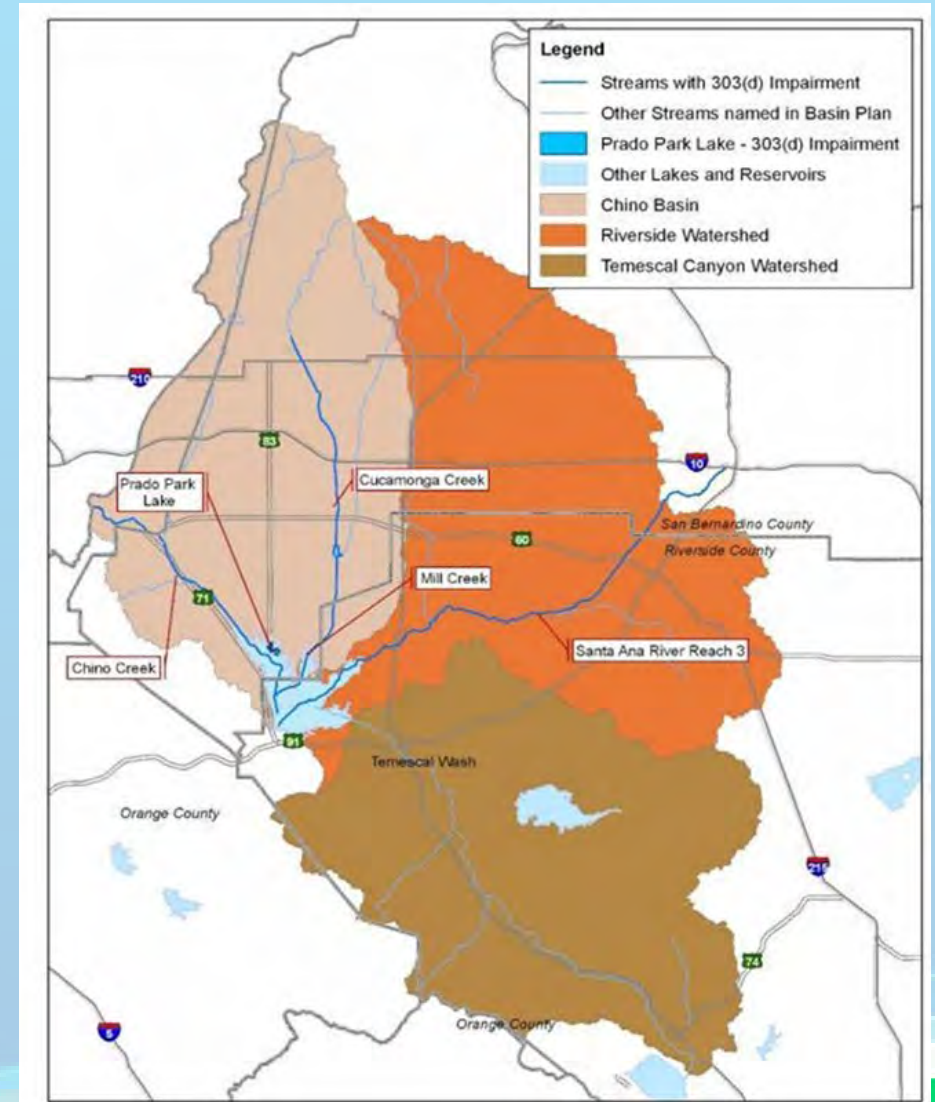
Recommendation

It is recommended that the Commission approve Amendment No. 2 to the Middle Santa Ana River Watershed Total Maximum Daily Load (TMDL) Task Force Agreement effectively extending the existing Task Force for an additional four and one-half years through June 2027.



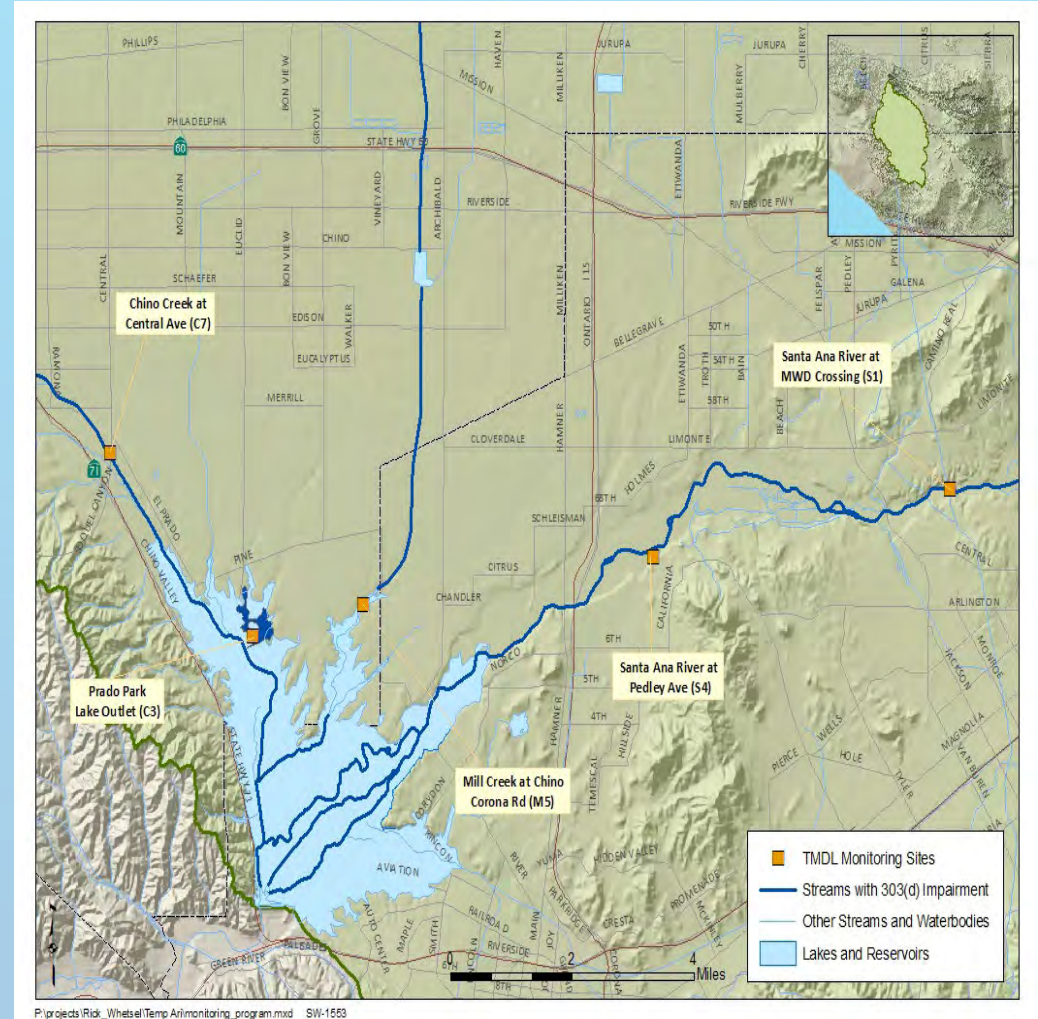
MSAR TMDL

- February 2005, Basin Plan amended to include Bacterial Indicator Total Maximum Daily Loads (TMDLs) for Middle Santa Ana River Waterbodies .
 - Santa Ana River, Reach 3
 - Chino Creek, Reaches 1 and 2
 - Cucamonga Creek, Reach 1
 - Mill Creek (Prado Area)
 - Prado Park Lake
- Key Compliance Dates
 - December 31, 2015 - compliance with Dry Season TMDLs, wasteload allocations and load allocations.
 - December 31, 2025 - compliance with Wet Season TMDLs, wasteload allocations and load allocations.



TMDL Compliance Monitoring & Reporting

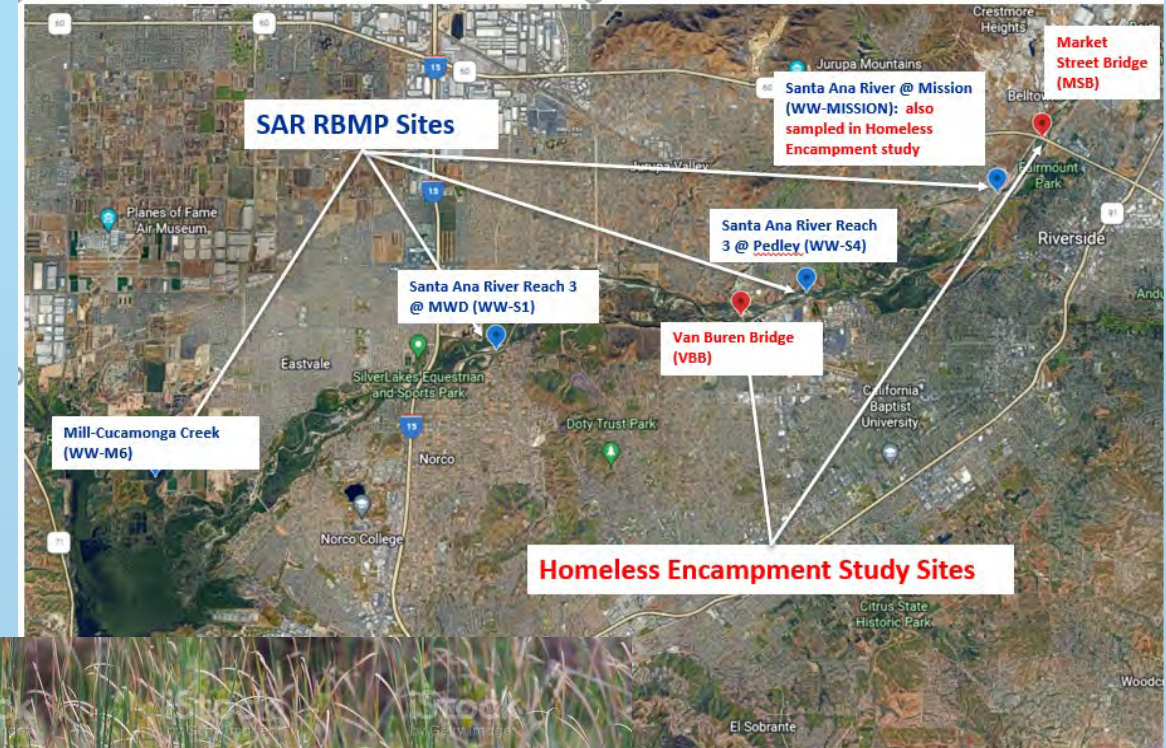
- Watershed-Wide Monitoring Program to measure compliance with numeric TMDL targets
- Conducted as part of the SAR Regional Bacteria Monitoring program (since 2016)
- Five comprehensive monitoring sites (priority 2)
- Dry and Wet season monitoring
 - Laboratory: E. coli, enterococci, and total suspended solids (TSS)
 - Field: temperature, dissolved oxygen, conductivity, turbidity, and pH
- 2023 Triennial Report



Source Evaluation

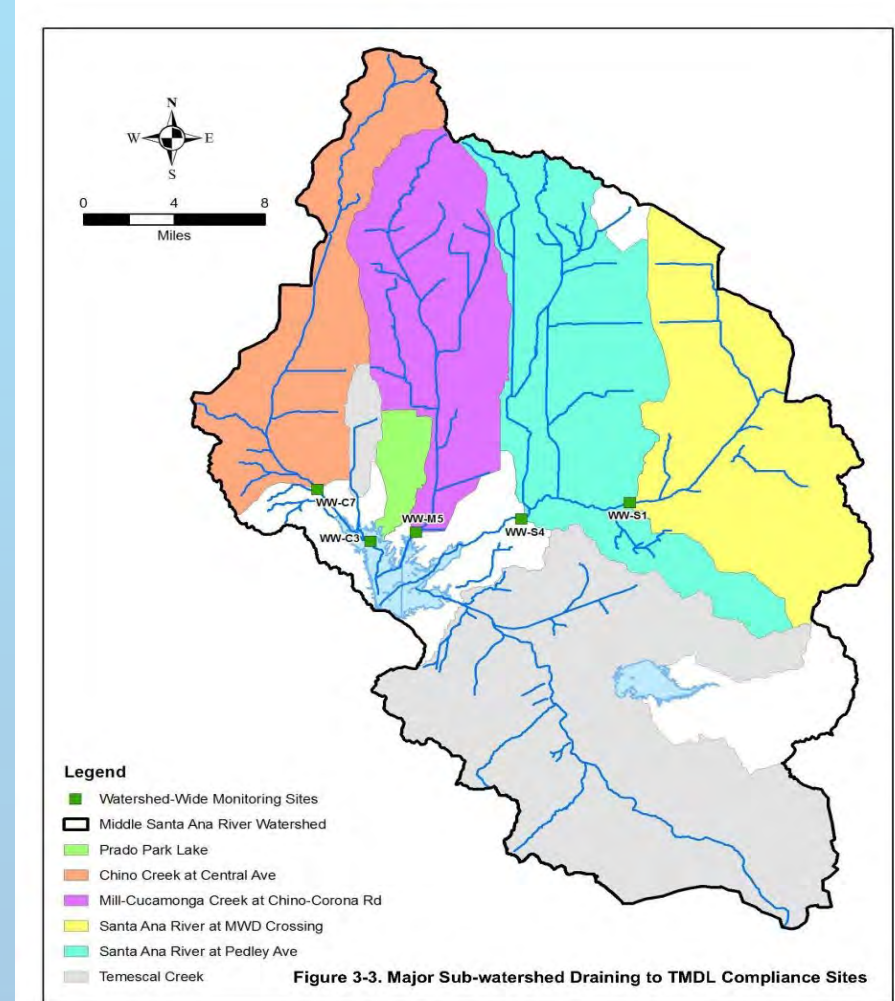
2022-23 Pig Marker Monitoring

- Goal: further understand feral pigs as an uncontrollable bacteria source and relationship to general indicator bacteria.
- Pig qPCR testing using Pig2Bac bacteria marker
- 10 dry weather events (up to 48 samples)
- Four sampling locations:
 - Santa Ana River @ Mission
 - Santa Ana River Reach 3 @Pedley
 - Santa Ana River Reach 3 @MWD
 - Mill-Cucamonga Creek
- Budget: \$27,900



Support Implementation of Comprehensive Bacteria Reduction Plans

- February 2012 Regional Board adopted Comprehensive Bacteria Reduction Plans (CBRP) for Riverside and San Bernardino Counties
- Plans designed to achieve compliance with dry weather wasteload allocations for bacterial indicators established by the TMDL.
- Requires dischargers source evaluation of and implementation of BMPs



SAWPA's Role

- SAWPA staff serves as administrator and is reimbursed for its time expended by Task Force participants.
 - Organizing and facilitating Task Force meetings
 - Clerical, and administrative services
 - Oversee Task Force Agreement
 - Prepare annual budgets, invoices
 - Manage and report on stakeholder funds
 - Act as contracting party and contract administrator
 - Explore grant funding opportunities
 - Coordinate with other agencies
 - Communicate with Regional Board




Recommendation

It is recommended that the Commission approve Amendment No. 2 to the Middle Santa Ana River Watershed Total Maximum Daily Load (TMDL) Task Force Agreement effectively extending the existing Task Force for an additional four and one-half years through June 2027.



Questions?





U.S. Bureau of Reclamation Grant- Resolution Supporting Cloud Seeding Validation Protocol

Mark Norton, Water Resources & Planning Manager
Santa Ana Watershed Project Authority
Item No. 6.B.



Recommendation

- Staff recommends that the Commission approve Resolution No. 2022-8 authorizing the General Manager to submit a WaterSMART Applied Science Grant Application to the U.S. Bureau of Reclamation for the Cloud Seeding Technology Validation Protocol.



— BUREAU OF —
RECLAMATION

Background on Weather Modification Pilot Program

Relationship Between Protocol and Pilot Program

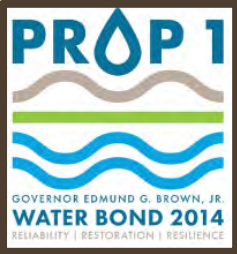
- Feasibility Study

Assess Costs & Benefits



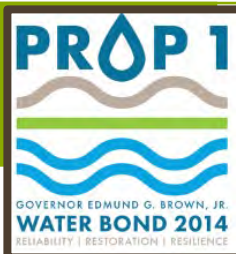
- Pilot Program

Implement Cloud Seeding



- Monitoring & Verification*

Conduct Measurements



- Validation Protocol

Implement Protocol



*This item's costs are being leveraged to meet the local cost share requirement for the Bureau of Reclamation grant.

Weather Modification Pilot Program Schedule

(Monitoring Protocol Schedule Not Shown – See Subsequent Slides)

Program Element	2020	2021	2022	2023	2024	2025	2026
Feasibility Study	Active	Completed	Completed	Completed	Completed	Completed	Completed
Outreach for Local Funding Commitments	Completed	Active	Completed	Completed	Completed	Completed	Completed
Ground Seeding Site Analysis	Completed	Active	Completed	Completed	Completed	Completed	Completed
CEQA	Completed	Completed	Active	Completed	Completed	Completed	Completed
Prop 1 Grant Application & Award	Completed	Completed	Active	Completed	Completed	Completed	Completed
Operations and Validation Scoping and RFP	Completed	Completed	Active	Completed	Completed	Completed	Completed
Operations & Validation Contracts - Preparatory Work	Completed	Completed	Active	Completed	Completed	Completed	Completed
Conduct 4 Year Pilot Program Operations	Completed	Completed	Completed	Active	Active	Active	Active
Outreach and Public Engagement	Completed	Active	Active	Active	Active	Active	Active



Pilot Program 4-Year Budget Estimate*

Year	Task	Consultant/Staff Lead	Estimated Cost
1 st	Ground Seeding set up & operation	NAWC estimate	\$250,000
	Validation	Desert Research Institute	\$50,000
	Project Adm/Mgt	SAWPA Staff	\$50,000
		1st Year Subtotal w/15% contingency	\$403,000
2 nd	Ground Seeding site operation	NAWC estimate	\$220,000
	Validation	Desert Research Institute	\$35,000
	Stormwater Capture Analysis	West Yost	\$40,000
	Project Adm/Mgt	SAWPA Staff	\$30,000
		2nd Year Subtotal w/15% contingency	\$374,000
3 rd	Ground Seeding sites & operation	NAWC estimate	\$230,000
	Validation	Desert Research Institute	\$35,000
	Project Adm/Mgt	SAWPA Staff	\$30,000
		3rd Year Subtotal w/15% contingency	\$339,000
4 th	Ground Seeding sites & operation	NAWC estimate	\$240,000
	Validation	Desert Research Institute	\$35,000
	Project Adm/Mgt	SAWPA Staff	\$40,000
		4th Year Subtotal w/15% contingency	\$362,000
		Total	\$1,478,000
	SAWPA Total Cost Reduced by Local Agency Funding (\$52K) & Prop 1 Grant		\$ 687,000

*Validation Protocol to be funded by Bureau of Reclamation grant is not shown

Reclamation Grant and Scope of Work for Validation Protocol

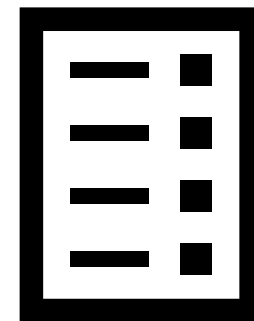
Bureau of Reclamation WaterSMART Applied Science Grant Program Application

- USBR WaterSMART Applied Science Grant Program supports development of hydrologic information and water management tools, including modeling and forecasting capabilities,
- SAWPA Grant Project Topic:
 - Supports the development of a Validation Protocol Document based on the SAWPA Weather Modification Pilot Program,
 - Validation Protocol creates standardized code of procedure for cloud seeding in the United States., and
 - Takes advantage of the implementation of the SAWPA Pilot Program to create this standardized validation protocol.
- 50% Local Match (\$100,000) Required,
- Grant funding requested: \$100,000, and
- Grant program available from Feb. 2023 through Feb. 2025.



Monitoring Protocol Scope of Work

- Phase I - Pilot Program Validation
 - Review local storms (for two winters – 2022 and 2024),
 - Assess SAWPA cloud seeding operations,
 - Assess local target area snow chemistry (for winter 2022/23 only), and
 - Conduct local watershed streamflow analysis.
- Phase II - Validation Protocol Development
 - Develop standard methods for collecting uncontaminated snow samples,
 - Develop standard methods to estimate hourly contributions to precipitation from cloud seeding,
 - Develop standard methods to identify appropriate control area, and
 - Prepare summary protocol document with the final list of standardized measurements recommended for cloudseeding in the United States.

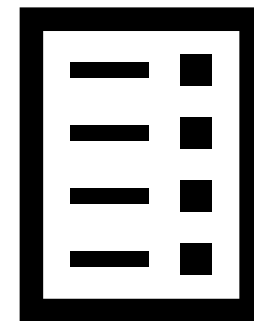


Monitoring Protocol Budget

- Phase I - Pilot Program Validation
 - \$100,000 cost share (which is also being used in part to match the Proposition 1 Round 2 One Water One Watershed Grant).

- Phase II - Validation Protocol Development
 - \$100,000 grant from Reclamation.

Total Validation Protocol Budget = \$200,000



Pilot Program 4-Year Budget Estimate

Year	Task	Consultant/Staff Lead	Estimated Cost
1 st	Ground Seeding set up & operation	NAWC estimate	\$250,000
	Validation	Desert Research Institute	\$50,000
	Project Adm/Mgt	SAWPA Staff	\$50,000
		1 st Year Subtotal w/15% contingency	\$403,000
2 nd	Ground Seeding site operation	NAWC estimate	\$220,000
	Validation	Desert Research Institute	\$35,000
	Stormwater Capture Analysis	West Yost	\$40,000
	Project Adm/Mgt	SAWPA Staff	\$30,000
		2 nd Year Subtotal w/15% contingency	\$374,000
3 rd	Ground Seeding sites & operation	NAWC estimate	\$230,000
	Validation	Desert Research Institute	\$35,000
	Project Adm/Mgt	SAWPA Staff	\$30,000
		3 rd Year Subtotal w/15% contingency	\$339,000
4 th	Ground Seeding sites & operation	NAWC estimate	\$240,000
	Validation	Desert Research Institute	\$35,000
	Project Adm/Mgt	SAWPA Staff	\$40,000
		4 th Year Subtotal w/15% contingency	\$362,000
		Total	\$1,478,000
	SAWPA Total Cost Reduced by Local Agency Funding (\$52K) & Prop 1 Grant		\$ 687,000

Validation Protocol Local
Cost Share Derived from
These Tasks

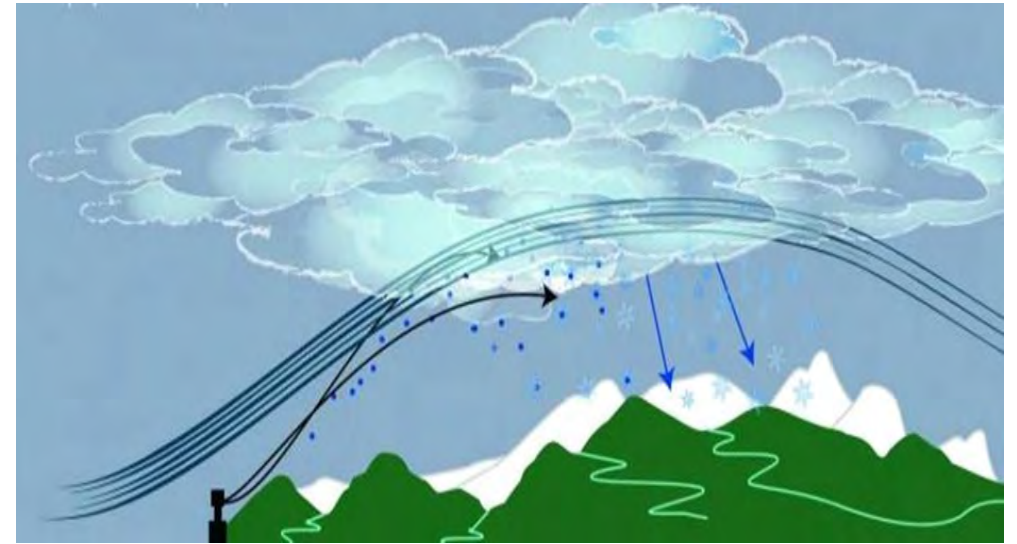
Weather Modification Pilot Program Schedule

(With Monitoring Protocol)

Program Element	2020	2021	2022	2023	2024	2025	2026
Outreach for Local Funding Commitments		Active					
Ground Seeding Site Analysis		Active					
CEQA			Active				
Prop 1 Grant Application & Award			Active				
Operations and Validation Scoping and RFP			Active				
Operations & Validation Contracts - Preparatory Work			Active				
Conduct 4 Year Pilot Program Operations				Active	Active	Active	Active
Outreach and Public Engagement		Active	Active	Active	Active	Active	Active
Monitoring Protocol (Phase I and II)				Active	Active		

Grant Program Projected Need and Benefits

- Decisions on introducing or expanding existing programs hinge on ensuring quantified benefit,
- Need exists for a standard and accepted protocol for validation,
- Supports partnerships and cloud seeding programs across the U.S.,
- Reflects SAWPA's leadership role in regional water management, and
- SAWPA submitted Reclamation grant on April 13, 2022, but Reclamation needs a resolution from applicant governance to submit within one month of submittal.



Source: The Sydney Morning Herald (2015)

Recommendation

- Staff recommends that the Commission approve Resolution No. 2022-8 authorizing the General Manager to submit a WaterSMART Applied Science Grant Application to the U.S. Bureau of Reclamation for the Cloud Seeding Technology Validation Protocol.



SANTA ANA WATERSHED PROJECT AUTHORITY

SAWPA Administrative Building A

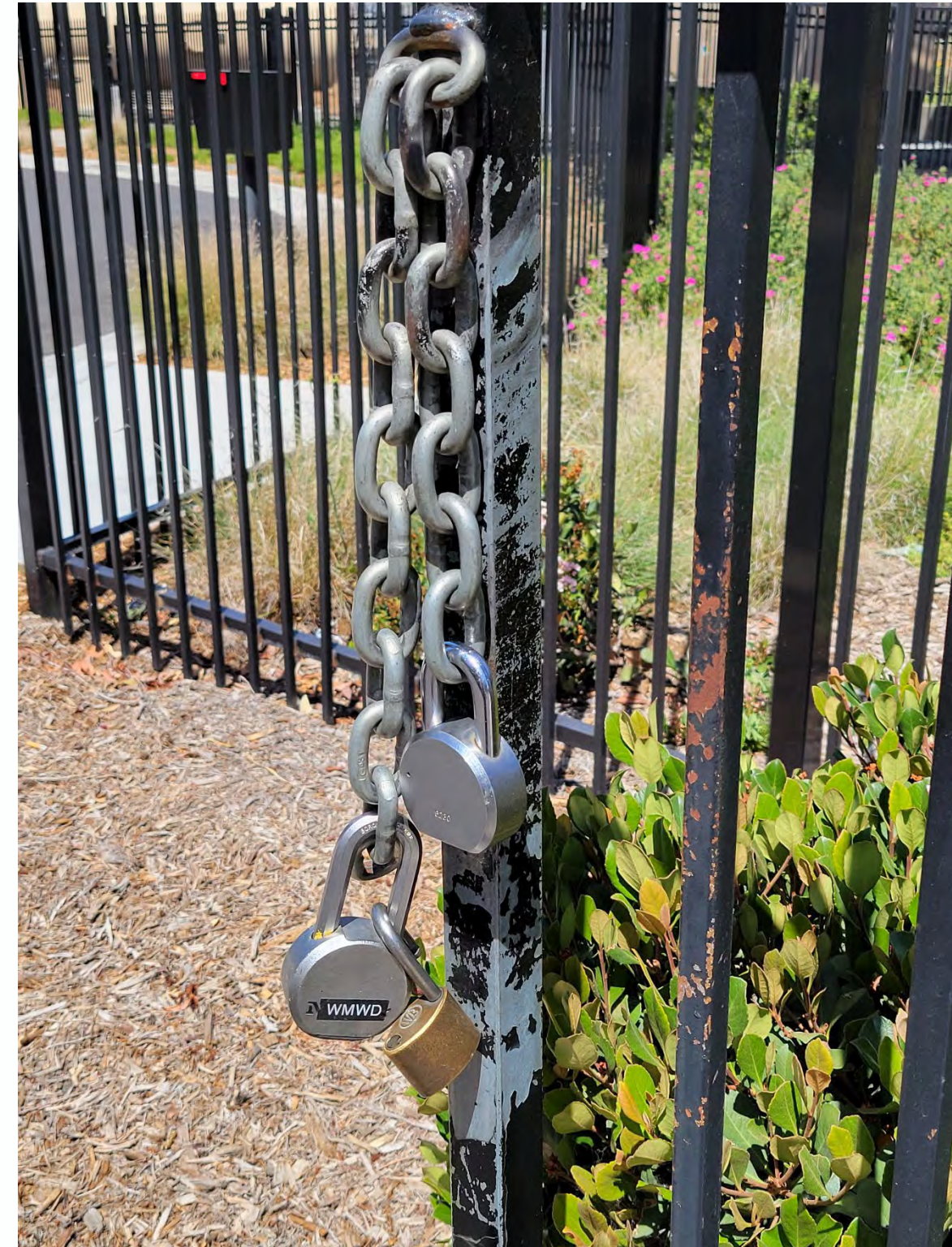
SAWPA Commission | May 17, 2022
Item No. 6. C.

Recommendation

Approve the use of \$41,340 from the Building Reserve to replace the manual gate on the SAWPA entrance with an automated gate.

Drivers

- Improve security
- Improve access
- Improve aesthetics



Current Condition



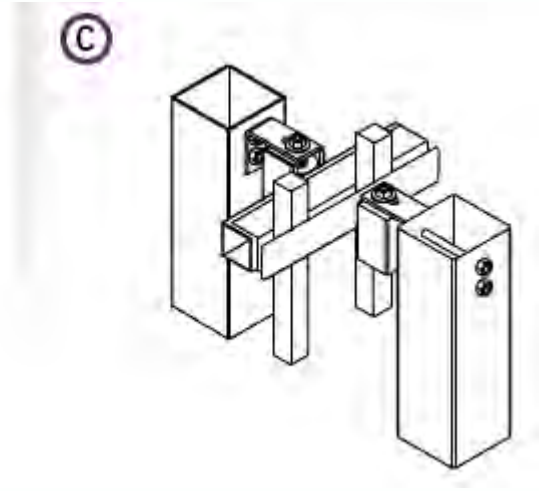
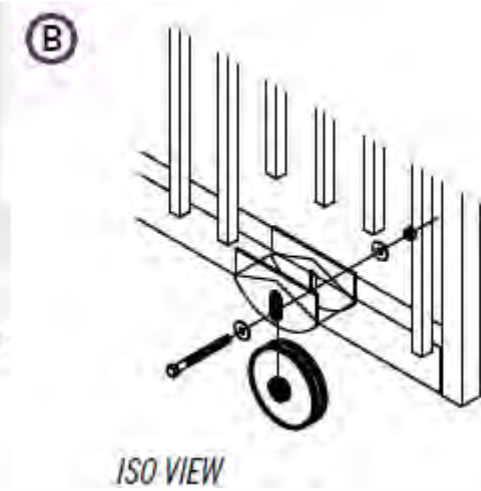
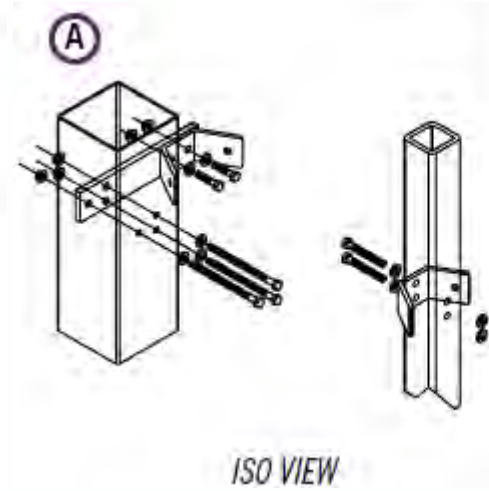
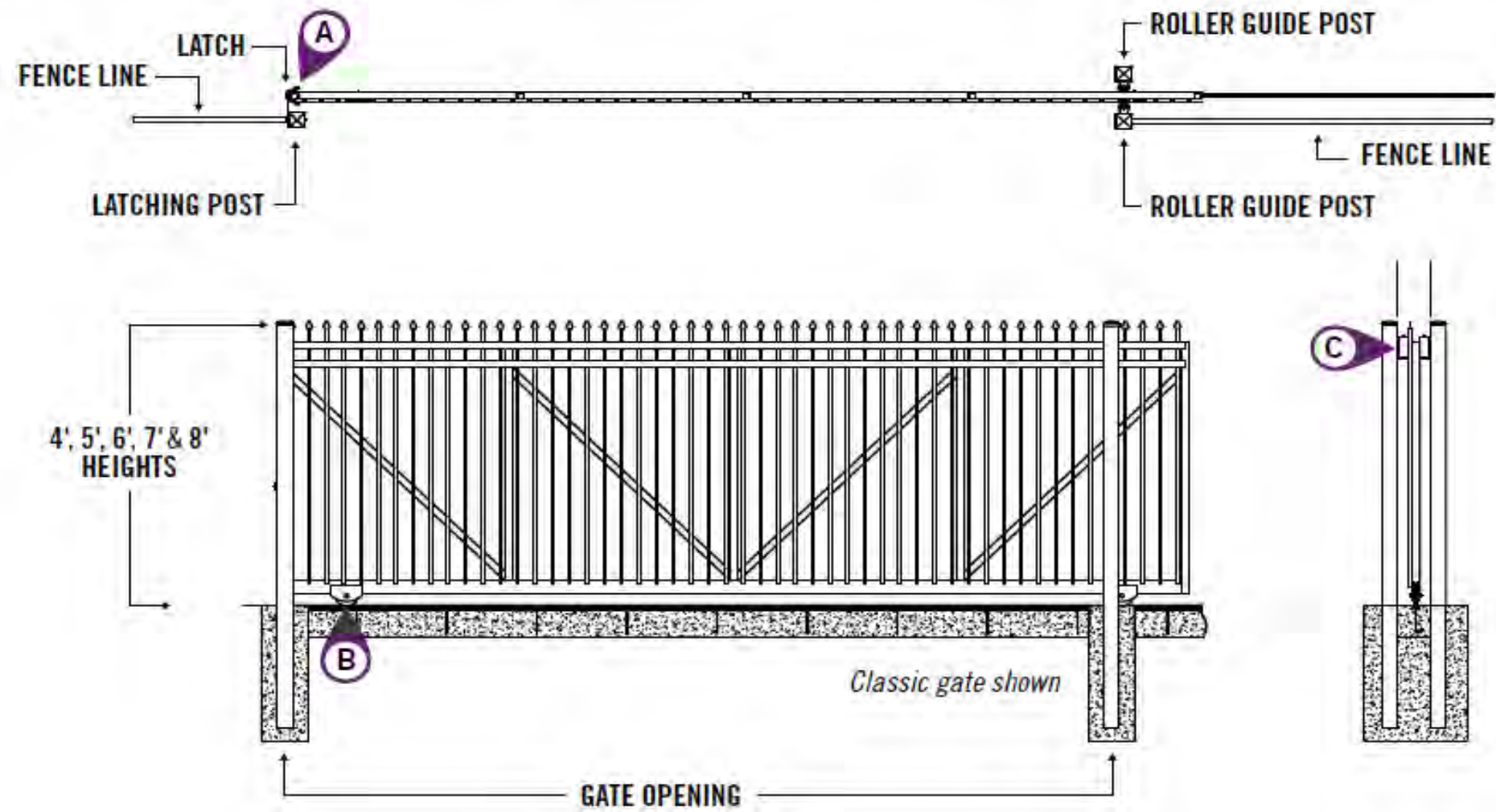
Current Condition



Automated Gate

PASSPORT®

2"sq x 12ga UPRIGHTS & DIAGONAL BRACES | .75"sq PICKETS | 2" x 4" x 11ga BOTTOM RAIL (notched & plated for v-track wheels)



Cost Estimate

Electrical/site prep
\$13,215

Wrought iron gate
\$11,200

Gate automation
\$13,975

Access controls
\$2,950

Funded by the Building Fund
\$41,340

Recommendation

Approve the use of \$41,340 from the Building Reserve to replace the manual gate on the SAWPA entrance with an automated gate.