



SAN ANTONIO WATER COMPANY

BOARD OF DIRECTORS MEETING

Tuesday, March 21, 2023 at 5:00 p.m.

In the Upland City Hall Council Chambers

460 N. Euclid Avenue, Upland, CA 91786

And Virtual/Online or Teleconference

Please join my meeting from your computer, tablet or smartphone.

<https://meet.goto.com/691161405>

You can also dial in using your phone.

Access Code: 691-161-405

United States: [+1 \(872\) 240-3212](tel:+18722403212)

- Call to Order
- Salute to the Flag

1. Recognitions and Presentations:

2. Additions-Deletions to the Agenda:

3. Shareholder-Public Testimony:

This is the time for any shareholder or member of the public to address the board members on any topic under the jurisdiction of the Company, which is on or not on the agenda. Please note, pursuant to the Brown Act the board is prohibited from taking actions on items not listed on the agenda. For any testimony, speakers are requested to keep their comments to no more than four (4) minutes, including the use of any visual aids, and to do so in a focused and orderly manner. Anyone wishing to speak is requested to voluntarily fill out and submit a speaker's form to the manager prior to speaking.

4. Consent Calendar Items:

All items listed hereunder are considered to be routine and there will be no separate discussion of these items unless members of the board request specific items to be removed from the consent calendar for separate action. All items listed or remaining will be voted upon in a single action.

- A. Approval of Board Meeting Minutes
Regular Meeting Minutes of February 21, 2023.
- B. Planning, Resources, and Operations Committee (PROC) Meeting Minutes
Approve Meeting Minutes of October 25, 2022.
- C. Administration and Finance Committee (AFC) Meeting Minutes
No meeting minutes to approve.
- D. AdHoc Committee for Office Feasibility Study
No meeting minutes to approve.
- E. Financial Statement
Income Statement and Balance Sheet for January 31, 2023.
- F. Investment Activity Report
Monthly Report of Investments Activity.
- G. Water Production and Consumption
Monthly water production and consumption figures.
- H. Prominent Issues Update
Status summaries on certain on-going active issues.
- I. Projects and Operations Update
Status summaries on projects and operations matters.
- J. Groundwater Level Patterns [Quarterly in January, April, July, and October]
Tracking patterns of groundwater elevations relative to ground surface.
- K. Conservation Program Update [Quarterly in January, April, July, and October]
Update on SAWCo's existing water conservation programs
- L. Correspondence of Interest
- M. Company 2022 Tax Returns

5. Board Committee – Delegate Report:
 - A. PVPA Representative Report
Verbal report by representative.
 - B. Six Basins Representative Report
Verbal report by representative.
 - C. Chino Basin Representative Report
Verbal report by representative.
 - D. Cucamonga Basin Representative Report
Verbal update by representative.
 - E. Administration and Finance Committee (AFC) Chairman’s Report
No meeting to report.
 - F. Planning, Resources, and Operations Committee (PROC) Chairman’s Report
Verbal report on February 28, 2023 meeting.
 - G. Office & Yard Feasibility Study Ad Hoc Committee
No meeting to report.

6. General Manager’s Report on Activities
 - A. Nominees for the Position of Director of the Company
Consideration of nominees presented for election at the Annual Shareholder’s Meeting
 - B. 2022 Company Audit
Review SAWCo’s 2022 Audit Report
 - C. Comprehensive System Master Plan & Asset Management Program
Discussion and possible action to approve the system wide Master Plan
 - D. SAWCo Office and Yard Facilities Design and Construction Management Contract
Discussion and possible action regarding design and construction of a campus facility
 - E. Brown Act Changes Regarding Public Meetings
Discussion and possible action regarding recent changes in the Brown Act

7. Closed Session:
 - A. General Manager’s Annual Review, Goals, and Objectives [CGC § 54957 subdivision 9(b)]

8. Director’s Comments and Future Agenda Items:

Adjournment:

The Annual Shareholder’s Meeting will be held on Tuesday, April 11, 2023 at 6:00 p.m. with the Organizational Meeting immediately following.

The next regular Board Meeting will be held on Tuesday, April 18, 2023 at 5:00 p.m.

NOTE: All agenda report items and back-up materials are available for review and/or acquisition from the Company Office (139 N. Euclid Avenue, Upland, CA.) during regular office hours, Monday through Thursday [8:00a – 11:30a and 12:30p – 4:00p] and alternating Fridays [8:00a – 11:30a and 12:30p – 3:00p] and on the Company’s website www.sawaterco.com. The agenda is also available for review and copying at the Upland Public Library located at 460 N. Euclid Avenue.

POSTING STATEMENT: On March 16, 2023, a true and correct copy of this agenda was posted at the entry of the Water Company’s office (139 N. Euclid Avenue), on the City of Upland public bulletin board (450 N. Euclid Ave.), Public Library (460 N. Euclid Ave.), and on the Water Company’s website.

SAN ANTONIO WATER COMPANY
MINUTES OF THE SAN ANTONIO WATER COMPANY
Tuesday, February 21, 2023

An open meeting of the Board of Directors of the San Antonio Water Company (SAWCo) was called to order at 5:01 p.m. on the above date at the City of Upland Council Chambers, 460 N. Euclid Ave., Upland, California. Directors present were Rudy Zuniga, Will Elliott, Bob Cable, Martha Goss, Bill Velto, Kati Parker, and Bob Bowcock. Also in attendance were SAWCo's General Manager Brian Lee, Assistant General Manager Teri Layton, General Legal Counsel Derek Hoffman, and Senior Administrative Specialist Kelly Mitchell. President Zuniga presided.

Director Velto led all in attendance in the flag salute.

1. Recognitions and Presentations: None.
2. Additions-Deletions to the Agenda: Mr. Lee removed Items 4E and 4F from the Consent Calendar Items due to the items being included in the 2022 Audit which has not yet been presented to the Board. The 2022 Audit will be brought to the Board in March at which time Items 4E and 4F will include December 2022 statement and report respectively for approval.
3. Shareholder-Public Testimony: None.
4. Consent Calendar Items:
 - A. Approval of Board Meeting Minutes
Regular Meeting Minutes of January 17, 2023.
 - B. Planning, Resources and Operations Committee (PROC) Meeting Minutes
No meeting minutes to approve.
 - C. Administration and Finance Committee (AFC) Meeting Minutes
No meeting minutes to approve.
 - D. AdHoc Committee for Office Feasibility Study
Approve meeting minutes of August 12, 2020.
 - E. Financial Statement
Income Statement and Balance Sheet for December 31, 2022.
 - F. Investment Activity Report
Monthly Report of Investments Activity.
 - G. Water Production and Consumption
Monthly water production and consumption figures.
 - H. Prominent Issues Update
Status summaries on certain on-going active issues.
 - I. Projects and Operations Update
Status summaries on projects and operations matters.
 - J. Groundwater Level Patterns [Quarterly in January, April, July, and October]
Tracking patterns of groundwater elevations relative to ground surface.
 - K. Conservation Program Update [Quarterly in January, April, July, and October]
Update on SAWCo's existing water conservation programs
 - L. Correspondence of Interest

Director Velto moved and Director Goss seconded to approve the Consent Calendar with Items 4E and 4F removed. Motion carried unanimously.

5. Board Committee – Delegate Report:
 - A. **Pomona Valley Protective Association (PVPA) Representative's Report** – Director Parker reported PVPA met on Wednesday, February 8th for routine business. Discussion took place regarding Holliday Rock placing solar panels on property in order to power their conveyor belt for the new basin located north of Sycamore Heights.

- B. Six Basins Representative Report** – Ms. Layton reported a meeting was held on January 5th. The annual election of officers was held at that time with only one officer position changing. John Robles with the City of Upland now holds the position of Treasurer. Brian Bowcock was honored at the meeting with a resolution. The next meeting is scheduled for the following day.
- C. Chino Basin Representative Report** – Mr. Lee reported the 45th annual report was submitted to the courts. The City of Chino's request for an extension of time to challenge fiscal year 2021-2022 assessment packages was rejected by the court. Soon after the denial, the City of Chino filed a motion to challenge the watermaster's approval of the fiscal year 2022-2023 assessment packages. Also denied by the courts was the City of Chino's request to remove the watermaster from the Agricultural Pool terms of agreement for the appeal process.
- D. Cucamonga Basin Representative Report** – Mr. Lee stated the parties met virtually and are discussing the water model. Information is being relayed to the hydrogeologist regarding grid size, expected results, computing power, etc. Data is also being provided to the hydrogeologist for this year's Sustainable Groundwater Management Act (SGMA) submittal.
- E. Administration and Finance Committee (AFC) Chairman's Report** – No meeting to report.
- F. Planning, Resources, and Operations Committee (PROC) Chairman's Report** – No meeting to report.
- G. Office Feasibility Study Ad Hoc Committee** – Director Goss advised all committee members, Mr. Lee, and the architect met to review conceptual plans for a new, combined office and yard facility. Some changes discussed were not included in the plans provided in the Board packet. Erik Peterson with Claremont Environmental Design Group (CEDG) will discuss some of the ideas presented and take any additional comments and suggestions during Agenda Item 6D.

6. General Manager's Report on Activities:

- A. Emporia Street and Fern Avenue Quitclaim Request** – Mr. Lee stated SAWCo has received a quitclaim request for the blanket easement it has on Emporia Street and Fern Avenue. SAWCo has no facilities at this location and does not have plans to build or install any in the future.

Mr. Lee recommended the Board authorize legal counsel to draft a quitclaim for the property that will reserve water rights.

Director Elliott moved and Director Goss seconded to approve executing a quitclaim deed for the property located at Emporia Street and Fern Avenue with the caveat that it be at no expense to the SAWCo. Motion carried unanimously.

- B. Euclid Avenue and Foothill Boulevard Quitclaim Request** – Mr. Lee advised SAWCo also received a quitclaim request for the blanket easement at Euclid Avenue and Foothill Boulevard. The reason for the quitclaim is to separate the portion of the parcel that has the Vons gas station. SAWCo has no facilities at this location and does not have plans to build or install any in the future. Should they need to install any pipelines in the future they would go in the right-of-way.

Regarding fees, Mr. Lee advised there is a \$1,500 charge for quitclaims which is paid to SAWCo by the developer.

Director Velto moved and Director Parker seconded to approve executing a quitclaim deed for the property located at Euclid Avenue and Foothill Boulevard. Motion carried unanimously.

- C. Glendale Road Pipeline Replacement/Upgrade Project Award** – Mr. Lee advised SAWCo put the design of this project out to bid. The staff estimate of \$230,000 was approved in the budget. This figure was based off numbers from projects bid 2 years ago. The engineer's estimate came in at \$457,000 after the budget had been approved. The low bid came in at \$437,931 from C.P.

Construction. The increase in the cost of the project isn't due to the pipelines but the externals such as the fittings, joints, brass, and metal components due to supply issues. Additionally, staff found that most contractors now are paying prevailing wage even for non-union work to maintain their workforce.

In addition, San Bernardino County is moving forward with a paving project in SAWCo's domestic service area. Staff thought it beneficial to perform early, two smaller pipeline projects scheduled for future replacement prior to the County paving the roads. A bid was received from C.P Construction for the work, however, the costs came in at nearly \$500,000. These two projects are not budgeted for this year and the high cost made moving up the timeframe not advisable.

Mr. Lee recommended the Board approve moving forward with C.P. Construction for the Glendale Road Pipeline Replacement/Upgrade project at a cost of \$437,931.

Director Velto moved and Director Parker seconded to approve contracting with C.P. Construction in the amount of \$437,931 for the Glendale Road Pipeline Replacement/Upgrade project. Motion carried unanimously.

Director Zuniga inquired whether staff had reached out to Supervisor Jesse Armendarez on slowing the paving process. Mr. Lee replied staff have been working with the County Public Works Department to allow for SAWCo to perform work prior to paving, however, with the cost of the two projects being at such high cost, SAWCo will likely wait more than a year to put the projects out to bid.

Director Velto suggested having the County delay paving just the two streets affected by the two proposed small pipeline projects. Director Cable stated if the funds used for the paving come from the BIL funding, those funds are spread out over 5 years.

- D. SAWCo Office & Yard Relocation** – Mr. Lee reiterated the Ad Hoc Committee for the office and yard relocation met in January to review and discuss concept plans. Mr. Peterson with CEDG spoke to the Board regarding what was discussed and took additional suggestions and ideas from the Board. Of great importance was keeping 20th Street traffic to a minimum and having an aesthetically pleasing site to maintain the look of the surrounding neighborhood. Suggested changes to the concept plans will be made and submitted to Mr. Lee. The contract for CEDG will be brought to the March Board meeting for review and possible approval.

7. Closed Session:

- A. General Manager's Annual Review, Goals, and Objectives [CGC §54957 subdivision 9(b)] –**

The Board went into closed session at 5:40 p.m. Upon return from closed session at 6:15 p.m., Mr. Hoffman stated the Board discussed the General Manager's review and that there was no reportable action.

- 8. Director's Comments and Future Agenda Items: Director Parker announced SAWCo will be featured on the Upland Heritage Home Tour on Sunday, April 16th. Most recently, SAWCo was featured on the tour in 2008.

Director Zuniga requested placing an item on the agenda to discuss the possibility of SAWCo partnering with the City of Upland for events such as the 4th of July celebration and Christmas Parade.

Adjournment:

With no further business to discuss the meeting was adjourned at 6:17 p.m.

Assistant Secretary
Brian Lee

MINUTES OF THE SAN ANTONIO WATER COMPANY
 PLANNING, RESOURCES, and OPERATIONS COMMITTEE
 October 25, 2022

An open meeting of the Planning, Resources, and Operations Committee (PROC) of the San Antonio Water Company (SAWCo) was called to order virtually at 3:02 p.m. on the above date. Committee members present were Will Elliott, Kati Parker, and Bob Bowcock. Also in attendance were Patricia Olivas with Water Systems Consulting, Inc. (WSC), SAWCo's General Manager Brian Lee, Assistant General Manager Teri Layton, and Senior Administrative Specialist Kelly Mitchell. Director Elliott presided.

1. Recognitions and Presentations – None.
2. Additions-Deletions to the Agenda – None.
3. Public Comments – None.
4. Approval of Committee Meeting Minutes:
 - A. **Regular Committee Minutes of June 28, 2022** – Director Parker moved, and Director Bowcock seconded to approve the meeting minutes of June 28, 2022 as presented. Motion carried unanimously.
5. Planning and Operational Issues:
6. Planning and Operational Updates -
 - A. **Project Status Report/Project List** – Mr. Lee advised a project not previously mentioned is the Well 31 project. The bowls in Well 31 are not in working order. This well is a raw water well which feeds Reservoir 1 which feeds Holliday Rock. Staff has diverted water typically going to the City of Upland and redirected it to the domestic system overflowing into Reservoir 1 in order to continue providing water to Holliday Rock.

The well equipment has been pulled and clogged screens and rotted stainless steel was found, as well as the fact that the bowls are at the bottom of the well requiring equipment to extract them. The rehabilitation of this well will be brought to the Committee and Board once more information on what is needed to get it back online is known.
 - B. **Paloma Curve Hydraulic Break** – Mr. Lee advised staff had WSC prepare a study which is included in the agenda packet. WSC offered three different solutions to the noise issue at the Paloma Curve Hydraulic Break. The first option costing roughly \$1 million dollars is to replace most of the line from the Forebay down. The second option is to replace just the lower portion of the pipeline and the third option is to attempt modifications on the site itself.

Mr. Lee supports replacing the lower portion of the pipeline primarily because he believes it will solve the problem at the lowest reasonable cost to SAWCo. He, however, can stand behind replacing the entire pipeline but believes the cost estimate may not account for the current actual costs. He would like to move

forward with the second option to allow for project design to take place during the winter months and the actual project to move forward in the spring. If staff waits for cost estimate on the first option, the window of opportunity to have the project completed by next spring may close and it may be another year before the project can move forward.

Director Bowcock moved and Director Parker seconded to recommend the Board approve moving forward with the second option, to replace the lower portion of the pipeline at the Paloma Curve Hydraulic Break while the costs for the first option, to replace the entire pipeline, are verified. Motion carried unanimously.

Mr. Lee thanked Ms. Olivas for attending the meeting and stated he would be in contact with her to move the project forward.

Ms. Olivas exited the meeting.

C. Surface Water Treatment Plant – Mr. Lee drew attention to the historical water flow data showing the months with below 1 million gallons in which SAWCo would be able to run the treatment plant. What is not considered are the months when the flow is so high that the City of Upland cannot, or is unwilling to, take the water. It is during those months SAWCo will also be able to run the treatment plant.

Mr. Lee would like to speak with field staff about the recommendation to utilize UV for disinfection. SAWCo currently uses liquid chlorine to treat the water. Using chlorine at the proposed facility would have a slightly larger footprint but the material costs and operating and maintenance costs are lower.

Staff learned that the City of Upland has requested grant funding to install a smaller train at their treatment plant to allow for lower flow intake. Mr. Lee recommends having a discussion with City of Upland public works staff about SAWCo's treatment plant study. If the City of Upland can obtain the grant money for their treatment plant, there isn't a need at this time to move forward with SAWCo's own treatment plant. Should they not receive the grant money, there would then be a need for SAWCo to look into building their own treatment plant.

Director Bowcock commented that the chlorine disinfection route is the way SAWCo should go. He agreed that Mr. Lee should have a discussion with City of Upland staff about the City's application for grant money. Whether the City of Upland obtains the grant money will determine SAWCo's next steps regarding a treatment plant of their own.

No action was taken.

7. Basin Issues and Updates

- ***San Antonio Canyon Watershed*** – Nothing to report as there is no water in the canyon.
- ***Chino Basin*** – A minor producers luncheon took place the week before to allow the parties to get to know each other.

October 25, 2022

- ***Six Basins*** – Ms. Layton reported a meeting is to be held the following day to discuss the Operating Safe Yield (OSY) and the assessment. SAWCo will be suggesting the OSY not be reduced until there is a better understanding of how the storage is affecting the OSY.
- ***Cucamonga Basin*** – Information and questions are being exchanged with the geotechnical engineer as it pertains to the groundwater model.

8. Closed session: None.

9. Committee's Comments and Future Agenda Items: None.

Adjournment: –The meeting adjourned at 3:22 p.m.

Assistant Secretary
Brian Lee



San Antonio Water Company, CA

Income Statement

Group Summary

For Fiscal: 2023 Period Ending: 01/31/2023

IncomeStatement	Original Total Budget	Current Total Budget	MTD Activity	YTD Activity	Budget Remaining
Category: 4 - Income					
SubCategory: 40 - Shareholder Revenue					
1185 - Domestic Water Income (Base)	270,000.00	270,000.00	-8.86	-8.86	270,008.86
1215 - Domestic Water Income (Supplemental)	230,000.00	230,000.00	0.00	0.00	230,000.00
1220 - Domestic Water Income (Tier 3)	230,000.00	230,000.00	0.00	0.00	230,000.00
1230 - Domestic Water Income (Readi/Chrg)	200,000.00	200,000.00	0.00	0.00	200,000.00
1235 - Domestic Water Availability Charge (WAC)	61,000.00	61,000.00	0.00	0.00	61,000.00
1245 - Municipal Water Income (Base)	3,100,000.00	3,100,000.00	228,906.12	228,906.12	2,871,093.88
1268 - Municipal Water Income (Readi/Chrg)	77,000.00	77,000.00	6,400.00	6,400.00	70,600.00
1274 - Misc Water Income (Base)	205,000.00	205,000.00	966.82	966.82	204,033.18
1275 - Misc Water Income (Supplemental)	50,000.00	50,000.00	0.00	0.00	50,000.00
1276 - Munnicipal Water Availability Charge (WAC)	477,000.00	477,000.00	39,756.00	39,756.00	437,244.00
1280 - Misc Water Income (Tier 3)	5,000.00	5,000.00	0.00	0.00	5,000.00
1288 - Misc Water Income (Readi/Chrg)	23,000.00	23,000.00	1,860.00	1,860.00	21,140.00
1290 - Misc Water Availability Charge (WAC)	23,000.00	23,000.00	1,922.00	1,922.00	21,078.00
1295 - Dormant Water Availability Charge (WAC)	52,000.00	52,000.00	0.00	0.00	52,000.00
1302 - Meter Service Fees	1,500.00	1,500.00	0.00	0.00	1,500.00
1400 - Stock Transfer	5,000.00	5,000.00	330.00	330.00	4,670.00
1410 - Late/Re-establishment Fee	2,000.00	2,000.00	35.00	35.00	1,965.00
1430 - Stock Certificate Storage and Handling Fee	300.00	300.00	0.00	0.00	300.00
SubCategory: 40 - Shareholder Revenue Total:	5,011,800.00	5,011,800.00	280,167.08	280,167.08	4,731,632.92
SubCategory: 42 - Non-Shareholder Revenue					
1725 - Misc. Income	2,000.00	2,000.00	253.13	253.13	1,746.87
1750 - Service/Litigation Agreements	0.00	0.00	67.00	67.00	-67.00
1753 - Ground Lease Income	70,000.00	70,000.00	6,111.84	6,111.84	63,888.16
1755 - Interest Earned	20,000.00	20,000.00	19,101.91	19,101.91	898.09
1785 - Gain on Sale of Asset	344,000.00	344,000.00	0.00	0.00	344,000.00
SubCategory: 42 - Non-Shareholder Revenue Total:	436,000.00	436,000.00	25,533.88	25,533.88	410,466.12
Category: 4 - Income Total:	5,447,800.00	5,447,800.00	305,700.96	305,700.96	5,142,099.04
Category: 5 - O & M Expense					
SubCategory: 50 - Operating Facilities					
2175 - Facility Related Field Labor	280,000.00	280,000.00	25,427.21	25,427.21	254,572.79
2235 - Repairs to Facilities and Equipment	350,000.00	350,000.00	20,624.43	20,624.43	329,375.57
2265 - Power-Gas & Electric (utilities)	900,000.00	900,000.00	83,019.14	83,019.14	816,980.86
SubCategory: 50 - Operating Facilities Total:	1,530,000.00	1,530,000.00	129,070.78	129,070.78	1,400,929.22
SubCategory: 51 - Operating Activities					
2475 - Customer Service	79,000.00	79,000.00	5,419.09	5,419.09	73,580.91
2498 - Conservation	26,000.00	26,000.00	161.93	161.93	25,838.07
SubCategory: 51 - Operating Activities Total:	105,000.00	105,000.00	5,581.02	5,581.02	99,418.98
SubCategory: 52 - Other Operating Expense					
2205 - Non-Facility Related Labor	70,000.00	70,000.00	4,263.57	4,263.57	65,736.43
2210 - O & M - All Other	3,500.00	3,500.00	0.00	0.00	3,500.00
2295 - Supplies (Inventory & Tools Expense)	10,000.00	10,000.00	2,164.05	2,164.05	7,835.95
2565 - Depreciation/Amortization	1,100,000.00	1,100,000.00	93,201.07	93,201.07	1,006,798.93
2715 - Property Taxes	240,000.00	240,000.00	0.00	0.00	240,000.00
2805 - Water Resource Mgmt.	143,000.00	143,000.00	2,397.67	2,397.67	140,602.33
SubCategory: 52 - Other Operating Expense Total:	1,566,500.00	1,566,500.00	102,026.36	102,026.36	1,464,473.64
Category: 5 - O & M Expense Total:	3,201,500.00	3,201,500.00	236,678.16	236,678.16	2,964,821.84
Category: 6 - G & A Expense					
SubCategory: 60 - Personnel					
2115 - Administrative Services	300,000.00	300,000.00	20,209.95	20,209.95	279,790.05

Income Statement

For Fiscal: 2023 Period Ending: 01/31/2023

IncomeStatement	Original Total Budget	Current Total Budget	MTD Activity	YTD Activity	Budget Remaining
2325 - Payroll Taxes	78,000.00	78,000.00	8,516.94	8,516.94	69,483.06
2355 - Worker's Compensation Insurance	15,000.00	15,000.00	1,761.00	1,761.00	13,239.00
2385 - Benefit Pay (Vac., sick, etc.)	190,000.00	190,000.00	23,666.37	23,666.37	166,333.63
2415 - Benefit Insurance (Pension,Life,Medical,Vision etc)	295,000.00	295,000.00	18,989.41	18,989.41	276,010.59
2430 - Benefit Administrative Services	2,000.00	2,000.00	0.00	0.00	2,000.00
SubCategory: 60 - Personnel Total:	880,000.00	880,000.00	73,143.67	73,143.67	806,856.33
SubCategory: 61 - Other					
2445 - Office/IT Support	60,000.00	60,000.00	3,350.00	3,350.00	56,650.00
2505 - Directors Fees & Expense	32,000.00	32,000.00	2,593.69	2,593.69	29,406.31
2535 - Liability Insurance	41,000.00	41,000.00	0.00	0.00	41,000.00
2595 - Communication	43,000.00	43,000.00	1,612.10	1,612.10	41,387.90
2625 - Dues & Publications	3,500.00	3,500.00	7,845.00	7,845.00	-4,345.00
2655 - Outside Services	20,000.00	20,000.00	14,385.44	14,385.44	5,614.56
2745 - Income Tax Expense	12,500.00	12,500.00	0.00	0.00	12,500.00
2775 - Accounting	65,000.00	65,000.00	3,912.63	3,912.63	61,087.37
2776 - Legal	150,000.00	150,000.00	24,846.50	24,846.50	125,153.50
2790 - Human Resources Expense	60,000.00	60,000.00	5,364.10	5,364.10	54,635.90
2865 - All other	30,000.00	30,000.00	239.09	239.09	29,760.91
SubCategory: 61 - Other Total:	517,000.00	517,000.00	64,148.55	64,148.55	452,851.45
Category: 6 - G & A Expense Total:	1,397,000.00	1,397,000.00	137,292.22	137,292.22	1,259,707.78
Total Surplus (Deficit):	849,300.00	849,300.00	-68,269.42	-68,269.42	

Fund Summary

Fund	Original Total Budget	Current Total Budget	MTD Activity	YTD Activity	Budget Remaining
10 - 10	849,300.00	849,300.00	-68,269.42	-68,269.42	917,569.42
Total Surplus (Deficit):	849,300.00	849,300.00	-68,269.42	-68,269.42	



San Antonio Water Company, CA

Balance Sheet
Account Summary
 As Of 01/31/2023

Account	Name	Balance
Fund: 10 - 10		
Assets		
BalSubCategory: 10 - Cash		
10-00-00-10100-00000	Petty Cash	250.00
10-00-00-10201-00000	Checking Account-8431	955,586.41
10-00-00-10415-00000	D&O Checking Account	2,029,557.70
10-00-00-10438-00000	Depre/Obsolescene Res (LAIF)	5,175,585.96
	Total BalSubCategory 10 - Cash:	8,160,980.07
BalSubCategory: 11 - Accounts Receivable		
10-00-00-11100-00000	Accounts Receivable-Domestic	24,614.03
10-00-00-11200-00000	Accounts Receivable-Municipal	475,407.80
10-00-00-11250-00000	Accounts Receivable-Misc.	2,172.99
10-00-00-11260-00000	Accounts Receivable - Dormant	3,923.49
10-00-00-11275-00000	Contra Accounts Receivable - Unapplied Cre	-26,077.98
10-00-00-11300-00000	Accounts Receivable-Other	215,747.70
10-00-00-11301-00000	Note Receivable	344,000.00
	Total BalSubCategory 11 - Accounts Receivable:	1,039,788.03
BalSubCategory: 12 - Inventory		
10-00-00-12100-00000	Inventories-Materials & Supply	173,881.82
	Total BalSubCategory 12 - Inventory:	173,881.82
BalSubCategory: 13 - Prepaid		
10-00-00-13100-00000	Prepaid Insurance	8,868.75
10-00-00-13105-00000	PREPAID POSTAGE	369.00
	Total BalSubCategory 13 - Prepaid:	9,237.75
BalSubCategory: 14 - Investments		
10-00-00-14150-00000	P.V.P.A. Investment	1.00
10-00-00-14151-00000	457B Plan Investment	57,429.13
	Total BalSubCategory 14 - Investments:	57,430.13
BalSubCategory: 15 - Property, Plant, & Equipment		
10-00-00-15100-00000	Land & Water Rights	920,161.26
10-00-00-15110-1507J	Work in Progress "Proj J"	91,534.00
10-00-00-15110-1602U	Work in Progress	1,209,962.46
10-00-00-15110-2109	Work In Progress	11,232.00
10-00-00-15110-2201	Work in Progress	15,070.38
10-00-00-15110-2202	Work in Progress CO#2202	55,244.65
10-00-00-15150-00000	Buildings & Site Improvements	1,827,589.96
10-00-00-15200-00000	Wells-Shafts, Bldgs, & Equip	4,910,918.85
10-00-00-15250-00000	Boosters-Bldgs & Equip	2,629,884.62
10-00-00-15300-00000	Reservoirs	3,081,787.33
10-00-00-15350-00000	Tunnels, Forebay, & Ponds	1,587,111.19
10-00-00-15400-00000	Spreading Works-Cucamonga Wash	54,859.53
10-00-00-15410-00000	Spreading Works-SanAntonio Wsh	50,235.18
10-00-00-15450-00000	Pipelines	19,228,760.46
10-00-00-15500-00000	Autos & Equipment	541,858.28
10-00-00-15550-00000	Tools	110,727.03
10-00-00-15600-00000	Telemetry System	625,621.96
10-00-00-15650-00000	Office Equipment	524,367.29
10-00-00-15990-00000	Accumulated Depreciation	-15,438,551.40
	Total BalSubCategory 15 - Property, Plant, & Equipment:	22,038,375.03
BalSubCategory: 16 - Other Assets		
10-00-00-16100-00000	Documents & Studies	1,009,546.33
10-00-00-16100-1905	WIP- Master Plan and Asset Managment Prc	216,583.38
10-00-00-16105-2204	Work in Progress (Docs)	4,315.00

Balance Sheet

As Of 01/31/2023

Account	Name	Balance
10-00-00-16990-00000	Accumulated Amortization	-762,586.13
	Total BalSubCategory 16 - Other Assets:	467,858.58
	Total Assets:	31,947,551.41
		<u>31,947,551.41</u>
Liability		
BalSubCategory: 13 - Prepaid		
10-00-00-20650-00000	Deferred Revenue Deposit	1,608.00
	Total BalSubCategory 13 - Prepaid:	1,608.00
BalSubCategory: 20 - Short-term less than 1 year		
10-00-00-20100-00000	Trade Accounts Payable	155,469.84
10-00-00-20115-00000	D&O Trade Accounts Payable	31,674.25
10-00-00-20261-00000	Section 125 - Dental	0.06
10-00-00-20262-00000	Section 125 - Vision	0.08
10-00-00-20263-00000	Section 125 - Medical	0.03
10-00-00-20410-00000	State Franchise Tax Payable	518.00
10-00-00-20600-00000	Water Hydrant Meter Deposit	1,700.00
10-00-GN-20820-00000	Accrued Vacation Payable	20,404.60
10-00-OP-20820-00000	Accrued Vacation Payable	24,818.57
	Total BalSubCategory 20 - Short-term less than 1 year:	234,585.43
BalSubCategory: 21 - Long-term more than 1 year		
10-00-00-20152-00000	457B Deferred Comp Liability	57,429.13
10-00-00-21500-00000	Unclaimed Credits	464,368.37
10-00-00-22100-00000	Deferred Gain	343,059.43
	Total BalSubCategory 21 - Long-term more than 1 year:	864,856.93
	Total Liability:	1,101,050.36
Equity		
BalSubCategory: 30 - Stockholder equity		
10-00-00-30200-00000	Contributed Capital - Ext. Fee	447,258.02
10-00-00-30210-00000	Contr. Property, Plant & Equip	2,432,256.77
10-00-00-30300-00000	Capital Account	1,500,000.00
10-00-00-30310-00000	Unissued Capital Stock	-861,100.00
10-00-00-30400-00000	Retained Earngs-Brd Designated	7,231,692.92
10-00-00-30410-00000	Retained Earnings-Unrestricted	20,164,662.76
	Total BalSubCategory 30 - Stockholder equity:	30,914,770.47
	Total Beginning Equity:	30,914,770.47
Total Revenue		305,700.96
Total Expense		373,970.38
Revenues Over/Under Expenses		-68,269.42
	Total Equity and Current Surplus (Deficit):	30,846,501.05
	Total Liabilities, Equity and Current Surplus (Deficit):	<u>31,947,551.41</u>

Monthly Investment Activity Summary - Compiled from Banking Statements for Correlation with Monthly Financials								
	Institution	Type of Investment	Date of Maturity	Rate of Interest	Account Balance as of 1/31/2023	Reserves		
						Operating <small>target: \$875k-\$1.75M</small>	Depreciation & Obsolescence <small>target: \$1.2M-\$4.6M</small>	
Undesignated	Citizens Business Bank (CBB)	Checking	N/A	None	\$ 955,586.41	\$ 955,586.41	Capital Investment & Depreciation	Modernization
Designated	Citizens Business Bank (CBB)	Checking	N/A	None	\$ 2,029,557.70		\$ 2,029,557.70	
	Local Agency Investment Fund	LAIF	N/A	2.425%	\$ 5,175,585.96		\$ 3,742,890.96	\$ 1,432,695.00
				TOTAL	\$ 8,160,730.07	\$ 955,586.41	\$ 5,772,448.66	\$ 1,432,695.00

2023 Production

Item 4G

CHINO BASIN	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Yearly Production Rights = 1232	39.43%	39.43%	39.43%	39.43%	39.43%	39.43%	-	-	-	-	-	-	-
Well #12 - inactive	-	-	-	-	-	-	-	-	-	-	-	-	-
Well #15 - Domestic	0.08	-	-	-	-	-	-	-	-	-	-	-	0.08
Well #16 - Domestic	0.11	-	-	-	-	-	-	-	-	-	-	-	0.11
Well#18 - inactive	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	0.19	-	-	-	-	-	-	-	-	-	-	-	0.19
CUCAMONGA BASIN	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Yearly Production Rights = 5601 (1101 10-yr Average Spread)	9.31%	14.21%	19.12%	24.54%	29.52%	34.62%	39.72%	44.81%	49.90%	54.99%	60.08%	65.17%	-
Well #2	105.05	96.42	-	-	-	-	-	-	-	-	-	-	201.47
Well #3	0.31	-	-	-	-	-	-	-	-	-	-	-	0.31
Well#19 - inactive	-	-	-	-	-	-	-	-	-	-	-	-	-
Well #22	2.96	10.70	-	-	-	-	-	-	-	-	-	-	13.66
Well #24	206.11	-	-	-	-	-	-	-	-	-	-	-	206.11
Well #31	-	-	-	-	-	-	-	-	-	-	-	-	-
Well #32 - Domestic	-	-	-	-	-	-	-	-	-	-	-	-	-
Upl. # 15 (SAWCo's Rts)	206.92	167.58	-	-	-	-	-	-	-	-	-	-	374.50
Subtotal	521.34	274.70	-	-	-	-	-	-	-	-	-	-	796.04
Upl. # 15 (WECWCo's Rts) Memo Only	-	-	-	-	-	-	-	-	-	-	-	-	-
SIX BASINS	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Yearly Production Rights = 932	8.24%	15.82%	23.40%	31.78%	39.47%	47.35%	55.23%	63.09%	70.96%	78.83%	86.69%	94.56%	-
Well #25-A	-	-	-	-	-	-	-	-	-	-	-	-	-
Well #26	38.41	33.78	-	-	-	-	-	-	-	-	-	-	72.19
Well 27-A	38.42	36.85	-	-	-	-	-	-	-	-	-	-	75.26
Subtotal	76.82	70.63	-	-	-	-	-	-	-	-	-	-	147.45
TOTAL PUMPED	598.36	345.32	-	-	-	-	-	-	-	-	-	-	943.68
GRAVITY FLOW	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
V screen	510.96	893.27	-	-	-	-	-	-	-	-	-	-	1,404.24
backwash from city treatment plant	0.59	0.80	-	-	-	-	-	-	-	-	-	-	1.38
San Antonio Tunnel (forebay)	195.50	226.19	-	-	-	-	-	-	-	-	-	-	421.69
Frankish & Stamm Tunnel 8"	85.21	81.53	-	-	-	-	-	-	-	-	-	-	166.74
San Ant. Tunnel Connect to City	-	-	-	-	-	-	-	-	-	-	-	-	-
Discharge to waste	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL GRAVITY	792.26	1,201.78	-	-	-	-	-	-	-	-	-	-	1,994.04
Monthly													
San Antonio Tunnel	195.50	226.19	-	-	-	-	-	-	-	-	-	-	421.69
V Screen, Frankish & Stamm Tunnel and TP Backwash	596.76	975.60	-	-	-	-	-	-	-	-	-	-	1,572.35
Gravity Production	792.26	1,201.78	-	-	-	-	-	-	-	-	-	-	1,994.04
Cumulative													
San Antonio Tunnel	195.50	421.69	-	-	-	-	-	-	-	-	-	-	421.69
V Screen, Frankish & Stamm Tunnel and TP Backwash	596.76	1,572.35	-	-	-	-	-	-	-	-	-	-	1,572.35
Gravity Production	792.26	1,994.04	-	-	-	-	-	-	-	-	-	-	1,994.04
Purchased Water - Upl. City to Dom. Sys.	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Production	1,390.62	1,547.11	-	-	-	-	-	-	-	-	-	-	2,937.72
Total Cumulative Production	1,390.62	2,937.72	-	-	-	-	-	-	-	-	-	-	
Domestic Production	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Domestic Production	195.70	226.19	-	-	-	-	-	-	-	-	-	-	421.88
Irrigation Production	1,194.92	1,320.92	-	-	-	-	-	-	-	-	-	-	2,515.84
RainFall (Inches)	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	
RainFall (Inches)	6.26	5.99	-	-	-	-	-	-	-	-	-	-	
Cumulative (Inches)	6.26	12.25	-	-	-	-	-	-	-	-	-	-	

2023 Consumption

DOMESTIC	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Dom. Sys. - Base	36.04	32.27	-	-	-	-	-	-	-	-	-	-	68.31
Dom. Sys. - Supplemental	3.78	12.42	-	-	-	-	-	-	-	-	-	-	16.20
Dom Sys - Tier 3	1.21	9.97	-	-	-	-	-	-	-	-	-	-	11.18
Dom. Sys. - Del. to Upland(24th/Campus)	44.54	41.72	-	-	-	-	-	-	-	-	-	-	86.27
Dom. Sys. -Del. To Upland (Well 16/15)	0.00	-	-	-	-	-	-	-	-	-	-	-	0.00
Dom. Sys. - Del. to Upland(24th/Mtn)-installed 4/2/19	-	-	-	-	-	-	-	-	-	-	-	-	-
Tunnel meter to the Upland	-	-	-	-	-	-	-	-	-	-	-	-	-
Discharge to waste	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	85.57	96.38	-	-	-	-	-	-	-	-	-	-	181.96

Truck Loads - note only crosswall projects	-	-	-	-	-	-	-	-	-	-	-	-	-
Well 32 Hydrant Mtr. - note only(started 8/6/18)Crosswalls	0.19	0.49	-	-	-	-	-	-	-	-	-	-	0.67

Irr. Note only Del. to MVWD(wheeled through Upland)	87.49	66.54	-	-	-	-	-	-	-	-	-	-	154.03
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IRRIGATION	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Irrig. Sys.-Upland(Pump & Rec'd) (City W#15)	206.92	167.58	-	-	-	-	-	-	-	-	-	-	374.50
Irrig. Sys. - Upl. City - Tier 1	444.32	462.84	-	-	-	-	-	-	-	-	-	-	907.16
Irrig. Sys. - Upl. City - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Monte Vista - Tier 1	40.60	37.80	-	-	-	-	-	-	-	-	-	-	78.40
Irrig. Sys. - Monte Vista - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Ont. City - Tier 1	36.30	33.50	-	-	-	-	-	-	-	-	-	-	69.80
Irrig. Sys. - Ont. City - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Cucamonga Valley - Tier 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Cucamonga Valley - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Holiday Rock Co - Tier 1	0.48	14.52	-	-	-	-	-	-	-	-	-	-	15.01
Irrig. Sys. - Holiday Rock Co - Tier 2	-	14.52	-	-	-	-	-	-	-	-	-	-	14.52
Irrig. Sys. - Holiday Rock Co - Tier 3	-	0.20	-	-	-	-	-	-	-	-	-	-	0.20
Irrig. Sys. - Red Hill Golf Course - Tier 1	1.99	10.31	-	-	-	-	-	-	-	-	-	-	12.30
Irrig. Sys. - Red Hill Golf Course - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Red Hill Golf Course - Tier 3	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Red Hills HOA - Tier 1	0.05	0.30	-	-	-	-	-	-	-	-	-	-	0.35
Irrig. Sys. - Red Hills HOA - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Red Hills HOA - Tier 3	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Minor Irrigators - Tier 1	0.75	0.38	-	-	-	-	-	-	-	-	-	-	1.12
Irrig. Sys. - Minor Irrigators - Tier 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrig. Sys. - Minor irrigators - Tier 3	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	731.40	741.94	-	-	-	-	-	-	-	-	-	-	1,473.35

COMPANY TOTALS	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
San Antonio Heights	41.03	54.66	-	-	-	-	-	-	-	-	-	-	95.69
City of Upland	695.78	672.14	-	-	-	-	-	-	-	-	-	-	1,367.92
Monte Vista Water District	40.60	37.80	-	-	-	-	-	-	-	-	-	-	78.40
City of Ontario	36.30	33.50	-	-	-	-	-	-	-	-	-	-	69.80
Cucamonga Valley Water District	-	-	-	-	-	-	-	-	-	-	-	-	-
Holiday Rock Company	0.48	29.24	-	-	-	-	-	-	-	-	-	-	29.73
Red Hills Golf Course	1.99	10.31	-	-	-	-	-	-	-	-	-	-	12.30
Red Hill HOA	0.05	0.30	-	-	-	-	-	-	-	-	-	-	0.35
Minor Irrigators	0.75	0.38	-	-	-	-	-	-	-	-	-	-	1.12
TOTAL	816.98	838.33	-	-	-	-	-	-	-	-	-	-	1,655.30

IRRIGATORS	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Irrigator Emberton	0.23	0.22	-	-	-	-	-	-	-	-	-	-	0.45
Irrigator McMurray	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrigator Mistretta	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrigator Nisbit	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrigator Scheu	-	-	-	-	-	-	-	-	-	-	-	-	-
Irrigator Pfister	0.51	0.15	-	-	-	-	-	-	-	-	-	-	0.67

2023 Spread and Storage

Cucamonga Basin

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
23rd St. (Meter) - Basin 6 - A	79.32	156.63	-	-	-	-	-	-	-	-	-	-	235.96
15th Street Basin	8.79	32.39	-	-	-	-	-	-	-	-	-	-	41.18
Basin 3 meter (23rd street Clock)	170.96	203.41	-	-	-	-	-	-	-	-	-	-	374.37
Frankish & Stamm Tunnel to Basin 3	85.21	81.53	-	-	-	-	-	-	-	-	-	-	166.74
Vscreen via Frankish & Stamm Meter to Basin 3	106.81	159.03	-	-	-	-	-	-	-	-	-	-	265.85
PRV Station (res 1)(basin 6)	3.12	2.82	-	-	-	-	-	-	-	-	-	-	5.94
Monthly Spread	454.22	635.81	-	-	-	-	-	-	-	-	-	-	1,090.03
Cumulative Spread	454.22	1,090.03	-	-	-	-	-	-	-	-	-	-	

Six Basins

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Monthly Spread	125.79	180.38	-	-	-	-	-	-	-	-	-	-	306.16
Cumulative Spread	125.79	-	-	-	-	-	-	-	-	-	-	-	

Note: City of Upland Well Exercising may contribute to spread

Note: Maximum end of year storage limit: 2,000 AF

Previous Storage	2,247.00	2,373.63	-	-	-	-	-	-	-	-	-	-	-
Spread	125.79	180.38	-	-	-	-	-	-	-	-	-	-	-
Unused Monthly OSY	0.85	-	-	-	-	-	-	-	-	-	-	-	-
Current Storage Estimate	2,374	2,554	-	-	-	-	-	-	-	-	-	-	-

932 yearly OSY = 77.67 monthly OSY

Chino Basin

Monthly Spread	-	96.79	-	-	-	-	-	-	-	-	-	-	96.79
Cumulative Spread	-	96.79	-	-	-	-	-	-	-	-	-	-	

Local Supplemental Account (Spreading)*	3,923.25	3,923.25	-	-	-	-	-	-	-	-	-	-	-
Carry Over Account	1,232.00	1,232.00	-	-	-	-	-	-	-	-	-	-	-
Excess Carry Over Account*	2,104.00	2,206.48	-	-	-	-	-	-	-	-	-	-	-
Preemptive Replenishment Account	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Storage	7,259.25	7,361.73	-	-	-	-	-	-	-	-	-	-	-
Spread	-	96.79	-	-	-	-	-	-	-	-	-	-	-
Unused Monthly OSY	102.48	102.67	-	-	-	-	-	-	-	-	-	-	-
Current Storage Estimate*	7,362	7,561	-	-	-	-	-	-	-	-	-	-	-

1,232 yearly OSY = 102.67 monthly OSY

* Does not include yearly storage losses calc of 0.07%

Company Wide

Monthly Spread	580.00	912.98	-	-	-	-	-	-	-	-	-	-	1,492.99
Cumulative Spread	580.00	1,492.99	-	-	-	-	-	-	-	-	-	-	
Total Current Storage Estimate	9,735	10,115	-	-	-	-	-	-	-	-	-	-	

Meter to spread ponds (NOTE ONLY)	-	-	-	-	-	-	-	-	-	-	-	-	-
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2023 GW Production Rights

Yearly %	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
	8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%

Cucamonga Basin Production

Yearly Production Rights = 5601 (4,500AF + 1101AF 10-yr Average Spread)

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Production	521.34	274.70	-	-	-	-	-	-	-	-	-	-	-
Cumulative Production	521.34	796.04	-	-	-	-	-	-	-	-	-	-	796.04
Cumulative Production Rights	466.79	933.58	-	-	-	-	-	-	-	-	-	-	5,601
% of Production Rights*	9.31%	14.21%	19.12%	24.54%	29.52%	34.62%	39.72%	44.81%	49.90%	54.99%	60.08%	65.17%	14.2%

Six Basins Production

Yearly Production Rights = 932AF

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Production	76.82	70.63	-	-	-	-	-	-	-	-	-	-	-
Cumulative Production	76.82	147.45	-	-	-	-	-	-	-	-	-	-	147.45
Cumulative Production Rights	77.68	155.35	-	-	-	-	-	-	-	-	-	-	932
% of Production Rights*	8.24%	15.82%	23.40%	31.78%	39.47%	47.35%	55.23%	63.09%	70.96%	78.83%	86.69%	94.56%	15.8%

Chino Basin Production

Note: Chino Basin production rights are calculated from July through June.

Yearly Production Rights = 1232AF

	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Production		0.19	-	-	-	-	-	-	-	-	-	-	-	0.19
Cumulative Production for 2022		0.19	0.19	-	-	-	-	-	-	-	-	-	-	-
Water Year 22-23														
Cumulative Production	485.54	485.73	485.73	-	-	-	-							485.73
Cumulative Rights	616.00	718.67	821.33	924.00	1,026.67	1,129.33	1,232.00							1,232.00
% of Production Rights 22-23*	39.43%	39.43%	39.43%	39.43%	39.43%	39.43%	39.43%							
Water Year 23-24														
Cumulative Production								-	-	-	-	-	-	-
Cumulative Rights								102.67	205.33	308.00	410.67	513.33	616.00	1,232.00
% of Production Rights 22-23*								-	-	-	-	-	-	-

* - Out months are Exponential Smoothing (ETS) forecasts based on basin production to date

Chino Basin	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	WY19-20
Water Year 19-20													
Cumulative Production	5.24	110.22	227.03	351.18	470.30	470.30	470.53	470.80	470.80	471.09	486.34	614.43	
Cumulative Rights	102.67	205.33	308.00	410.67	513.33	616.00	718.67	821.33	924.00	1,026.67	1,129.33	1,232.00	1,232.00
% of Production Rights 19-20	5.10%	53.68%	73.71%	85.51%	91.62%	76.35%	65.47%	57.32%	50.95%	45.89%	43.06%	49.87%	

2023 Production v Consumption

Yearly %	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
	8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%

Consumption versus Entitlement, Company Wide **Active Shares**

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Consumption	816.98	838.33	-	-	-	-	-	-	-	-	-	-	-
Cumulative Consumption	816.98	1,655.30	-	-	-	-	-	-	-	-	-	-	1,655.30
<i>Cumulative Entitlement (straight line)</i>	1,048.23	2,096.47	-	-	-	-	-	-	-	-	-	-	12,579
% of Entitlement*	6.49%	13.16%	19.82%	27.20%	33.96%	40.90%	47.83%	54.74%	61.66%	68.58%	75.50%	82.42%	13.2%

Consumption versus Entitlement, Company Wide **Total Shares**

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Consumption	816.98	838.33	-	-	-	-	-	-	-	-	-	-	-
Cumulative Consumption	816.98	1,655.30	-	-	-	-	-	-	-	-	-	-	1,655.30
<i>Cumulative Entitlement (straight line)</i>	1,083.33	2,166.67	-	-	-	-	-	-	-	-	-	-	13,000
% of Entitlement*	6.28%	12.73%	19.18%	26.32%	32.86%	39.57%	46.28%	52.97%	59.66%	66.36%	73.05%	79.75%	12.7%

Production versus Consumption, Company Wide

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Production	1,390.62	1,547.11	-	-	-	-	-	-	-	-	-	-	2,937.72
Consumption	816.98	838.33	-	-	-	-	-	-	-	-	-	-	1,655.30
Spread	580.00	912.98	-	-	-	-	-	-	-	-	-	-	1,492.99
Total Consumption	1,396.98	1,751.31	-	-	-	-	-	-	-	-	-	-	3,148.29
Difference	(6.36)	(204.20)	-	-	-	-	-	-	-	-	-	-	(210.56)
% of Production	-0.5%	-13.2%	0.0%	0.0%	0.0%	0.0%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.2%

Production versus Consumption, Domestic System

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Production	195.70	226.19	-	-	-	-	-	-	-	-	-	-	421.88
Consumption	85.57	96.38	-	-	-	-	-	-	-	-	-	-	181.96
Monthly Difference	110.12	129.80	-	-	-	-	-	-	-	-	-	-	239.93
% difference	128.69%	134.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	131.9%

Production versus Consumption, Irrigation System

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR
Production	1,194.92	1,320.92	-	-	-	-	-	-	-	-	-	-	2,515.84
<i>Addition from Domestic</i>	110.12	129.80	-	-	-	-	-	-	-	-	-	-	239.93
Total Production	1,305.04	1,450.72	-	-	-	-	-	-	-	-	-	-	2,755.77
Consumption	1,311.41	1,654.93	-	-	-	-	-	-	-	-	-	-	2,966.33
Monthly Difference	(6.36)	(204.20)	-	-	-	-	-	-	-	-	-	-	(210.56)
% difference	-0.49%	-12.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-7.1%

* - Out months are Exponential Smoothing (ETS) forecasts based on consumption to date

2023 Consumption Analysis

Yearly %	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
	8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%

COMPANY TOTALS

Active Shares

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares
Consumption	816.98	838.33	-	-	-	-	-	-	-	-	-	-		6,182
Cumulative Consumption	816.98	1,655.30	-	-	-	-	-	-	-	-	-	-	1,655.30	
Cumulative Entitlement	984.59	1,969.17	-	-	-	-	-	-	-	-	-	-	12,578.81	
% of Yearly Entitlement*	6.49%	13.16%	19.82%	27.20%	33.96%	40.90%	47.83%	54.74%	61.66%	68.58%	75.50%	82.42%	13.16%	

COMPANY TOTALS

All Shares

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares
Consumption	816.98	838.33	-	-	-	-	-	-	-	-	-	-		6,389
Cumulative Consumption	816.98	1,655.30	-	-	-	-	-	-	-	-	-	-	1,655.30	
Cumulative Entitlement	1,083.33	2,166.67	-	-	-	-	-	-	-	-	-	-	13,000.00	
% of Yearly Entitlement*	6.28%	12.73%	19.18%	26.32%	32.86%	39.57%	46.28%	52.97%	59.66%	66.36%	73.05%	79.75%	12.73%	

San Antonio Heights

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares
Consumption	41.03	54.66	-	-	-	-	-	-	-	-	-	-		632
Cumulative Consumption	41.03	95.69	-	-	-	-	-	-	-	-	-	-	95.69	
Cumulative Entitlement	69.41	138.82	-	-	-	-	-	-	-	-	-	-	1,285.96	
% of Yearly Entitlement*	3.19%	7.44%	11.69%	16.40%	20.71%	25.13%	29.55%	33.96%	38.38%	42.79%	47.20%	51.61%	7.44%	

City of Upland

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares
Consumption	695.78	672.14	-	-	-	-	-	-	-	-	-	-		4,516.50
Cumulative Consumption	695.78	1,367.92	-	-	-	-	-	-	-	-	-	-	1,367.92	
Cumulative Entitlement	765.83	1,531.66	-	-	-	-	-	-	-	-	-	-	9,189.94	
% of Yearly Entitlement*	7.57%	14.88%	22.20%	30.30%	37.71%	45.33%	52.93%	60.52%	68.11%	75.70%	83.30%	90.89%	14.88%	

Monte Vista Water District

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares
Consumption	40.60	37.80	-	-	-	-	-	-	-	-	-	-		331
Cumulative Consumption	40.60	78.40	-	-	-	-	-	-	-	-	-	-	78.40	
Cumulative Entitlement	56.04	112.08	-	-	-	-	-	-	-	-	-	-	672.48	
% of Yearly Entitlement*	6.04%	11.66%	17.28%	23.50%	29.20%	35.05%	40.90%	46.73%	52.57%	58.40%	64.23%	70.07%	11.66%	

City of Ontario

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares
Consumption	36.30	33.50	-	-	-	-	-	-	-	-	-	-		295
Cumulative Consumption	36.30	69.80	-	-	-	-	-	-	-	-	-	-	69.80	
Cumulative Entitlement	50.06	100.13	-	-	-	-	-	-	-	-	-	-	600.76	
% of Yearly Entitlement*	6.04%	11.62%	17.19%	23.37%	29.02%	34.83%	40.63%	46.41%	52.20%	57.99%	63.78%	69.57%	11.62%	

* - Out months are Exponential Smoothing (ETS) forecasts based on consumption to date

2023 Consumption Analysis

Yearly %	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
	8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%

Cucamonga Valley Water District

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares	4
Consumption	-	-	-	-	-	-	-	-	-	-	-	-			
Cumulative Consumption	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cumulative Entitlement	-	-	-	-	-	-	-	-	-	-	-	-	8.14		
% of Yearly Entitlement*															

Holiday Rock Company

	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares	132
Consumption	0.48	29.24	-	-	-	-	-	-	-	-	-	-			
Cumulative Consumption	0.48	29.73	-	-	-	-	-	-	-	-	-	-	29.73		
Cumulative Entitlement	14.52	29.05	-	-	-	-	-	-	-	-	-	-	269.10		
% of Yearly Entitlement*	0.18%	11.05%	21.91%	33.95%	44.96%	56.28%	67.58%	78.85%	90.13%	101.41%	112.69%	123.98%	11.05%		

Red Hills Golf Course

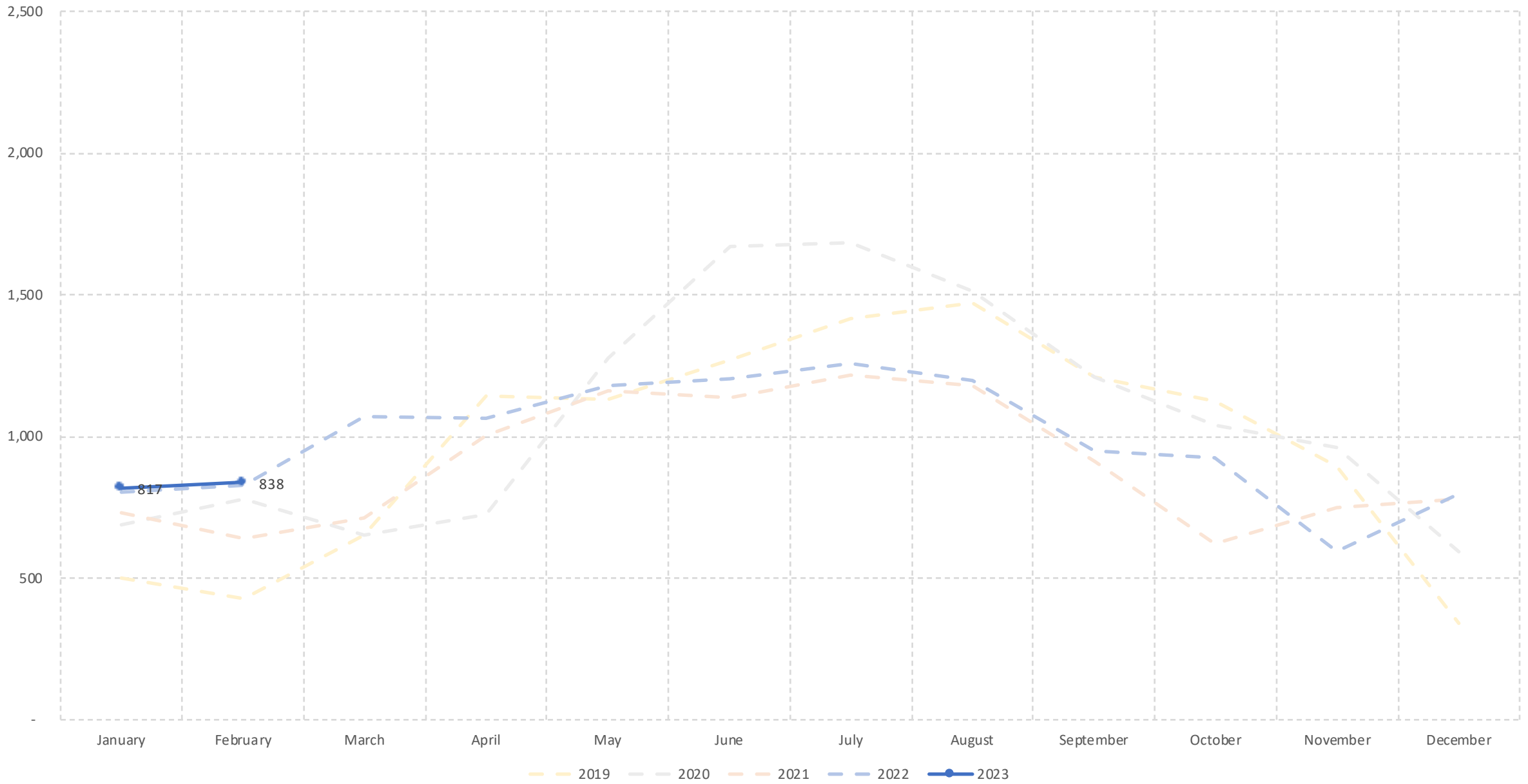
	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares	211
Consumption	1.99	10.31	-	-	-	-	-	-	-	-	-	-			
Cumulative Consumption	1.99	12.30	-	-	-	-	-	-	-	-	-	-	12.30		
Cumulative Entitlement	23.20	46.40	-	-	-	-	-	-	-	-	-	-	429.84		
% of Yearly Entitlement*	0.46%	2.86%	5.26%	7.92%	10.35%	12.85%	15.34%	17.83%	20.32%	22.81%	25.30%	27.79%	2.86%		

Minor Irrigators

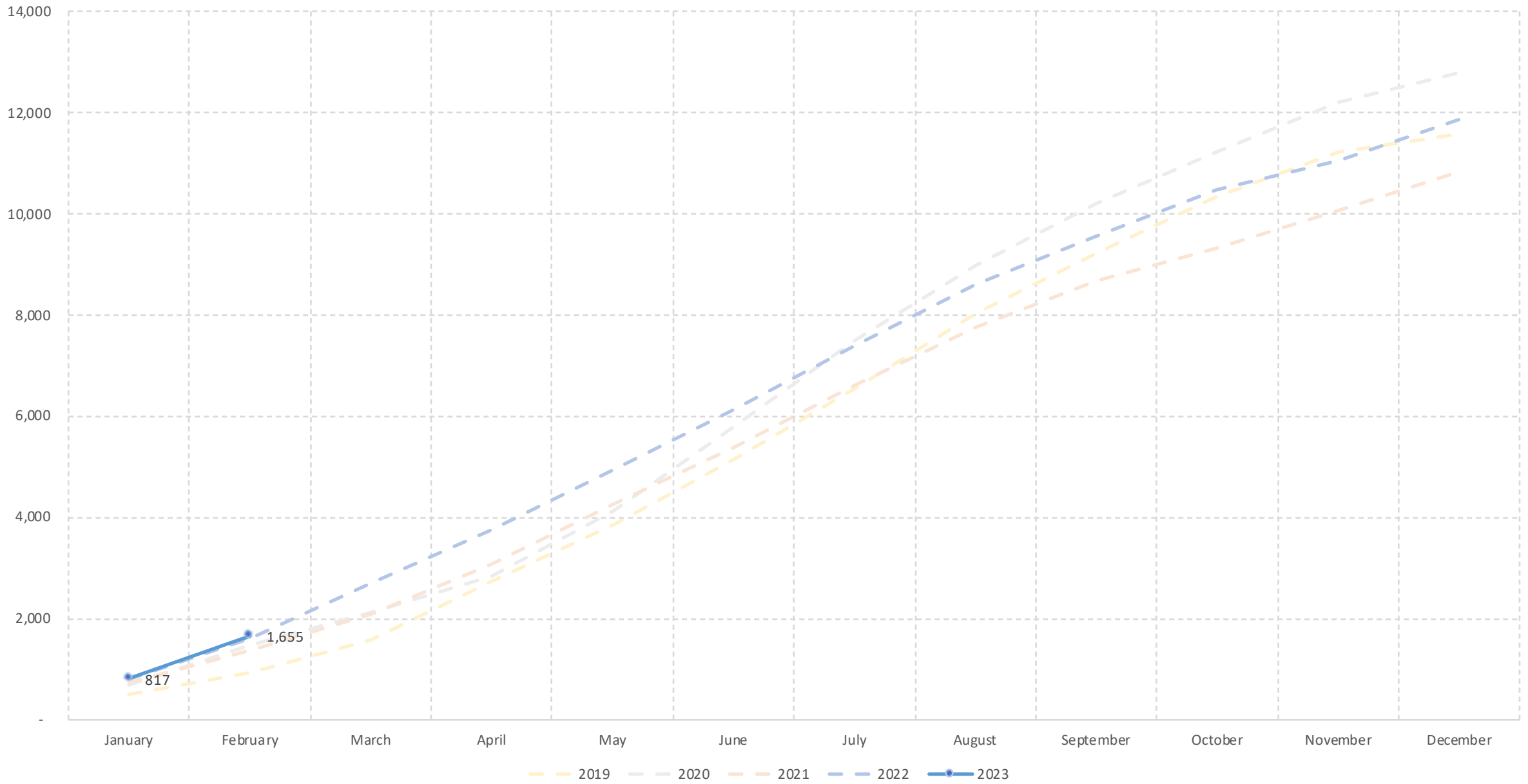
	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	THIS YEAR	Shares	50
Consumption	0.75	0.38	-	-	-	-	-	-	-	-	-	-			
Cumulative Consumption	0.75	1.12	-	-	-	-	-	-	-	-	-	-	1.12		
Cumulative Entitlement	5.52	11.04	-	-	-	-	-	-	-	-	-	-	102.25		
% of Yearly Entitlement*	0.73%	1.10%	1.47%	1.88%	2.25%	2.64%	3.02%	3.40%	3.79%	4.17%	4.56%	4.94%	1.10%		

* - Out months are Exponential Smoothing (ETS) forecasts based on consumption to date

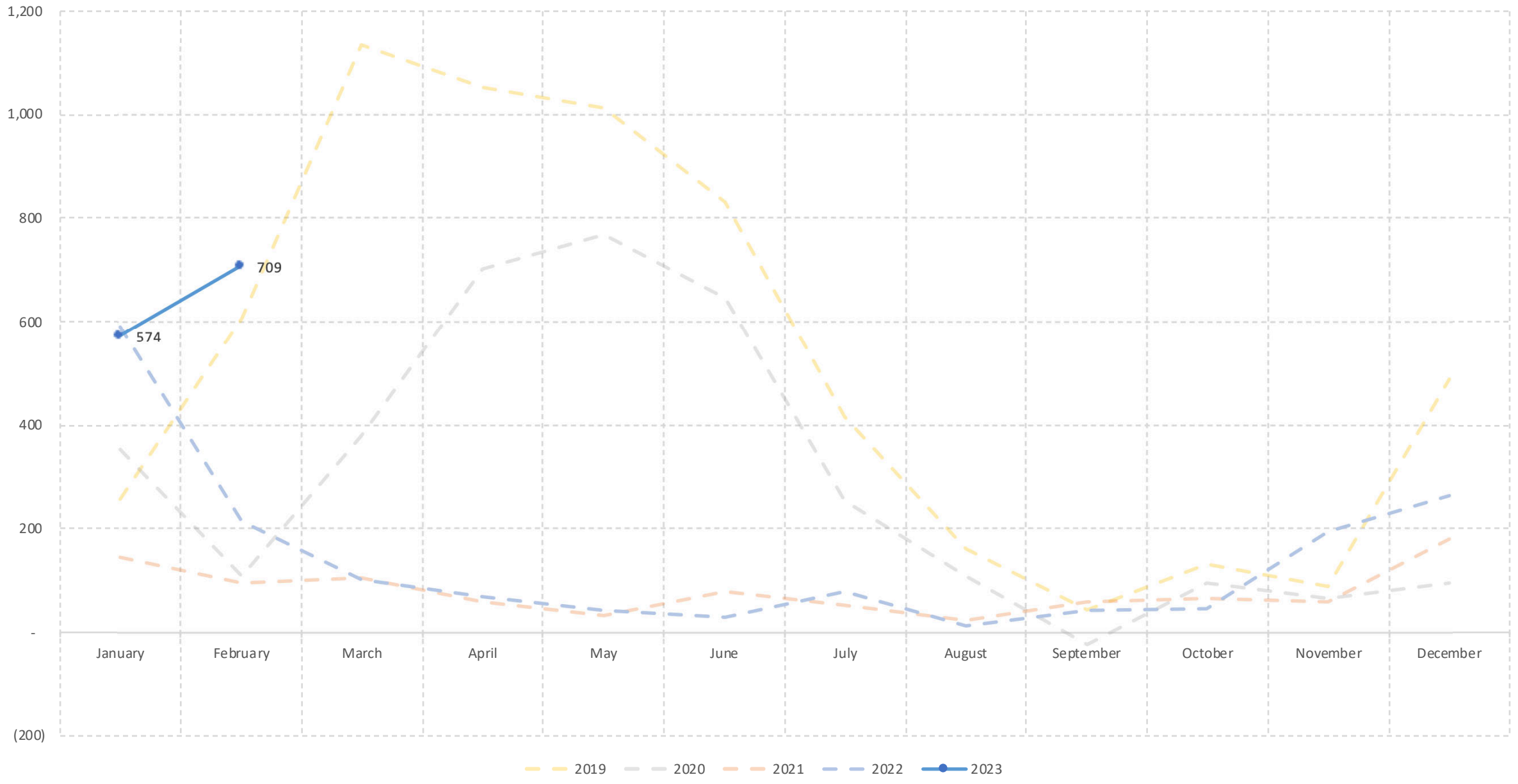
5 Year Consumption (AF)



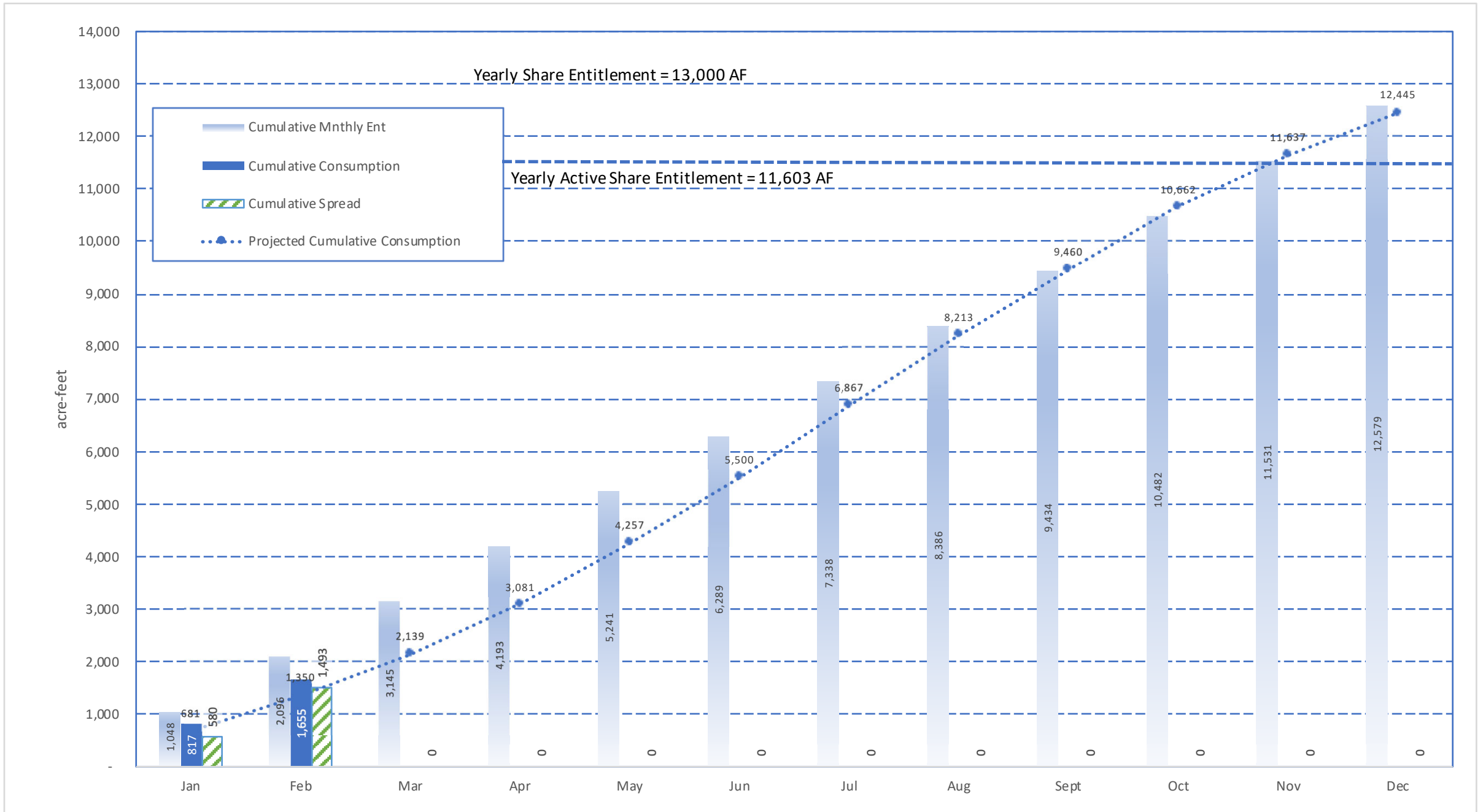
Cumulative Consumption (AF)



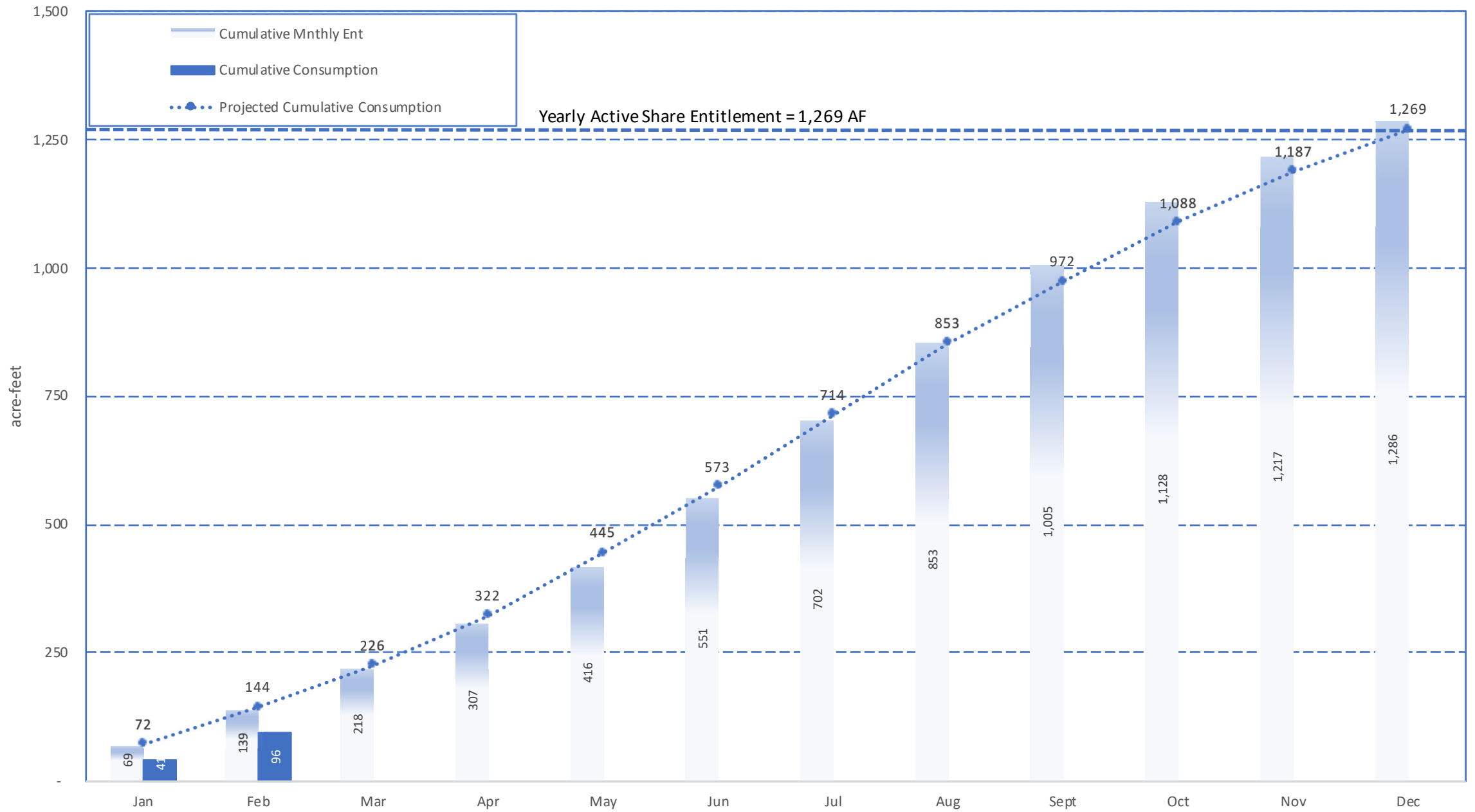
Production minus Consumption (AF)



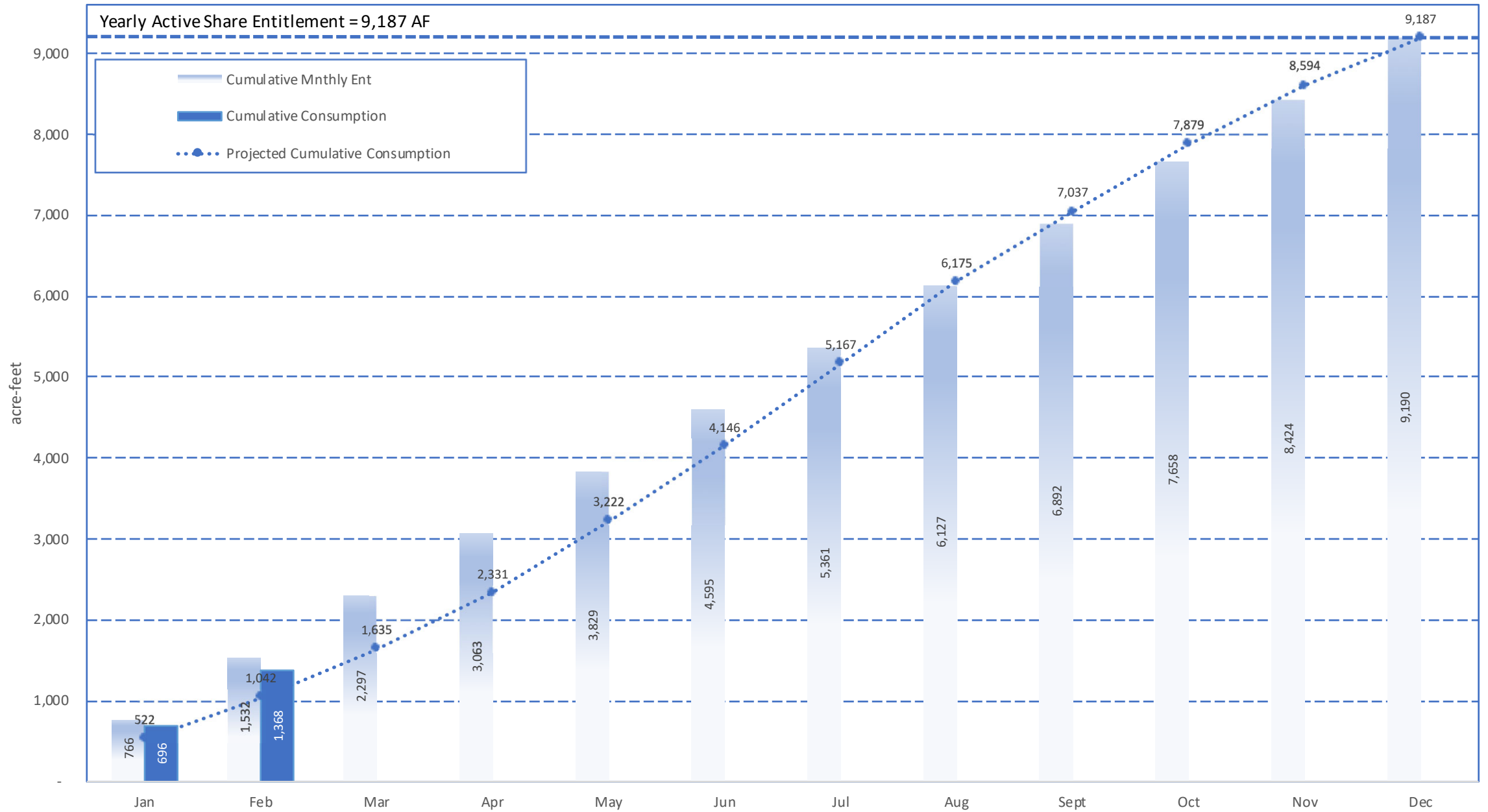
2023 Consumption Chart



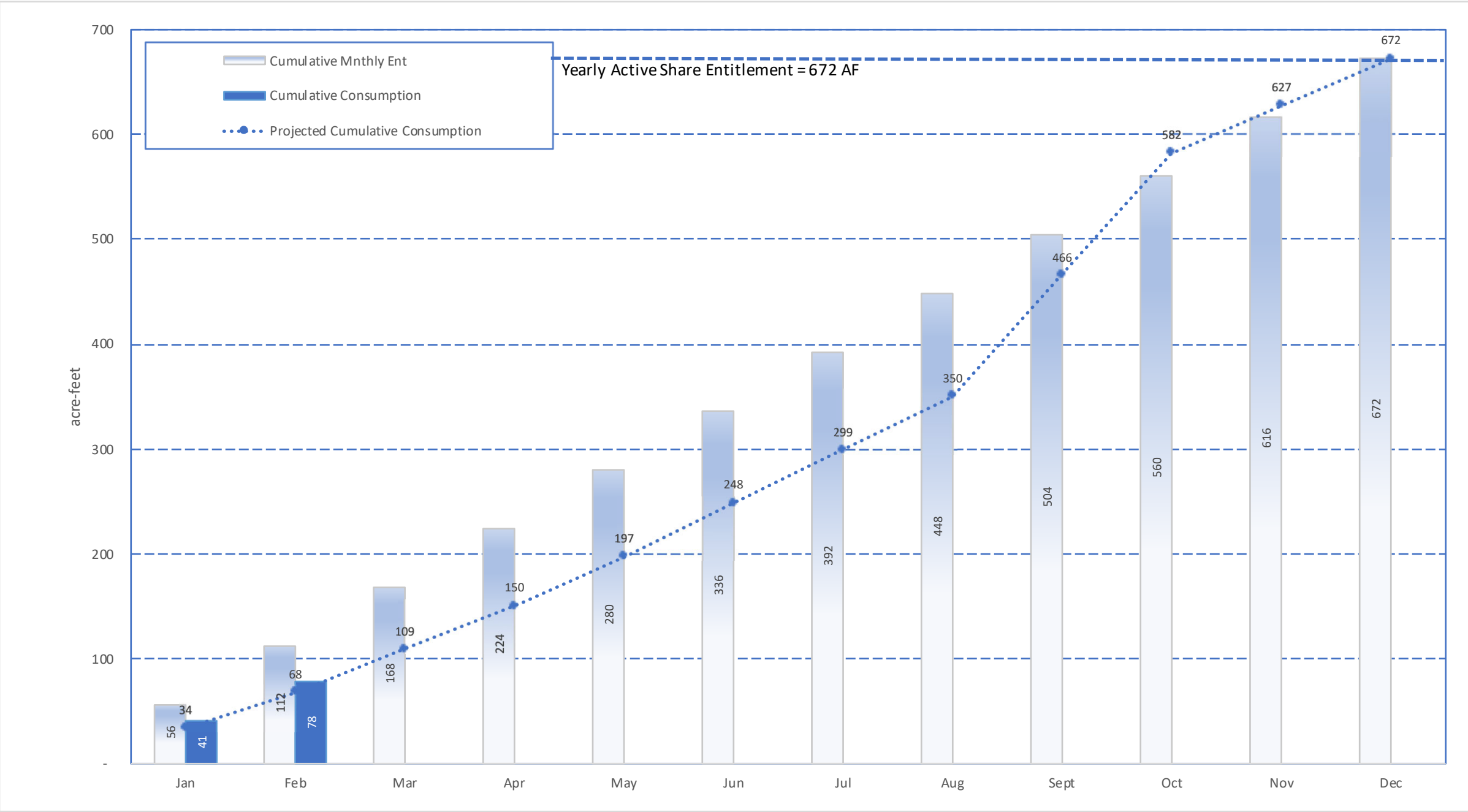
2023 Domestic Consumption



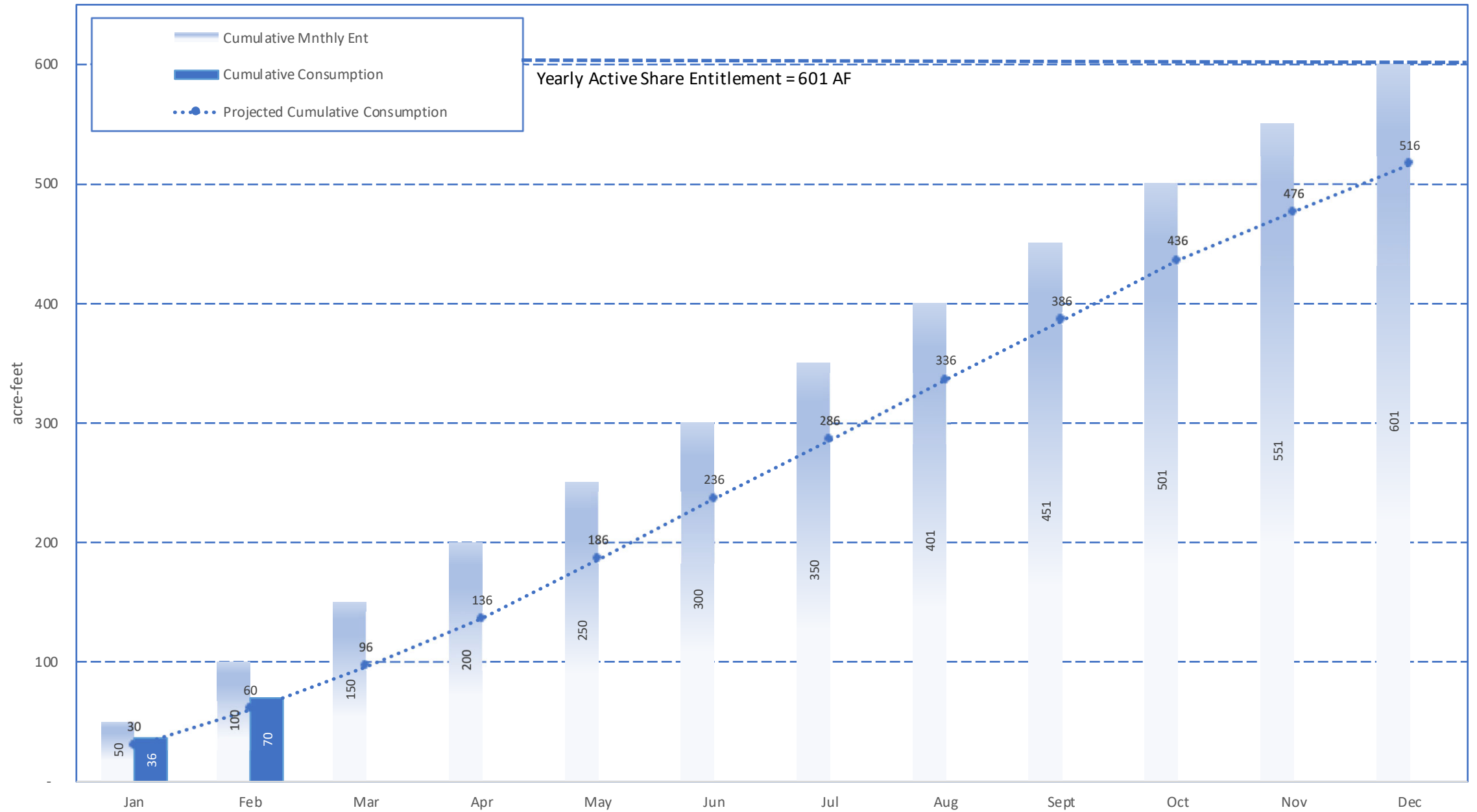
2023 Upland Consumption



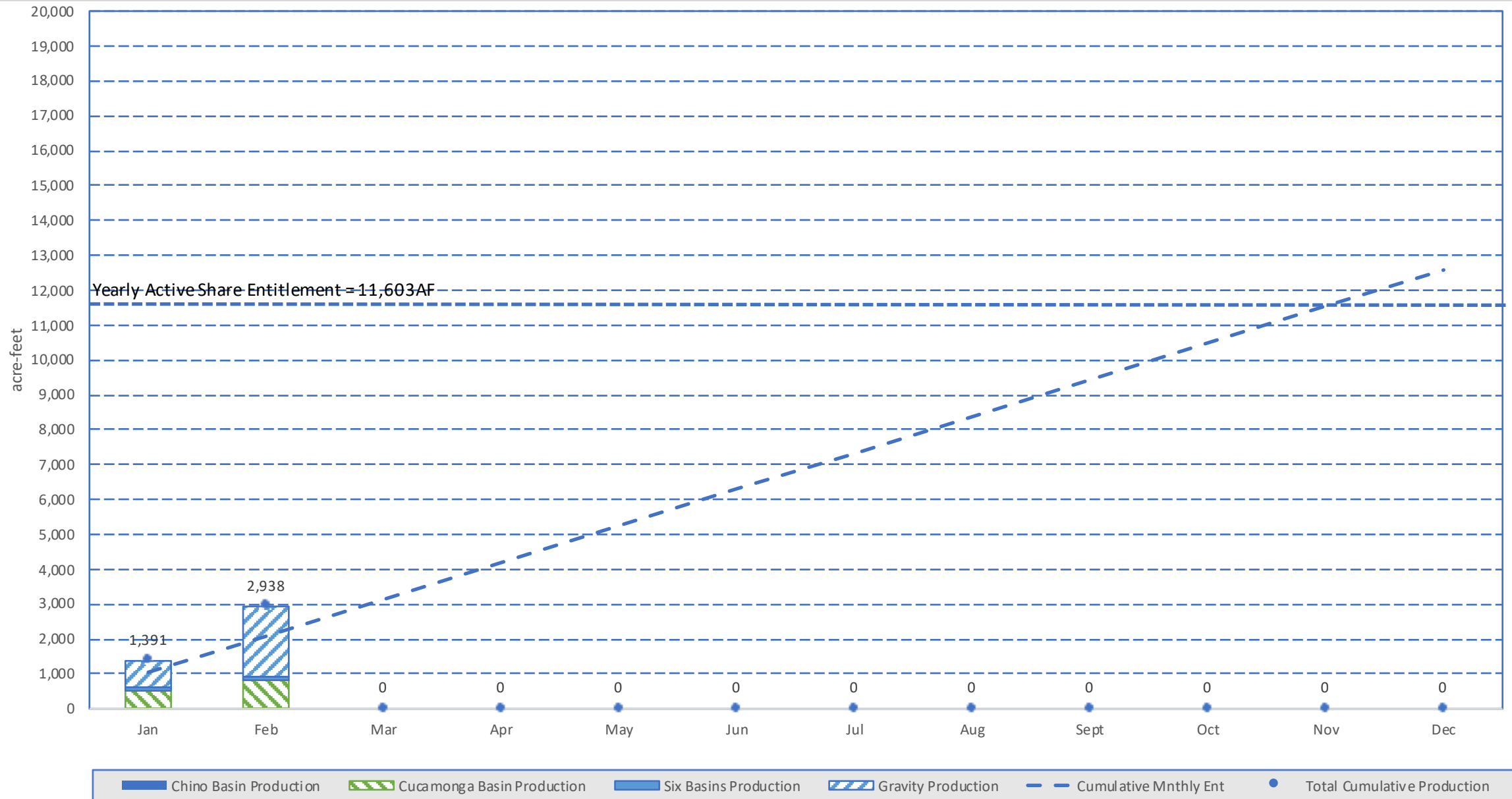
2023 Monte Vista Consumption



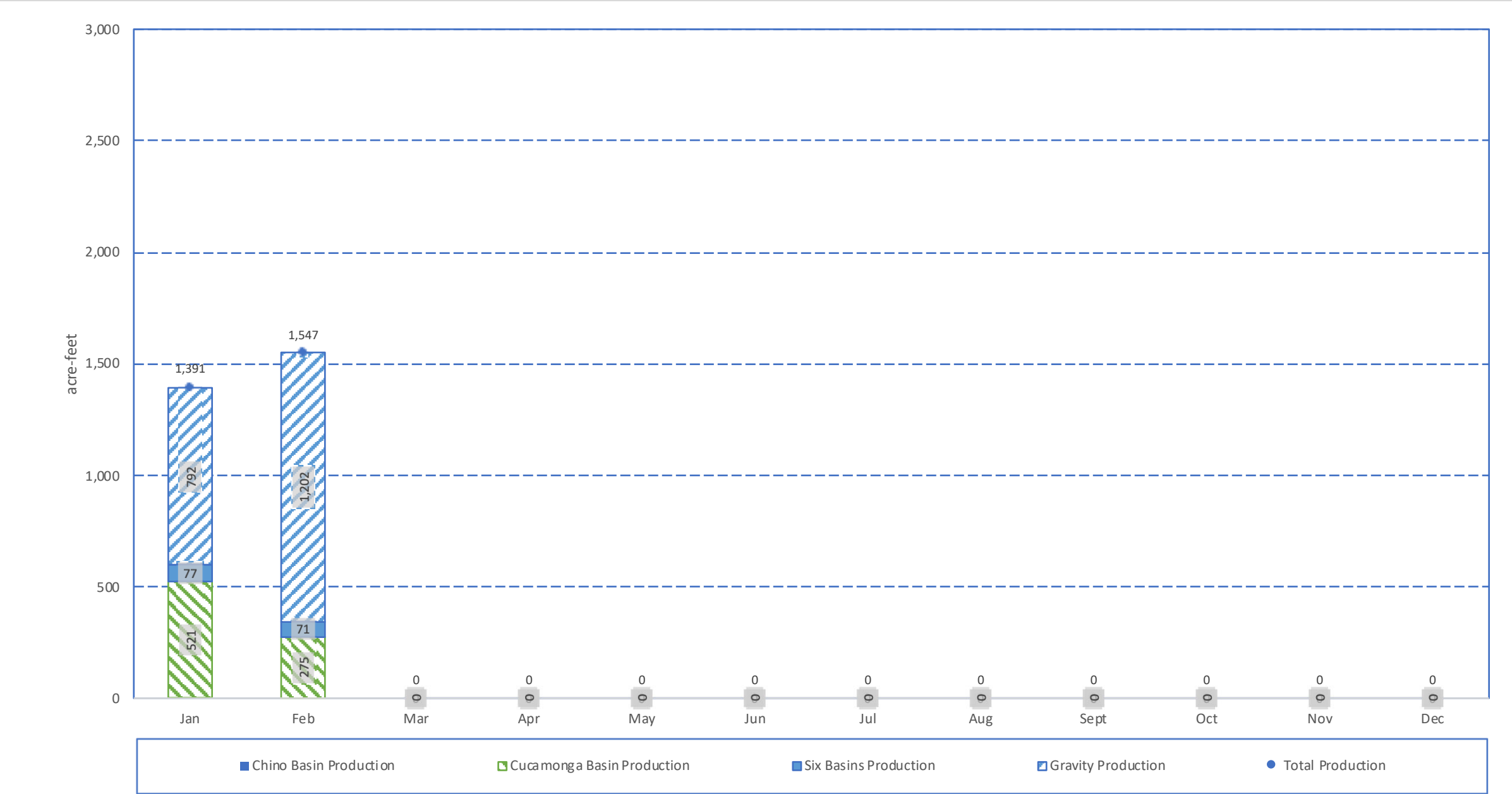
2023 Ontario Consumption



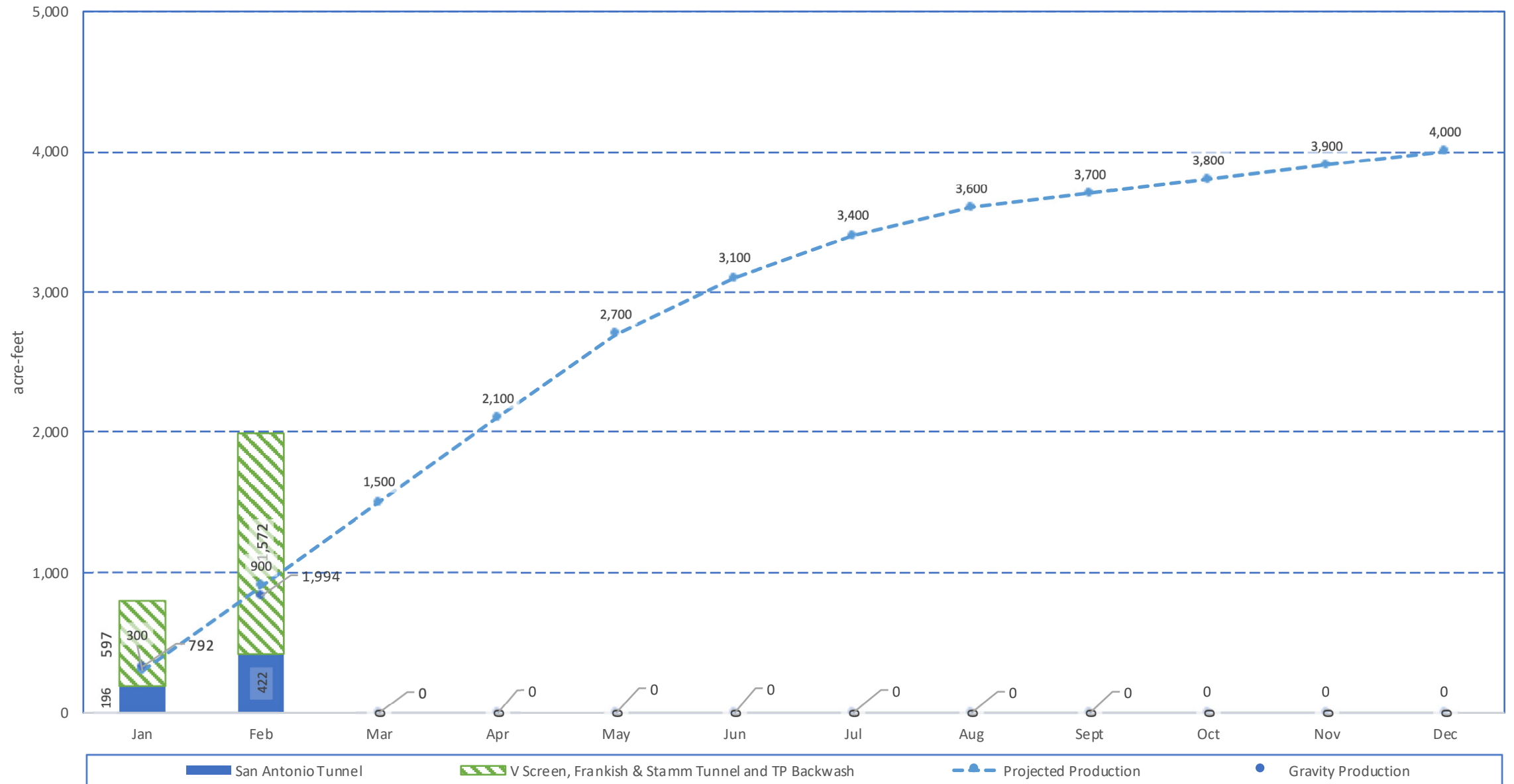
2023 Total Yearly Production



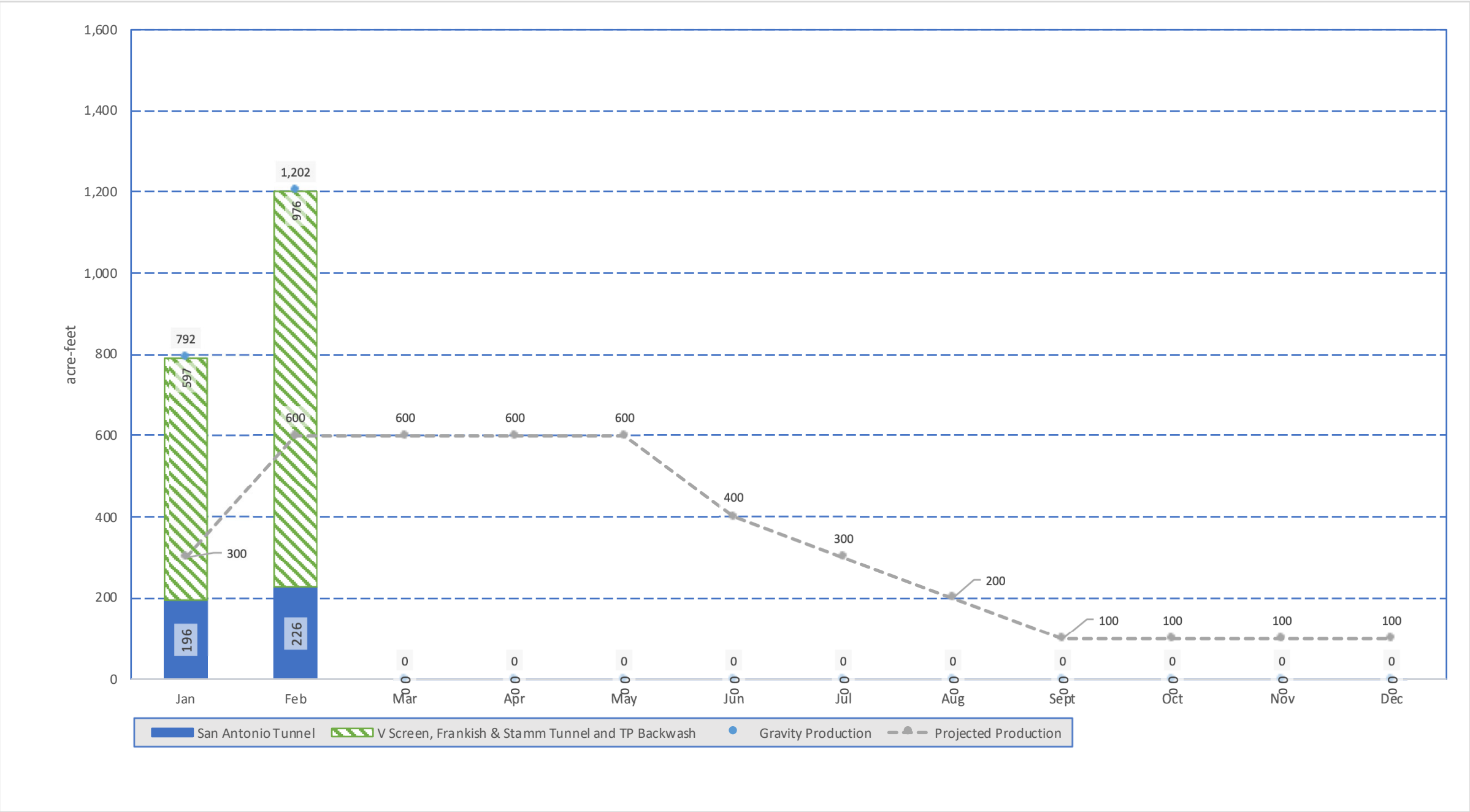
2023 Monthly Production



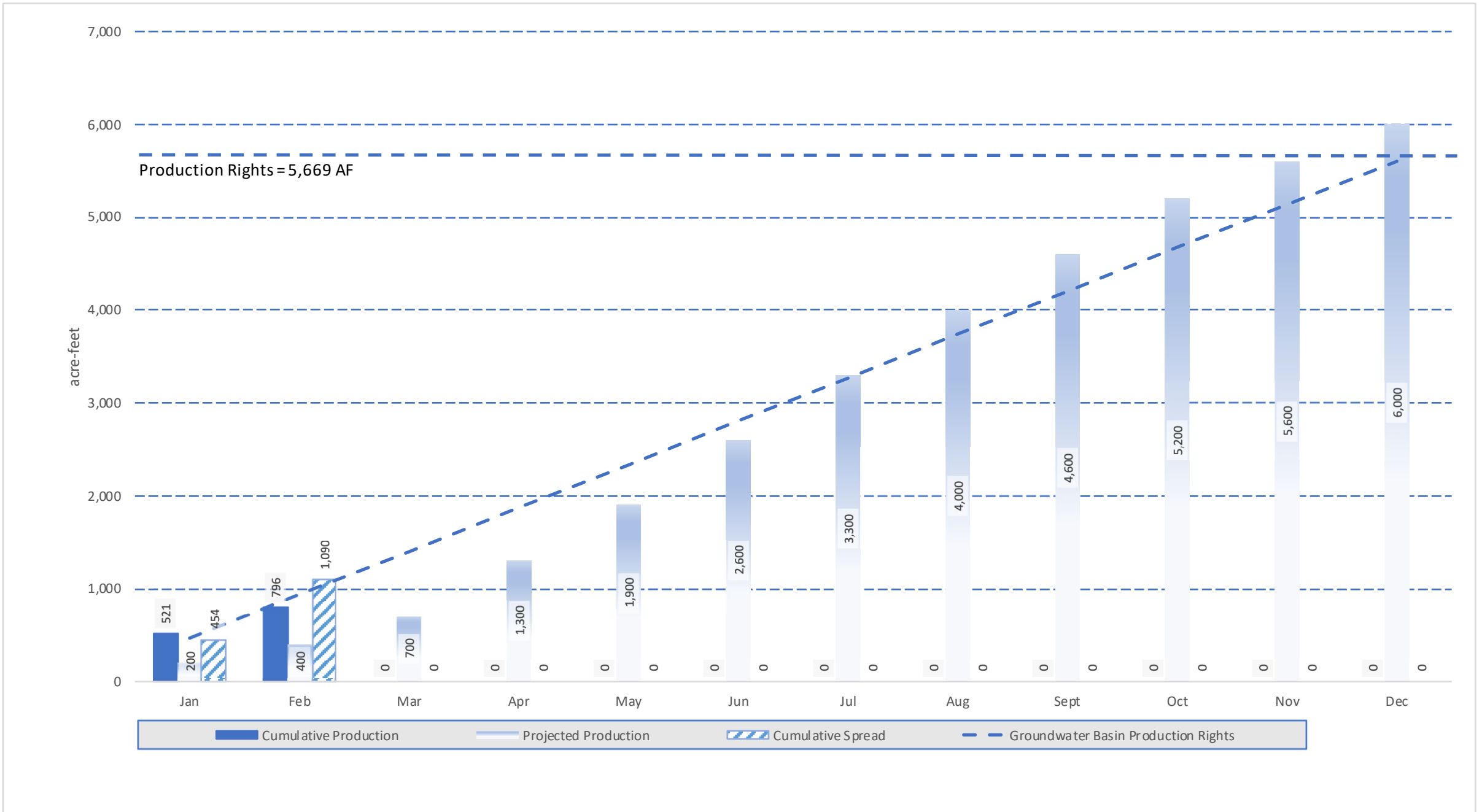
2023 Gravity Cumulative



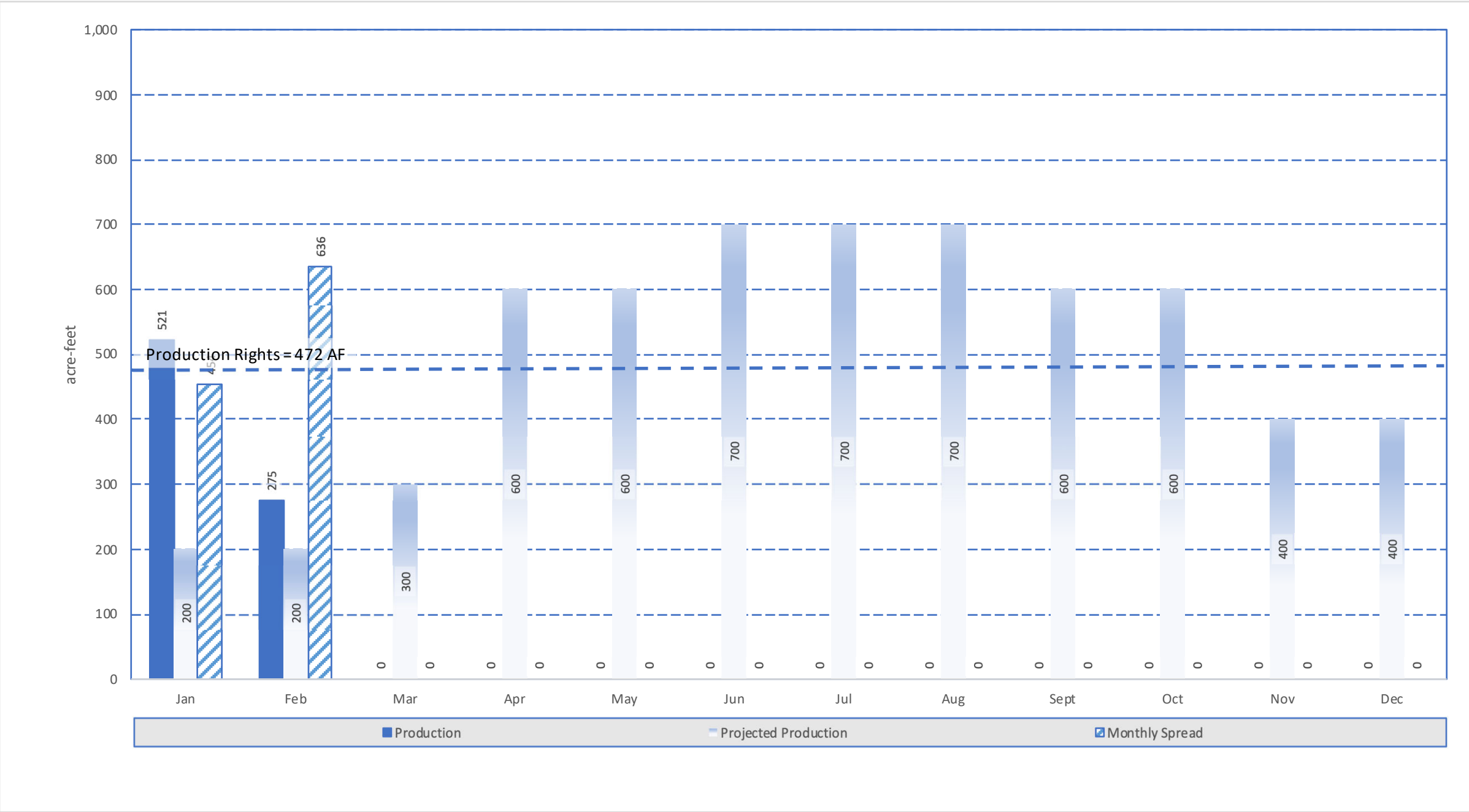
2023 Gravity Monthly



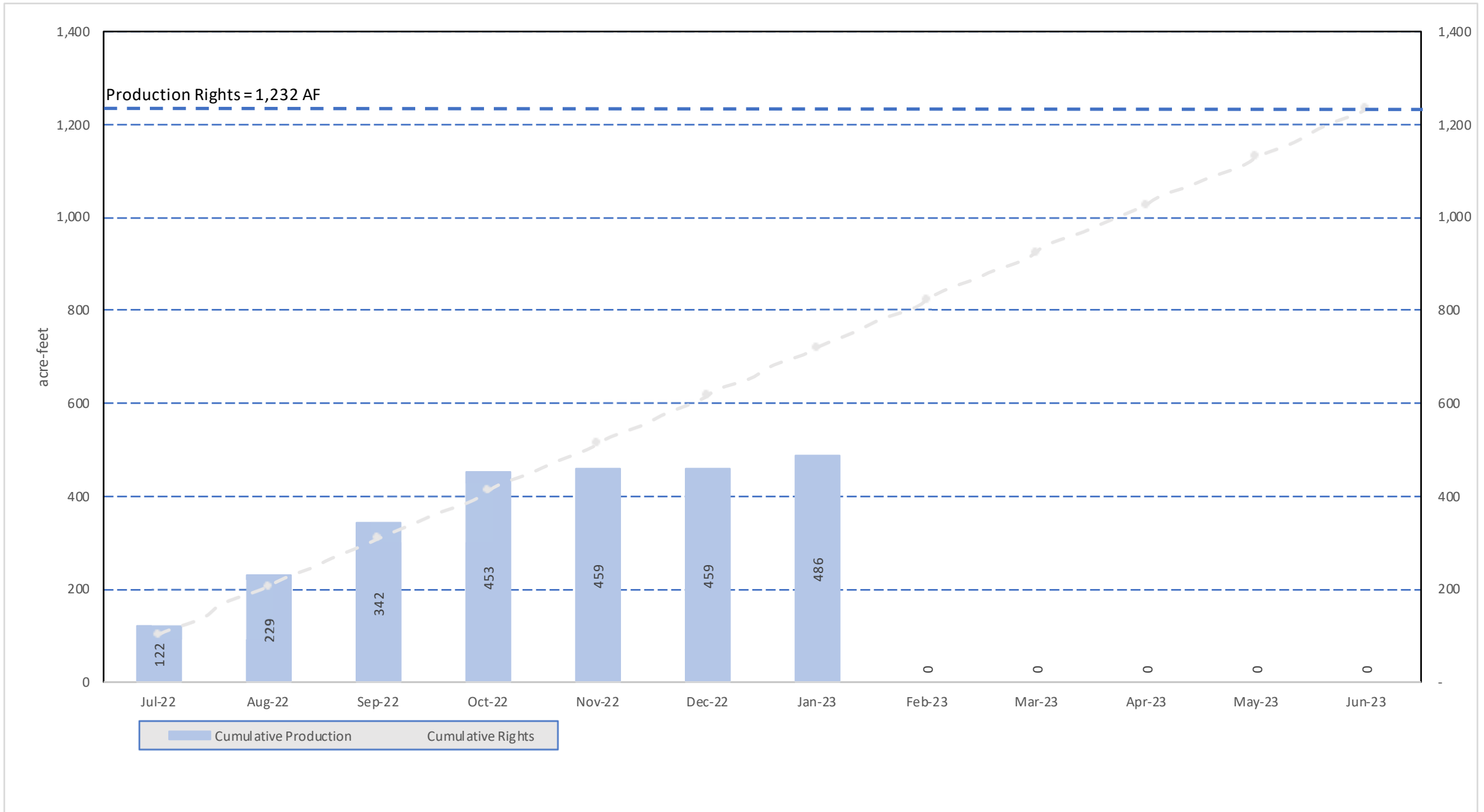
2023 Cucamonga Basin Cumulative



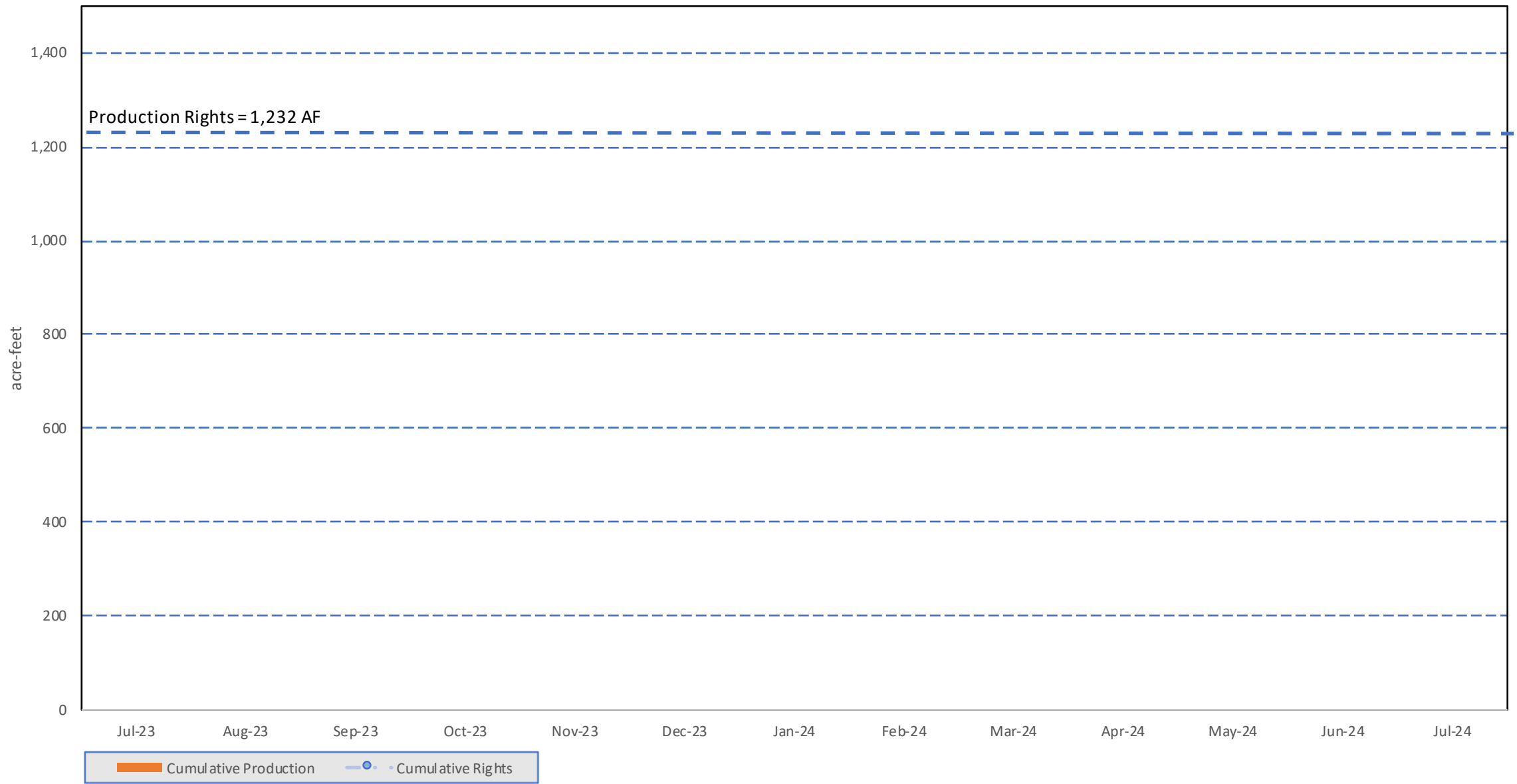
2023 Cucamonga Basin Monthly



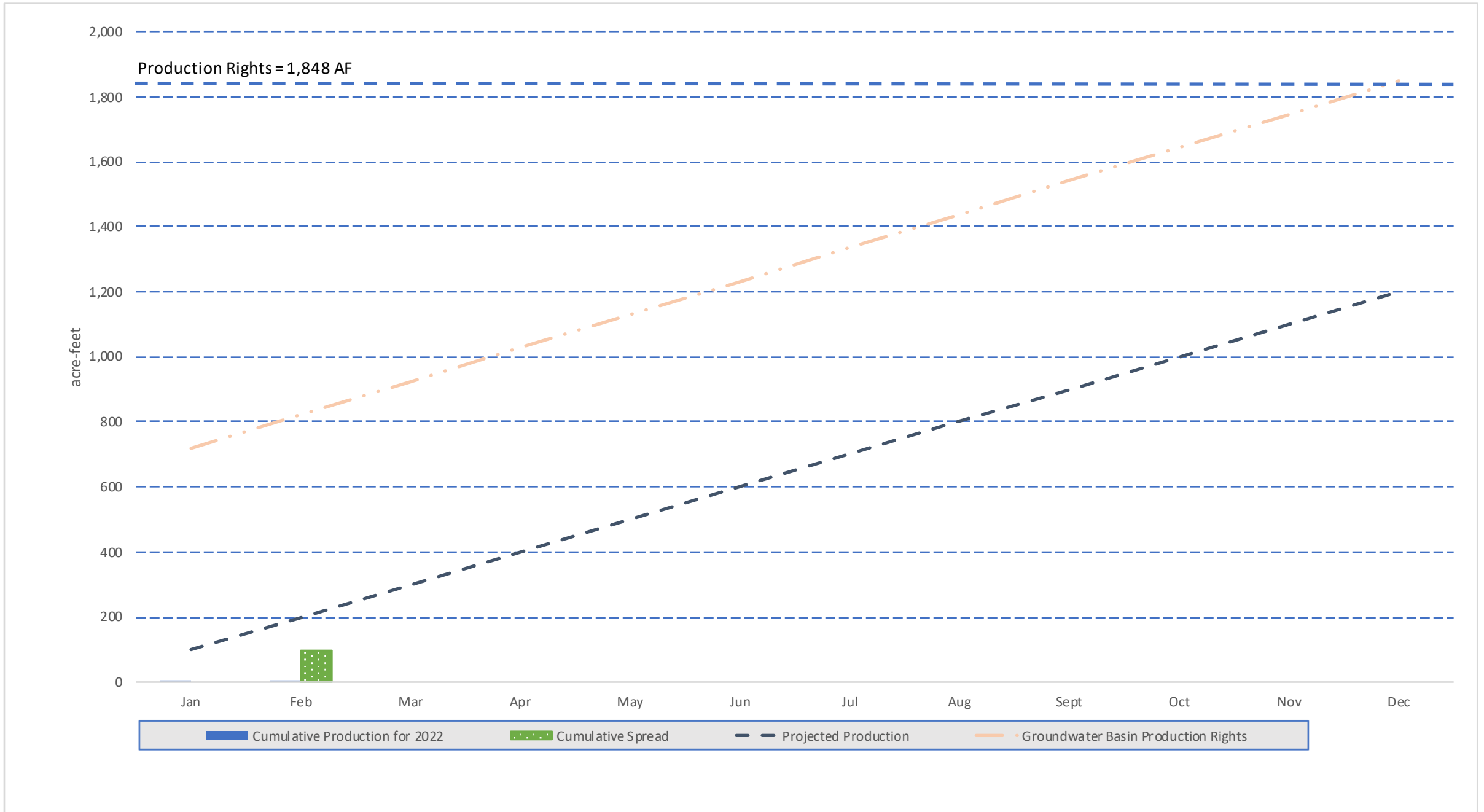
22-23 Chino Basin Cumulative



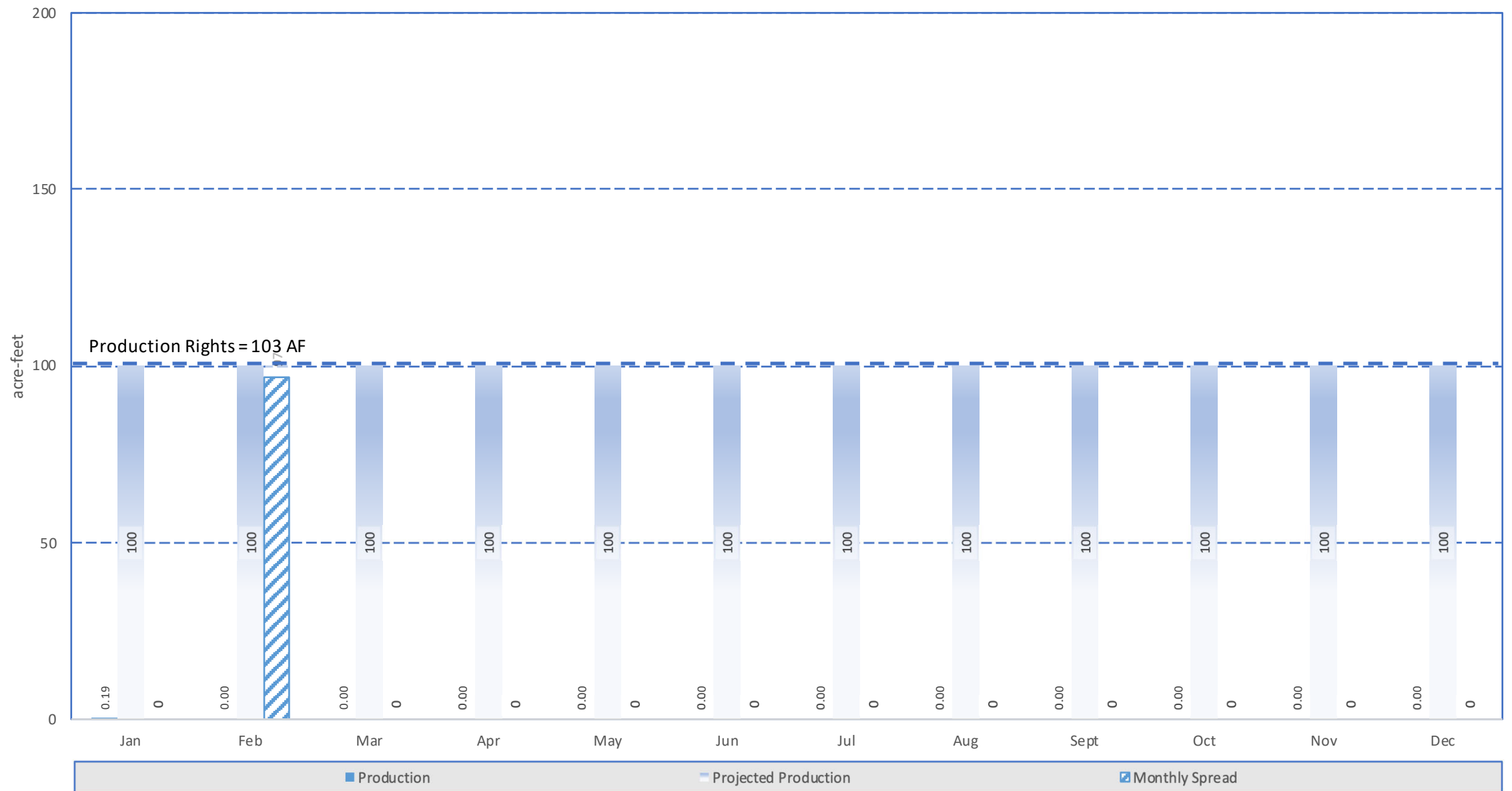
23-24 Chino Basin Cumulative



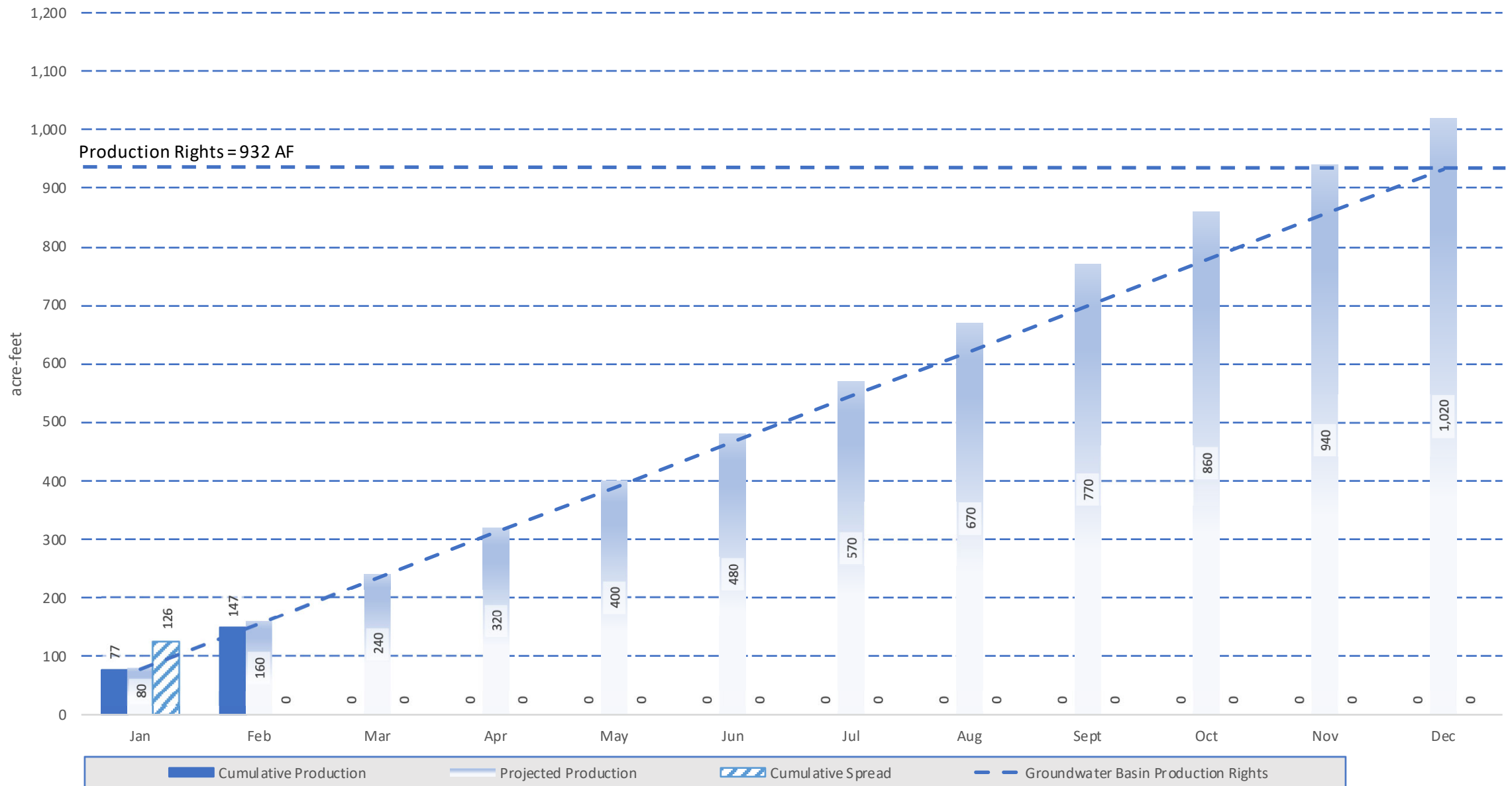
2023 Chino Basin Cumulative



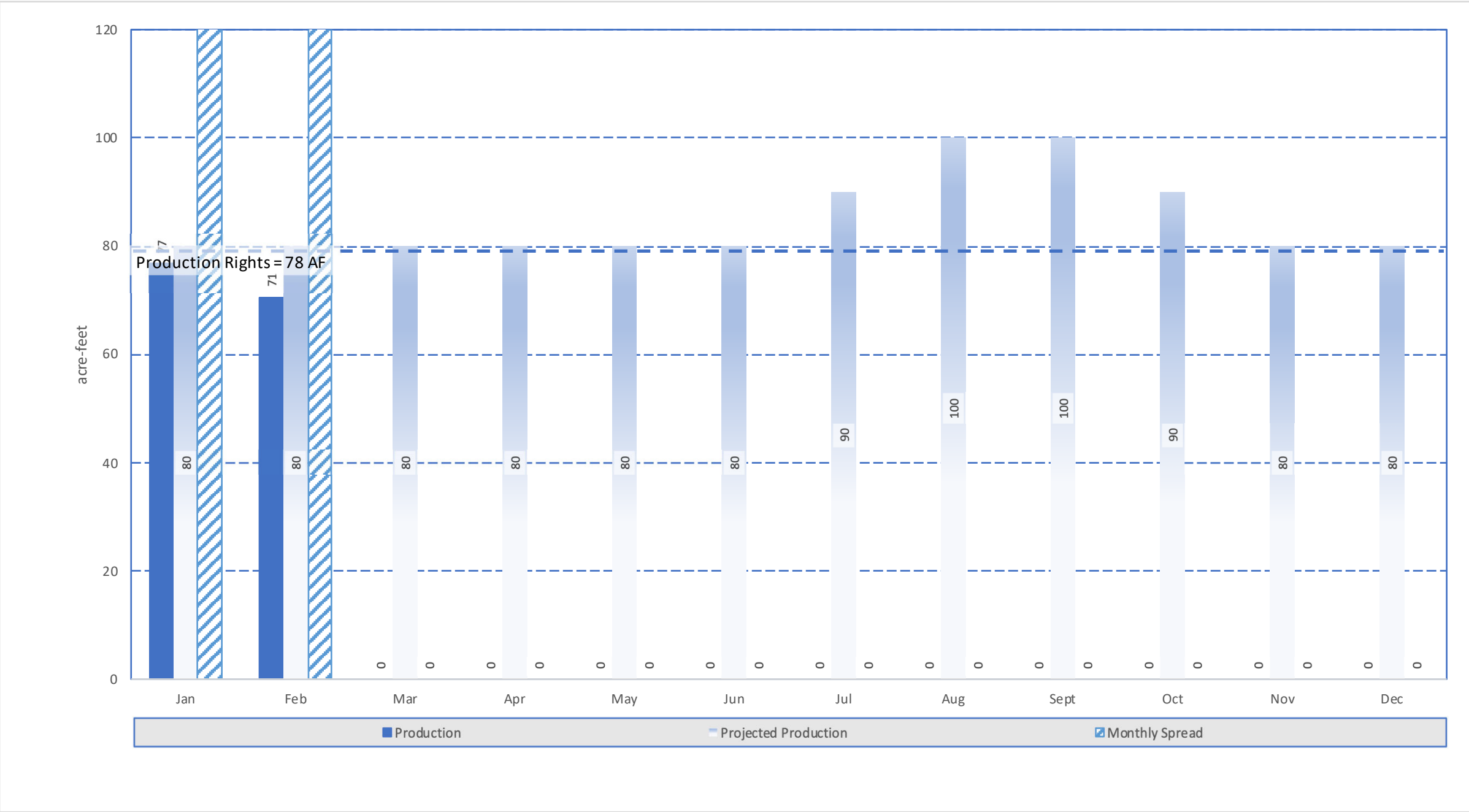
2023 Chino Basin Monthly



2023 Six Basins Cumulative



2023 Six Basins Monthly



A. Water Supply through February 2023

- Annual entitlement for CY2023 is 13,000 AF
 - Cumulative yearly production is 2,938 AF
 - Cumulative yearly consumption was 1,655 AF
 - Cumulative yearly spread was 1,493 AF
 - Cumulative unaccounted water was -211 AF

Six Basins Production for 2023

- Annual production right is 932 AF.
- Cumulative production is 147 AF.
Production is sent to the WFA treatment facility to meet City of Ontario and MVWD entitlement.
- The Company spread a total of 126 AF.

Cucamonga Basin Production for 2023

- Annual production right is 5,669 AF.
- Cumulative production was 796 AF.
- The Company spread a total of 1,090 AF.

Chino Basin Production for 2023

- Annual production right is 1,232 AF.
- Cumulative production was 0 AF.
- The Company spread a total of 97 AF.

Surface Water (San Antonio Creek) flow for 2023

Total flow was 1,404 AF.

Tunnel flow for 2023

San Antonio Tunnel flow was 422 AF.
Frankish and Stamm Tunnel flow was 167 AF.

B. Company Stock

1/4 shares of water stock moved from dormant to active this transfer period.

C. Communication and Information Activities

“Facebook” - 179 friends liking our old FB page and 71 customers have liked our new FB page. No new communication posted on the new page and no new communication on the old Facebook page. Facebook is not able to merge the two Facebook pages; therefore, we are in discussion of possibly deleting the old page.

D. Administration Matters

Meetings of interest:

- Thu, March 9 – GM and Legal Counsel attended Chino Basin AP Meeting at CBWM.

E. Groundwater Basin Matters

Chino Basin -

Spread Water from SAWCo - Application to spread 1,500 AF per year for years 21/22 through 25/26 was approved by WM Board in July, 22. We started spreading water in January 2023.

Legal Issues-

Nov 18 - The Court denied a motion by the City of Ontario, Monte Vista and City of Chino regarding budget approval and funding of the Optimum Basin Management Program (OBMP)

Implementation Plan (IP) California Environmental Quality Act (CEQA) efforts.

There are currently two appeals in the works:

1. Ontario, Monte Vista and City of Chino have appealed the ruling that AP works under 'majority rule'.
2. Ontario has appealed the ruling that the current Dry Year Yield (DYY) program is operating under a legal contract.

Six Basins –

A Watermaster Board meeting was held on February 22, 2023.

The draft 2022 annual report was discussed. The report is due to the State on April 1st.

A Strategic Plan Workshop followed the regular meeting and updates on the process was presented.

The next meeting is scheduled for March 22, 2023.

Cucamonga Basin –

A meeting was held on March 7th. The hydrogeologist gave another update on the modeling effort.

Cost sharing past invoices from SAWCo was sent to Cucamonga Valley Water District and they are still reviewing.

Next meeting is scheduled for April 4, 2023.

Agenda Item No. 41

Item Title: Projects and Operations Update

Purpose:

To update the Board and Shareholders on Company capital projects.

Updates:

1507 – Office Relocation

The option under consideration is constructing an administrative and operations campus on Company property at 20th Street, without a Board Room. At its September 2022 regular meeting the Board authorized staff to move ahead with a feasibility study of the 20th street property. Staff has contracted with CEDG, Inc. to complete said study, including ingress/egress and a conceptual site plan.

Conceptual plans were reviewed by the AdHoc Committee. The item was discussed at last months Board Meeting. A professional services contract is up for review tonight. is up for discussion tonight with revised plans.

Original Budget	\$14,600
Original Contracts	\$14,600
Authorized Change Orders	NA
Current Contracts	\$14,600

1602 – Holly Drive Reservoir, Phase 3

Proposed construction of a second 120,000-gallon tank at the Holly Drive Tank site. Professional services agreement has been fully executed. Contract has been executed. Waiting on material delivery.

Original Budget	\$985,260
Original Contracts	\$985,260
Authorized Change Orders	NA
Current Contracts	\$985,260

1902 – Cucamonga Crosswalls Mitigation

TKE Engineering is working with staff to close out certain State and Federal Permits. Staff is also looking into long-term maintenance permits that will allow the Company yearly access to the site for clearing and grubbing.

1905 – 2020 Master Plan

Board authorized a change order at the regular September 2022 meeting to address computer model issues discussed below. Computer Water Model being constructed by consultant. Staff is coordinating with consultant regarding areas of concern in the water model to improve accuracy. Revised schedule is to complete Master Plan by end of October. There remains a gap between field pressures and hydraulic model pressures indicating a restriction in our system. Staff and consultant are investigating. It may be a partially closed valve. Staff has asked consultant to separate hydraulic modeling issues from remainder of Master Plan and complete the Plan. Staff is currently reviewing draft chapters and hydraulic profiles. Confirming system pressures in the field with computer simulation model pressures. 2020 Master Plan was discussed at last PROC meeting and is up for Board review tonight. draft is

~~scheduled for review at this months PROC meeting.~~

Original Budget.....	\$240,000
Original Contracts	\$204,085
Authorized Change Orders	\$20,000
Current Contracts	\$224,085

2007 Well 19

Project approved at April 2022 Board Meeting. Contract has been completed. Material being ordered and we are currently scheduling the start of work. Staff was informed this month that material deliveries (specifically the fiberglass casing) is delayed until early 2023. Tentative start of the test well has been scheduled for April 2023.

Original Budget.....	\$1,130,990
Original Contracts	\$1,130,990
Authorized Change Orders	NA
Current Contracts	\$1,130,990

2201 Paloma Hydraulic Break

Technical study to review available options to modernize the facility and reduce low frequency noise during high waterflow events. Contract has been fully executed. Predesign meeting held. Options discussed. Draft technical report has been received by the Company. Project was authorized by the Board at the regular November meeting for inclusion in the 2024 budget. Professional Services proposals will be reviewed by PROC in April, 2023. Three proposals were received.

Original Predesign Budget	\$40,000
Original Design/Const. Budget	\$1,080,000
Original Contracts	\$39,750
Authorized Change Orders	NA
Current Contracts	\$39,750

2202 Glendale Road Pipeline

Replace aged pipelines within Glendale Road. Project was approved at the regular may Board Meeting. At the July Board meeting, the Board authorized the General Manager to execute a time and materials contract with Ardurra in the amount of \$70,023. Contract has been executed. Consultant completed field survey and prepared 30% design review plans. Staff has completed review and returned comments back to consultant. 90% plan set has been reviewed and returned to consultant. Bid set scheduled was sent to six select contractors in mid-December. ~~Project is on tonight's agenda.~~ Schedule is to construct in early 2023.

Original Budget.....	\$276,000
Original Professional Services Contracts	\$70,023
Original Construction Contract.....	\$437,931
Authorized Change Orders.....	NA
Current Contracts	\$507,954

2203 Well 31 Pipeline

Project budgeted in the 2022 year. Replace approximately 1,400 linear feet of 14" pipeline from Well 31 delivering water to facilities at Golf Club Drive along backside of homes and within Upland Hills Country Club waterline easement. Abandon aged pipeline. The current steel pipeline was installed before 1976 and has exceeded its

useful life. Identified by staff as a high maintenance pipeline. Professional Services proposals will be reviewed by PROC in April, 2023. Three proposals were received

Original Budget	\$420,000
Original Contracts	\$0
Authorized Change Orders.....	NA
Current Contracts	NA

2204 GIS Update

At the August Special Meeting, the Board authorized a contract with WSC to update the Company's GIS maps. Contract has been executed. Consultant working on updates.

Original Budget	\$11,110
Original Contracts	\$11,110
Authorized Change Orders.....	NA
Current Contracts	\$11,110

2207 Well 31 Repair

Well 31 suffered a catastrophic failure in October 2022. The Board authorized a repair contract at its special Budget workshop in December 2022. Contract has been executed and material is being procured.

Original Budget	\$220,000
Original Contracts	\$200,000
Authorized Change Orders.....	NA
Current Contracts	\$3,665

Forms 990 / 990-EZ Return Summary

For calendar year 2022, or tax year beginning _____, and ending _____

San Antonio Water Company

95-1183990

Net Asset / Fund Balance at Beginning of Year		<u>30,094,142</u>
Revenue		
Contributions		
Program service revenue	<u>5,115,948</u>	
Investment income	<u>35,612</u>	
Capital gain / loss	<u>343,060</u>	
Fundraising / Gaming:		
Gross revenue	_____	
Direct expenses	_____	
Net income	_____	
Other income	<u>79,282</u>	
Total revenue		<u>5,573,902</u>
Expenses		
Program services	_____	
Management and general	_____	
Fundraising	_____	
Total expenses		<u>4,753,273</u>
Excess / (deficit)		<u>820,629</u>
Changes		_____
Net Asset / Fund Balance at End of Year		<u>30,914,771</u>

Reconciliation of Revenue	
Total revenue per financial statements	<u>5,573,902</u>
Less:	
Unrealized gains	_____
Donated services	_____
Recoveries	_____
Other	_____
Plus:	
Investment expenses	_____
Other	_____
Total revenue per return	<u>5,573,902</u>

Reconciliation of Expenses	
Total expenses per financial statements	<u>4,753,273</u>
Less:	
Donated services	_____
Prior year adjustments	_____
Losses	_____
Other	_____
Plus:	
Investment expenses	_____
Other	_____
Total expenses per return	<u>4,753,273</u>

Balance Sheet			Differences
	Beginning	Ending	
Assets	<u>31,714,551</u>	<u>32,011,121</u>	
Liabilities	<u>1,620,409</u>	<u>1,096,350</u>	
Net assets	<u>30,094,142</u>	<u>30,914,771</u>	<u>820,629</u>

Miscellaneous Information

Amended return _____
 Return / extended due date 05/15/23
 Failure to file penalty _____

Form **8879-TE****IRS e-file Signature Authorization
for a Tax Exempt Entity**

OMB No. 1545-0047

For calendar year 2022, or fiscal year beginning, 2022, and ending, 20

Department of the Treasury
Internal Revenue Service**Do not send to the IRS. Keep for your records.**
Go to www.irs.gov/Form8879TE for the latest information.**2022**

Name of filer

San Antonio Water Company

EIN or SSN

95-1183990

Name and title of officer or person subject to tax

**Brian Lee
General Manager****Part I Type of Return and Return Information**

Check the box for the return for which you are using this Form 8879-TE and enter the applicable amount, if any, from the return. Form 8038-CP and Form 5330 filers may enter dollars and cents. For all other forms, enter whole dollars only. If you check the box on line 1a, 2a, 3a, 4a, 5a, 6a, 7a, 8a, 9a, or 10a below, and the amount on that line for the return being filed with this form was blank, then leave line 1b, 2b, 3b, 4b, 5b, 6b, 7b, 8b, 9b, or 10b, whichever is applicable, blank (do not enter -0-). But, if you entered -0- on the return, then enter -0- on the applicable line below. Do not complete more than one line in Part I.

1a Form 990 check here <input checked="" type="checkbox"/>	b Total revenue, if any (Form 990, Part VIII, column (A), line 12)	1b <u>5,573,902</u>
2a Form 990-EZ check here <input type="checkbox"/>	b Total revenue, if any (Form 990-EZ, line 9)	2b _____
3a Form 1120-POL check here <input type="checkbox"/>	b Total tax (Form 1120-POL, line 22)	3b _____
4a Form 990-PF check here <input type="checkbox"/>	b Tax based on investment income (Form 990-PF, Part V, line 5)	4b _____
5a Form 8868 check here <input type="checkbox"/>	b Balance due (Form 8868, line 3c)	5b _____
6a Form 990-T check here <input type="checkbox"/>	b Total tax (Form 990-T, Part III, line 4)	6b _____
7a Form 4720 check here <input type="checkbox"/>	b Total tax (Form 4720, Part III, line 1)	7b _____
8a Form 5227 check here <input type="checkbox"/>	b FMV of assets at end of tax year (Form 5227, Item D)	8b _____
9a Form 5330 check here <input type="checkbox"/>	b Tax due (Form 5330, Part II, line 19)	9b _____
10a Form 8038-CP check here <input type="checkbox"/>	b Amount of credit payment requested (Form 8038-CP, Part III, line 22) ..	10b _____

Part II Declaration and Signature Authorization of Officer or Person Subject to Tax

Under penalties of perjury, I declare that I am an officer of the above entity or I am a person subject to tax with respect to (name of entity) _____, (EIN) _____ and that I have examined a copy of the 2022 electronic return and accompanying schedules and statements, and, to the best of my knowledge and belief, they are true, correct, and complete. I further declare that the amount in Part I above is the amount shown on the copy of the electronic return. I consent to allow my intermediate service provider, transmitter, or electronic return originator (ERO) to send the return to the IRS and to receive from the IRS (a) an acknowledgement of receipt or reason for rejection of the transmission, (b) the reason for any delay in processing the return or refund, and (c) the date of any refund. If applicable, I authorize the U.S. Treasury and its designated Financial Agent to initiate an electronic funds withdrawal (direct debit) entry to the financial institution account indicated in the tax preparation software for payment of the federal taxes owed on this return, and the financial institution to debit the entry to this account. To revoke a payment, I must contact the U.S. Treasury Financial Agent at 1-888-353-4537 no later than 2 business days prior to the payment (settlement) date. I also authorize the financial institutions involved in the processing of the electronic payment of taxes to receive confidential information necessary to answer inquiries and resolve issues related to the payment. I have selected a personal identification number (PIN) as my signature for the electronic return and, if applicable, the consent to electronic funds withdrawal.

PIN: check one box only

I authorize **Bowen, McBeth, Inc.** to enter my PIN **91786** as my signature
ERO firm name Enter five numbers, but do not enter all zeros

on the tax year 2022 electronically filed return. If I have indicated within this return that a copy of the return is being filed with a state agency(ies) regulating charities as part of the IRS Fed/State program, I also authorize the aforementioned ERO to enter my PIN on the return's disclosure consent screen.

As an officer or person subject to tax with respect to the entity, I will enter my PIN as my signature on the tax year 2022 electronically filed return. If I have indicated within this return that a copy of the return is being filed with a state agency(ies) regulating charities as part of the IRS Fed/State program, I will enter my PIN on the return's disclosure consent screen.

Signature of officer or person subject to tax

Date **03/03/23****Part III Certification and Authentication**

ERO's EFIN/PIN. Enter your six-digit electronic filing identification number (EFIN) followed by your five-digit self-selected PIN.

33003091730

Do not enter all zeros

I certify that the above numeric entry is my PIN, which is my signature on the 2022 electronically filed return indicated above. I confirm that I am submitting this return in accordance with the requirements of Pub. 4163, Modernized e-File (MeF) Information for Authorized IRS e-file Providers for Business Returns.

ERO's signature **Craig B. Miller**Date **03/03/23****ERO Must Retain This Form — See Instructions****Do Not Submit This Form to the IRS Unless Requested To Do So**

For Privacy Act and Paperwork Reduction Act Notice, see back of form.

Form **8879-TE** (2022)

Form **990**

Return of Organization Exempt From Income Tax
Under section 501(c), 527, or 4947(a)(1) of the Internal Revenue Code (except private foundations)

OMB No. 1545-0047

2022
Open to Public Inspection

Department of the Treasury
Internal Revenue Service

Do not enter social security numbers on this form as it may be made public.
Go to www.irs.gov/Form990 for instructions and the latest information.

A For the 2022 calendar year, or tax year beginning _____, **and ending** _____

B Check if applicable:
 Address change
 Name change
 Initial return
 Final return/terminated
 Amended return
 Application pending

C Name of organization
San Antonio Water Company

D Employer identification number
95-1183990

E Telephone number
909-982-4107

G Gross receipts \$ **5,573,902**

H(a) Is this a group return for subordinates? Yes No
H(b) Are all subordinates included? Yes No
 If "No," attach a list. See instructions

H(c) Group exemption number _____

I Tax-exempt status: 501(c)(3) 501(c) (**12**) (insert no.) 4947(a)(1) or 527

J Website: **www.sawaterco.com**

K Form of organization: Corporation Trust Association Other

L Year of formation: **1882** **M State of legal domicile:** **CA**

Part I Summary

Activities & Governance	1 Briefly describe the organization's mission or most significant activities: To provide our shareholders with reliable and good quality water service at a cost effective rate.			
	2 Check this box <input type="checkbox"/> if the organization discontinued its operations or disposed of more than 25% of its net assets.			
	3	Number of voting members of the governing body (Part VI, line 1a)		
	4	Number of independent voting members of the governing body (Part VI, line 1b)		
	5	Total number of individuals employed in calendar year 2022 (Part V, line 2a)		
	6	Total number of volunteers (estimate if necessary)		
	7a	Total unrelated business revenue from Part VIII, column (C), line 12		
7b	Net unrelated business taxable income from Form 990-T, Part I, line 11			
Revenue	8 Contributions and grants (Part VIII, line 1h)		Prior Year	Current Year
	9 Program service revenue (Part VIII, line 2g)		4,984,655	5,115,948
	10 Investment income (Part VIII, column (A), lines 3, 4, and 7d)		378,003	378,672
	11 Other revenue (Part VIII, column (A), lines 5, 6d, 8c, 9c, 10c, and 11e)		78,650	79,282
	12 Total revenue - add lines 8 through 11 (must equal Part VIII, column (A), line 12)		5,441,308	5,573,902
Expenses	13 Grants and similar amounts paid (Part IX, column (A), lines 1-3)			0
	14 Benefits paid to or for members (Part IX, column (A), line 4)			0
	15 Salaries, other compensation, employee benefits (Part IX, column (A), lines 5-10)		1,181,557	1,294,719
	16a Professional fundraising fees (Part IX, column (A), line 11e)			0
	b Total fundraising expenses (Part IX, column (D), line 25)		0	
	17 Other expenses (Part IX, column (A), lines 11a-11d, 11f-24e)		2,951,656	3,458,554
18 Total expenses. Add lines 13-17 (must equal Part IX, column (A), line 25)		4,133,213	4,753,273	
19 Revenue less expenses. Subtract line 18 from line 12		1,308,095	820,629	
Net Assets or Fund Balances	20 Total assets (Part X, line 16)		Beginning of Current Year	End of Year
	21 Total liabilities (Part X, line 26)		31,714,551	32,011,121
	22 Net assets or fund balances. Subtract line 21 from line 20		1,620,409	1,096,350
		30,094,142	30,914,771	

Part II Signature Block

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than officer) is based on all information of which preparer has any knowledge.

Sign Here

Signature of officer: **Brian Lee** Date: _____
 Type or print name and title: **General Manager**

Paid Preparer Use Only

Print/Type preparer's name: **Craig B. Miller** Preparer's signature: **Craig B. Miller** Date: **03/06/23** Check if self-employed PTIN: **P00179355**

Firm's name: **Bowen, McBeth, Inc.** Firm's EIN: **95-3655325**
 Firm's address: **10722 Arrow Rte Ste 110**
Rancho Cucamonga, CA 91730 Phone no.: **909-944-6465**

May the IRS discuss this return with the preparer shown above? See instructions Yes No

Part III Statement of Program Service Accomplishments

Check if Schedule O contains a response or note to any line in this Part III

1 Briefly describe the organization's mission:

To provide our shareholders with reliable and good quality water service at a cost effective rate.

2 Did the organization undertake any significant program services during the year which were not listed on the prior Form 990 or 990-EZ?

Yes No

If "Yes," describe these new services on Schedule O.

3 Did the organization cease conducting, or make significant changes in how it conducts, any program services?

Yes No

If "Yes," describe these changes on Schedule O.

4 Describe the organization's program service accomplishments for each of its three largest program services, as measured by expenses. Section 501(c)(3) and 501(c)(4) organizations are required to report the amount of grants and allocations to others, the total expenses, and revenue, if any, for each program service reported.

4a (Code:) (Expenses \$ including grants of \$) (Revenue \$)

Provided reliable and good quality water services at a cost effective rate to 1,227 domestic shareholders and 12 municipal and miscellaneous shareholders.

4b (Code:) (Expenses \$ including grants of \$) (Revenue \$)

N/A

4c (Code:) (Expenses \$ including grants of \$) (Revenue \$)

N/A

4d Other program services (Describe on Schedule O.)

(Expenses \$ including grants of \$) (Revenue \$)

4e Total program service expenses

Part IV Checklist of Required Schedules

	Yes	No
1 Is the organization described in section 501(c)(3) or 4947(a)(1) (other than a private foundation)? If "Yes," complete Schedule A		X
2 Is the organization required to complete Schedule B, Schedule of Contributors? See instructions		X
3 Did the organization engage in direct or indirect political campaign activities on behalf of or in opposition to candidates for public office? If "Yes," complete Schedule C, Part I		X
4 Section 501(c)(3) organizations. Did the organization engage in lobbying activities, or have a section 501(h) election in effect during the tax year? If "Yes," complete Schedule C, Part II		
5 Is the organization a section 501(c)(4), 501(c)(5), or 501(c)(6) organization that receives membership dues, assessments, or similar amounts as defined in Rev. Proc. 98-19? If "Yes," complete Schedule C, Part III		X
6 Did the organization maintain any donor advised funds or any similar funds or accounts for which donors have the right to provide advice on the distribution or investment of amounts in such funds or accounts? If "Yes," complete Schedule D, Part I		X
7 Did the organization receive or hold a conservation easement, including easements to preserve open space, the environment, historic land areas, or historic structures? If "Yes," complete Schedule D, Part II		X
8 Did the organization maintain collections of works of art, historical treasures, or other similar assets? If "Yes," complete Schedule D, Part III		X
9 Did the organization report an amount in Part X, line 21, for escrow or custodial account liability, serve as a custodian for amounts not listed in Part X; or provide credit counseling, debt management, credit repair, or debt negotiation services? If "Yes," complete Schedule D, Part IV		X
10 Did the organization, directly or through a related organization, hold assets in donor-restricted endowments or in quasi endowments? If "Yes," complete Schedule D, Part V		X
11 If the organization's answer to any of the following questions is "Yes," then complete Schedule D, Parts VI, VII, VIII, IX, or X, as applicable.		
a Did the organization report an amount for land, buildings, and equipment in Part X, line 10? If "Yes," complete Schedule D, Part VI	X	
b Did the organization report an amount for investments—other securities in Part X, line 12, that is 5% or more of its total assets reported in Part X, line 16? If "Yes," complete Schedule D, Part VII		X
c Did the organization report an amount for investments—program related in Part X, line 13, that is 5% or more of its total assets reported in Part X, line 16? If "Yes," complete Schedule D, Part VIII		X
d Did the organization report an amount for other assets in Part X, line 15, that is 5% or more of its total assets reported in Part X, line 16? If "Yes," complete Schedule D, Part IX		X
e Did the organization report an amount for other liabilities in Part X, line 25? If "Yes," complete Schedule D, Part X	X	
f Did the organization's separate or consolidated financial statements for the tax year include a footnote that addresses the organization's liability for uncertain tax positions under FIN 48 (ASC 740)? If "Yes," complete Schedule D, Part X	X	
12a Did the organization obtain separate, independent audited financial statements for the tax year? If "Yes," complete Schedule D, Parts XI and XII	X	
b Was the organization included in consolidated, independent audited financial statements for the tax year? If "Yes," and if the organization answered "No" to line 12a, then completing Schedule D, Parts XI and XII is optional		X
13 Is the organization a school described in section 170(b)(1)(A)(ii)? If "Yes," complete Schedule E		X
14a Did the organization maintain an office, employees, or agents outside of the United States?		X
b Did the organization have aggregate revenues or expenses of more than \$10,000 from grantmaking, fundraising, business, investment, and program service activities outside the United States, or aggregate foreign investments valued at \$100,000 or more? If "Yes," complete Schedule F, Parts I and IV		X
15 Did the organization report on Part IX, column (A), line 3, more than \$5,000 of grants or other assistance to or for any foreign organization? If "Yes," complete Schedule F, Parts II and IV		X
16 Did the organization report on Part IX, column (A), line 3, more than \$5,000 of aggregate grants or other assistance to or for foreign individuals? If "Yes," complete Schedule F, Parts III and IV		X
17 Did the organization report a total of more than \$15,000 of expenses for professional fundraising services on Part IX, column (A), lines 6 and 11e? If "Yes," complete Schedule G, Part I. See instructions		X
18 Did the organization report more than \$15,000 total of fundraising event gross income and contributions on Part VIII, lines 1c and 8a? If "Yes," complete Schedule G, Part II		X
19 Did the organization report more than \$15,000 of gross income from gaming activities on Part VIII, line 9a? If "Yes," complete Schedule G, Part III		X
20a Did the organization operate one or more hospital facilities? If "Yes," complete Schedule H		X
b If "Yes" to line 20a, did the organization attach a copy of its audited financial statements to this return?		
21 Did the organization report more than \$5,000 of grants or other assistance to any domestic organization or domestic government on Part IX, column (A), line 1? If "Yes," complete Schedule I, Parts I and II		X

Part IV Checklist of Required Schedules (continued)

		Yes	No
22	Did the organization report more than \$5,000 of grants or other assistance to or for domestic individuals on Part IX, column (A), line 2? If "Yes," complete Schedule I, Parts I and III		X
23	Did the organization answer "Yes" to Part VII, Section A, line 3, 4, or 5 about compensation of the organization's current and former officers, directors, trustees, key employees, and highest compensated employees? If "Yes," complete Schedule J	X	
24a	Did the organization have a tax-exempt bond issue with an outstanding principal amount of more than \$100,000 as of the last day of the year, that was issued after December 31, 2002? If "Yes," answer lines 24b through 24d and complete Schedule K. If "No," go to line 25a		X
b	Did the organization invest any proceeds of tax-exempt bonds beyond a temporary period exception?		
c	Did the organization maintain an escrow account other than a refunding escrow at any time during the year to defease any tax-exempt bonds?		
d	Did the organization act as an "on behalf of" issuer for bonds outstanding at any time during the year?		
25a	Section 501(c)(3), 501(c)(4), and 501(c)(29) organizations. Did the organization engage in an excess benefit transaction with a disqualified person during the year? If "Yes," complete Schedule L, Part I		
b	Is the organization aware that it engaged in an excess benefit transaction with a disqualified person in a prior year, and that the transaction has not been reported on any of the organization's prior Forms 990 or 990-EZ? If "Yes," complete Schedule L, Part I		
26	Did the organization report any amount on Part X, line 5 or 22, for receivables from or payables to any current or former officer, director, trustee, key employee, creator or founder, substantial contributor, or 35% controlled entity or family member of any of these persons? If "Yes," complete Schedule L, Part II		X
27	Did the organization provide a grant or other assistance to any current or former officer, director, trustee, key employee, creator or founder, substantial contributor or employee thereof, a grant selection committee member, or to a 35% controlled entity (including an employee thereof) or family member of any of these persons? If "Yes," complete Schedule L, Part III		X
28	Was the organization a party to a business transaction with one of the following parties (see the Schedule L, Part IV, instructions for applicable filing thresholds, conditions, and exceptions):		
a	A current or former officer, director, trustee, key employee, creator or founder, or substantial contributor? If "Yes," complete Schedule L, Part IV		X
b	A family member of any individual described in line 28a? If "Yes," complete Schedule L, Part IV		X
c	A 35% controlled entity of one or more individuals and/or organizations described in line 28a or 28b? If "Yes," complete Schedule L, Part IV		X
29	Did the organization receive more than \$25,000 in non-cash contributions? If "Yes," complete Schedule M		X
30	Did the organization receive contributions of art, historical treasures, or other similar assets, or qualified conservation contributions? If "Yes," complete Schedule M		X
31	Did the organization liquidate, terminate, or dissolve and cease operations? If "Yes," complete Schedule N, Part I		X
32	Did the organization sell, exchange, dispose of, or transfer more than 25% of its net assets? If "Yes," complete Schedule N, Part II		X
33	Did the organization own 100% of an entity disregarded as separate from the organization under Regulations sections 301.7701-2 and 301.7701-3? If "Yes," complete Schedule R, Part I		X
34	Was the organization related to any tax-exempt or taxable entity? If "Yes," complete Schedule R, Part II, III, or IV, and Part V, line 1		X
35a	Did the organization have a controlled entity within the meaning of section 512(b)(13)?		X
b	If "Yes" to line 35a, did the organization receive any payment from or engage in any transaction with a controlled entity within the meaning of section 512(b)(13)? If "Yes," complete Schedule R, Part V, line 2		
36	Section 501(c)(3) organizations. Did the organization make any transfers to an exempt non-charitable related organization? If "Yes," complete Schedule R, Part V, line 2		
37	Did the organization conduct more than 5% of its activities through an entity that is not a related organization and that is treated as a partnership for federal income tax purposes? If "Yes," complete Schedule R, Part VI		X
38	Did the organization complete Schedule O and provide explanations on Schedule O for Part VI, lines 11b and 19? Note: All Form 990 filers are required to complete Schedule O.	X	

Part V Statements Regarding Other IRS Filings and Tax Compliance

Check if Schedule O contains a response or note to any line in this Part V

		Yes	No
1a	Enter the number reported in box 3 of Form 1096. Enter -0- if not applicable		
b	Enter the number of Forms W-2G included on line 1a. Enter -0- if not applicable		
c	Did the organization comply with backup withholding rules for reportable payments to vendors and reportable gaming (gambling) winnings to prize winners?	X	

Part V Statements Regarding Other IRS Filings and Tax Compliance (continued)

Yes No

2a	Enter the number of employees reported on Form W-3, Transmittal of Wage and Tax Statements, filed for the calendar year ending with or within the year covered by this return	2a	10			
b	If at least one is reported on line 2a, did the organization file all required federal employment tax returns?	2b		X		
3a	Did the organization have unrelated business gross income of \$1,000 or more during the year?	3a				X
b	If "Yes," has it filed a Form 990-T for this year? If "No" to line 3b, provide an explanation on Schedule O	3b				
4a	At any time during the calendar year, did the organization have an interest in, or a signature or other authority over, a financial account in a foreign country (such as a bank account, securities account, or other financial account)?	4a				X
b	If "Yes," enter the name of the foreign country See instructions for filing requirements for FinCEN Form 114, Report of Foreign Bank and Financial Accounts (FBAR).					
5a	Was the organization a party to a prohibited tax shelter transaction at any time during the tax year?	5a				X
b	Did any taxable party notify the organization that it was or is a party to a prohibited tax shelter transaction?	5b				X
c	If "Yes" to line 5a or 5b, did the organization file Form 8886-T?	5c				
6a	Does the organization have annual gross receipts that are normally greater than \$100,000, and did the organization solicit any contributions that were not tax deductible as charitable contributions?	6a				X
b	If "Yes," did the organization include with every solicitation an express statement that such contributions or gifts were not tax deductible?	6b				
7	Organizations that may receive deductible contributions under section 170(c).					
a	Did the organization receive a payment in excess of \$75 made partly as a contribution and partly for goods and services provided to the payor?	7a				
b	If "Yes," did the organization notify the donor of the value of the goods or services provided?	7b				
c	Did the organization sell, exchange, or otherwise dispose of tangible personal property for which it was required to file Form 8282?	7c				
d	If "Yes," indicate the number of Forms 8282 filed during the year	7d				
e	Did the organization receive any funds, directly or indirectly, to pay premiums on a personal benefit contract?	7e				
f	Did the organization, during the year, pay premiums, directly or indirectly, on a personal benefit contract?	7f				
g	If the organization received a contribution of qualified intellectual property, did the organization file Form 8899 as required?	7g				
h	If the organization received a contribution of cars, boats, airplanes, or other vehicles, did the organization file a Form 1098-C?	7h				
8	Sponsoring organizations maintaining donor advised funds. Did a donor advised fund maintained by the sponsoring organization have excess business holdings at any time during the year?	8				
9	Sponsoring organizations maintaining donor advised funds.					
a	Did the sponsoring organization make any taxable distributions under section 4966?	9a				
b	Did the sponsoring organization make a distribution to a donor, donor advisor, or related person?	9b				
10	Section 501(c)(7) organizations. Enter:					
a	Initiation fees and capital contributions included on Part VIII, line 12	10a				
b	Gross receipts, included on Form 990, Part VIII, line 12, for public use of club facilities	10b				
11	Section 501(c)(12) organizations. Enter:					
a	Gross income from members or shareholders	11a	5,115,948			
b	Gross income from other sources. (Do not net amounts due or paid to other sources against amounts due or received from them.)	11b	458,894			
12a	Section 4947(a)(1) non-exempt charitable trusts. Is the organization filing Form 990 in lieu of Form 1041?	12a				
b	If "Yes," enter the amount of tax-exempt interest received or accrued during the year	12b				
13	Section 501(c)(29) qualified nonprofit health insurance issuers.					
a	Is the organization licensed to issue qualified health plans in more than one state? Note: See the instructions for additional information the organization must report on Schedule O.	13a				
b	Enter the amount of reserves the organization is required to maintain by the states in which the organization is licensed to issue qualified health plans	13b				
c	Enter the amount of reserves on hand	13c				
14a	Did the organization receive any payments for indoor tanning services during the tax year?	14a				X
b	If "Yes," has it filed a Form 720 to report these payments? If "No," provide an explanation on Schedule O	14b				
15	Is the organization subject to the section 4960 tax on payment(s) of more than \$1,000,000 in remuneration or excess parachute payment(s) during the year? If "Yes," see instructions and file Form 4720, Schedule N.	15				X
16	Is the organization an educational institution subject to the section 4968 excise tax on net investment income? If "Yes," complete Form 4720, Schedule O.	16				X
17	Section 501(c)(21) organizations. Did the trust, any disqualified or other person engage in any activities that would result in the imposition of an excise tax under section 4951, 4952 or 4953? If "Yes," complete Form 6069.	17				

Part VI Governance, Management, and Disclosure For each "Yes" response to lines 2 through 7b below, and for a "No" response to line 8a, 8b, or 10b below, describe the circumstances, processes, or changes on Schedule O. See instructions. Check if Schedule O contains a response or note to any line in this Part VI

Section A. Governing Body and Management

		Yes	No
1a	Enter the number of voting members of the governing body at the end of the tax year If there are material differences in voting rights among members of the governing body, or if the governing body delegated broad authority to an executive committee or similar committee, explain on Schedule O.		
	1a	7	
b	Enter the number of voting members included on line 1a, above, who are independent		
	1b	7	
2	Did any officer, director, trustee, or key employee have a family relationship or a business relationship with any other officer, director, trustee, or key employee?		<input checked="" type="checkbox"/>
3	Did the organization delegate control over management duties customarily performed by or under the direct supervision of officers, directors, trustees, or key employees to a management company or other person?		<input checked="" type="checkbox"/>
4	Did the organization make any significant changes to its governing documents since the prior Form 990 was filed?		<input checked="" type="checkbox"/>
5	Did the organization become aware during the year of a significant diversion of the organization's assets?		<input checked="" type="checkbox"/>
6	Did the organization have members or stockholders?	<input checked="" type="checkbox"/>	
7a	Did the organization have members, stockholders, or other persons who had the power to elect or appoint one or more members of the governing body?	<input checked="" type="checkbox"/>	
b	Are any governance decisions of the organization reserved to (or subject to approval by) members, stockholders, or persons other than the governing body?		<input checked="" type="checkbox"/>
8	Did the organization contemporaneously document the meetings held or written actions undertaken during the year by the following:		
a	The governing body?	<input checked="" type="checkbox"/>	
b	Each committee with authority to act on behalf of the governing body?	<input checked="" type="checkbox"/>	
9	Is there any officer, director, trustee, or key employee listed in Part VII, Section A, who cannot be reached at the organization's mailing address? If "Yes," provide the names and addresses on Schedule O.		<input checked="" type="checkbox"/>

Section B. Policies (This Section B requests information about policies not required by the Internal Revenue Code.)

		Yes	No
10a	Did the organization have local chapters, branches, or affiliates?		<input checked="" type="checkbox"/>
b	If "Yes," did the organization have written policies and procedures governing the activities of such chapters, affiliates, and branches to ensure their operations are consistent with the organization's exempt purposes?		
	10b		
11a	Has the organization provided a complete copy of this Form 990 to all members of its governing body before filing the form?	<input checked="" type="checkbox"/>	
b	Describe on Schedule O the process, if any, used by the organization to review this Form 990.		
12a	Did the organization have a written conflict of interest policy? If "No," go to line 13	<input checked="" type="checkbox"/>	
b	Were officers, directors, or trustees, and key employees required to disclose annually interests that could give rise to conflicts?	<input checked="" type="checkbox"/>	
c	Did the organization regularly and consistently monitor and enforce compliance with the policy? If "Yes," describe on Schedule O how this was done	<input checked="" type="checkbox"/>	
	12c	<input checked="" type="checkbox"/>	
13	Did the organization have a written whistleblower policy?	<input checked="" type="checkbox"/>	
14	Did the organization have a written document retention and destruction policy?	<input checked="" type="checkbox"/>	
15	Did the process for determining compensation of the following persons include a review and approval by independent persons, comparability data, and contemporaneous substantiation of the deliberation and decision?		
a	The organization's CEO, Executive Director, or top management official	<input checked="" type="checkbox"/>	
b	Other officers or key employees of the organization If "Yes" to line 15a or 15b, describe the process on Schedule O. See instructions.	<input checked="" type="checkbox"/>	
	15b	<input checked="" type="checkbox"/>	
16a	Did the organization invest in, contribute assets to, or participate in a joint venture or similar arrangement with a taxable entity during the year?		<input checked="" type="checkbox"/>
b	If "Yes," did the organization follow a written policy or procedure requiring the organization to evaluate its participation in joint venture arrangements under applicable federal tax law, and take steps to safeguard the organization's exempt status with respect to such arrangements?		
	16b		

Section C. Disclosure

- 17 List the states with which a copy of this Form 990 is required to be filed **None**
- 18 Section 6104 requires an organization to make its Forms 1023 (1024 or 1024-A, if applicable), 990, and 990-T (section 501(c)(3)s only) available for public inspection. Indicate how you made these available. Check all that apply.
 Own website Another's website Upon request Other (explain on Schedule O)
- 19 Describe on Schedule O whether (and if so, how) the organization made its governing documents, conflict of interest policy, and financial statements available to the public during the tax year.
- 20 State the name, address, and telephone number of the person who possesses the organization's books and records

San Antonio Water Company

139 N Euclid Avenue

Upland

CA 91786

909-982-4107

Part VII Compensation of Officers, Directors, Trustees, Key Employees, Highest Compensated Employees, and Independent Contractors

Check if Schedule O contains a response or note to any line in this Part VII

Section A. Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees

1a Complete this table for all persons required to be listed. Report compensation for the calendar year ending with or within the organization's tax year.

- List all of the organization's **current** officers, directors, trustees (whether individuals or organizations), regardless of amount of compensation. Enter -0- in columns (D), (E), and (F) if no compensation was paid.
- List all of the organization's **current** key employees, if any. See instructions for definition of "key employee."
- List the organization's five **current** highest compensated employees (other than an officer, director, trustee, or key employee) who received reportable compensation (box 5 of Form W-2, box 6 of Form 1099-MISC, and/or box 1 of Form 1099-NEC) of more than \$100,000 from the organization and any related organizations.
- List all of the organization's **former** officers, key employees, and highest compensated employees who received more than \$100,000 of reportable compensation from the organization and any related organizations.
- List all of the organization's **former** directors or trustees that received, in the capacity as a former director or trustee of the organization, more than \$10,000 of reportable compensation from the organization and any related organizations. See the instructions for the order in which to list the persons above.

Check this box if neither the organization nor any related organization compensated any current officer, director, or trustee.

(A) Name and title	(B) Average hours per week (list any hours for related organizations below dotted line)	(C) Position (do not check more than one box, unless person is both an officer and a director/trustee)						(D) Reportable compensation from the organization (W-2/ 1099-MISC/ 1099-NEC)	(E) Reportable compensation from related organizations (W-2/ 1099-MISC/ 1099-NEC)	(F) Estimated amount of other compensation from the organization and related organizations
		Individual trustee or director	Institutional trustee	Officer	Key employee	Highest compensated employee	Former			
(1) Brian Lee General Manager	40.00 0.00			X				256,217	0	85,152
(2) Theresa Layton Asst General Manager	40.00 0.00			X				205,276	0	34,838
(3) Kati Parker Board Member	2.00 0.00	X						4,750	0	0
(4) Bill Velto Board Member	2.00 0.00	X						4,750	0	0
(5) Will Elliott Vice President	2.00 0.00	X						4,500	0	0
(6) Rudy Zuniga President	2.00 0.00	X						4,500	0	0
(7) Martha Goss Secretary/CFO	2.00 0.00	X						4,000	0	0
(8) Bob Cable Board Member	2.00 0.00	X						3,750	0	0
(9) Bob Bowcock Board Member	2.00 0.00	X						2,000	0	0
(10) Tom Thomas President	2.00 0.00	X						1,000	0	0
(11)										

Part VIII Statement of Revenue

Check if Schedule O contains a response or note to any line in this Part VIII

		(A) Total revenue	(B) Related or exempt function revenue	(C) Unrelated business revenue	(D) Revenue excluded from tax under sections 512-514	
Contributions, Gifts, Grants and Other Similar Amounts	1a Federated campaigns	1a				
	b Membership dues	1b				
	c Fundraising events	1c				
	d Related organizations	1d				
	e Government grants (contributions)	1e				
	f All other contributions, gifts, grants, and similar amounts not included above	1f				
	g Noncash contributions included in lines 1a-1f	1g \$				
	h Total. Add lines 1a-1f					
Program Service Revenue	2a Water income	Business Code 221000	5,105,497	5,105,497		
	b Other fees	221000	10,451	10,451		
	c					
	d					
	e					
	f All other program service revenue					
	g Total. Add lines 2a-2f		5,115,948			
Other Revenue	3 Investment income (including dividends, interest, and other similar amounts)		35,612		35,612	
	4 Income from investment of tax-exempt bond proceeds					
	5 Royalties					
	6a Gross rents	(i) Real	74,950			
		(ii) Personal				
		6a	74,950			
	b Less: rental expenses	6b				
	c Rental inc. or (loss)	6c	74,950			
	d Net rental income or (loss)		74,950		74,950	
	7a Gross amount from sales of assets other than inventory	(i) Securities				
		(ii) Other		343,060		
		7a		343,060		
	b Less: cost or other basis and sales exps.	7b				
	c Gain or (loss)	7c	343,060			
	d Net gain or (loss)		343,060	343,060		
8a Gross income from fundraising events (not including \$ of contributions reported on line 1c). See Part IV, line 18	8a					
	b Less: direct expenses	8b				
c Net income or (loss) from fundraising events						
9a Gross income from gaming activities. See Part IV, line 19	9a					
	b Less: direct expenses	9b				
c Net income or (loss) from gaming activities						
10a Gross sales of inventory, less returns and allowances	10a					
	b Less: cost of goods sold	10b				
c Net income or (loss) from sales of inventory						
Miscellaneous Revenue	11a Miscellaneous	Business Code	4,332		4,332	
	b					
	c					
	d All other revenue					
	e Total. Add lines 11a-11d		4,332			
12 Total revenue. See instructions		5,573,902	5,459,008	0	114,894	

Part IX Statement of Functional Expenses

Section 501(c)(3) and 501(c)(4) organizations must complete all columns. All other organizations must complete column (A).

Check if Schedule O contains a response or note to any line in this Part IX

Do not include amounts reported on lines 6b, 7b, 8b, 9b, and 10b of Part VIII.	(A) Total expenses	(B) Program service expenses	(C) Management and general expenses	(D) Fundraising expenses
1 Grants and other assistance to domestic organizations and domestic governments. See Part IV, line 21				
2 Grants and other assistance to domestic individuals. See Part IV, line 22				
3 Grants and other assistance to foreign organizations, foreign governments, and foreign individuals. See Part IV, lines 15 and 16				
4 Benefits paid to or for members				
5 Compensation of current officers, directors, trustees, and key employees				
6 Compensation not included above to disqualified persons (as defined under section 4958(f)(1)) and persons described in section 4958(c)(3)(B)				
7 Other salaries and wages	769,387			
8 Pension plan accruals and contributions (include section 401(k) and 403(b) employer contributions)	68,812			
9 Other employee benefits	382,011			
10 Payroll taxes	74,509			
11 Fees for services (nonemployees):				
a Management				
b Legal	151,565			
c Accounting	76,185			
d Lobbying				
e Professional fundraising services. See Part IV, line 17				
f Investment management fees				
g Other. (If line 11g amount exceeds 10% of line 25, column (A) amount, list line 11g expenses on Schedule O.)	25,486			
12 Advertising and promotion				
13 Office expenses	71,168			
14 Information technology				
15 Royalties				
16 Occupancy				
17 Travel				
18 Payments of travel or entertainment expenses for any federal, state, or local public officials				
19 Conferences, conventions, and meetings	32,540			
20 Interest				
21 Payments to affiliates				
22 Depreciation, depletion, and amortization	1,048,943			
23 Insurance	57,861			
24 Other expenses. Itemize expenses not covered above (List miscellaneous expenses on line 24e. If line 24e amount exceeds 10% of line 25, column (A) amount, list line 24e expenses on Schedule O.)				
a Power, Gas & electric	1,052,882			
b Repairs	355,777			
c Property taxes	249,238			
d Water resource management	154,708			
e All other expenses	182,201			
25 Total functional expenses. Add lines 1 through 24e	4,753,273	0	0	0
26 Joint costs. Complete this line only if the organization reported in column (B) joint costs from a combined educational campaign and fundraising solicitation. Check here <input type="checkbox"/> if following SOP 98-2 (ASC 958-720)				

Part X Balance Sheet

Check if Schedule O contains a response or note to any line in this Part X

		(A) Beginning of year		(B) End of year	
Assets	1	Cash—non-interest-bearing	2,708,581	1	3,093,473
	2	Savings and temporary cash investments	3,408,807	2	5,156,484
	3	Pledges and grants receivable, net		3	
	4	Accounts receivable, net	1,277,750	4	612,119
	5	Loans and other receivables from any current or former officer, director, trustee, key employee, creator or founder, substantial contributor, or 35% controlled entity or family member of any of these persons		5	
	6	Loans and other receivables from other disqualified persons (as defined under section 4958(f)(1)), and persons described in section 4958(c)(3)(B)		6	
	7	Notes and loans receivable, net	688,000	7	344,000
	8	Inventories for sale or use	162,452	8	171,431
	9	Prepaid expenses and deferred charges	9,238	9	9,238
	10a	Land, buildings, and equipment: cost or other basis. Complete Part VI of Schedule D	10a 37,448,818		
	b	Less: accumulated depreciation	10b 15,350,344	10c 22,986,415	22,098,474
	11	Investments—publicly traded securities		11	
	12	Investments—other securities. See Part IV, line 11		12	
	13	Investments—program-related. See Part IV, line 11	54,019	13	56,227
	14	Intangible assets		14	
	15	Other assets. See Part IV, line 11	419,289	15	469,675
16	Total assets. Add lines 1 through 15 (must equal line 33)	31,714,551	16	32,011,121	
Liabilities	17	Accounts payable and accrued expenses	866,254	17	693,737
	18	Grants payable		18	
	19	Deferred revenue	14,016	19	2,808
	20	Tax-exempt bond liabilities		20	
	21	Escrow or custodial account liability. Complete Part IV of Schedule D		21	
	22	Loans and other payables to any current or former officer, director, trustee, key employee, creator or founder, substantial contributor, or 35% controlled entity or family member of any of these persons		22	
	23	Secured mortgages and notes payable to unrelated third parties		23	
	24	Unsecured notes and loans payable to unrelated third parties		24	
25	Other liabilities (including federal income tax, payables to related third parties, and other liabilities not included on lines 17-24). Complete Part X of Schedule D	740,139	25	399,805	
26	Total liabilities. Add lines 17 through 25	1,620,409	26	1,096,350	
Net Assets or Fund Balances	Organizations that follow FASB ASC 958, check here <input type="checkbox"/> and complete lines 27, 28, 32, and 33.				
	27	Net assets without donor restrictions		27	
	28	Net assets with donor restrictions		28	
	Organizations that do not follow FASB ASC 958, check here <input checked="" type="checkbox"/> and complete lines 29 through 33.				
	29	Capital stock or trust principal, or current funds	638,900	29	638,900
	30	Paid-in or capital surplus, or land, building, or equipment fund	2,879,515	30	3,879,515
	31	Retained earnings, endowment, accumulated income, or other funds	26,575,727	31	26,396,356
32	Total net assets or fund balances	30,094,142	32	30,914,771	
33	Total liabilities and net assets/fund balances	31,714,551	33	32,011,121	

Part XI Reconciliation of Net Assets

Check if Schedule O contains a response or note to any line in this Part XI

1	Total revenue (must equal Part VIII, column (A), line 12)	1	5,573,902
2	Total expenses (must equal Part IX, column (A), line 25)	2	4,753,273
3	Revenue less expenses. Subtract line 2 from line 1	3	820,629
4	Net assets or fund balances at beginning of year (must equal Part X, line 32, column (A))	4	30,094,142
5	Net unrealized gains (losses) on investments	5	
6	Donated services and use of facilities	6	
7	Investment expenses	7	
8	Prior period adjustments	8	
9	Other changes in net assets or fund balances (explain on Schedule O)	9	
10	Net assets or fund balances at end of year. Combine lines 3 through 9 (must equal Part X, line 32, column (B))	10	30,914,771

Part XII Financial Statements and Reporting

Check if Schedule O contains a response or note to any line in this Part XII

		Yes	No
1	Accounting method used to prepare the Form 990: <input type="checkbox"/> Cash <input checked="" type="checkbox"/> Accrual <input type="checkbox"/> Other If the organization changed its method of accounting from a prior year or checked "Other," explain on Schedule O.		
2a	Were the organization's financial statements compiled or reviewed by an independent accountant? If "Yes," check a box below to indicate whether the financial statements for the year were compiled or reviewed on a separate basis, consolidated basis, or both: <input type="checkbox"/> Separate basis <input type="checkbox"/> Consolidated basis <input type="checkbox"/> Both consolidated and separate basis		X
2b	Were the organization's financial statements audited by an independent accountant? If "Yes," check a box below to indicate whether the financial statements for the year were audited on a separate basis, consolidated basis, or both: <input type="checkbox"/> Separate basis <input checked="" type="checkbox"/> Consolidated basis <input type="checkbox"/> Both consolidated and separate basis	X	
2c	If "Yes" to line 2a or 2b, does the organization have a committee that assumes responsibility for oversight of the audit, review, or compilation of its financial statements and selection of an independent accountant? If the organization changed either its oversight process or selection process during the tax year, explain on Schedule O.	X	
3a	As a result of a federal award, was the organization required to undergo an audit or audits as set forth in the Uniform Guidance, 2 C.F.R. Part 200, Subpart F?		X
3b	If "Yes," did the organization undergo the required audit or audits? If the organization did not undergo the required audit or audits, explain why on Schedule O and describe any steps taken to undergo such audits		

**SCHEDULE D
(Form 990)**

Department of the Treasury
Internal Revenue Service

Supplemental Financial Statements

Complete if the organization answered "Yes" on Form 990, Part IV, line 6, 7, 8, 9, 10, 11a, 11b, 11c, 11d, 11e, 11f, 12a, or 12b.
Attach to Form 990.

Go to www.irs.gov/Form990 for instructions and the latest information.

OMB No. 1545-0047

2022

Open to Public Inspection

Name of the organization

San Antonio Water Company

Employer identification number

95-1183990

Part I Organizations Maintaining Donor Advised Funds or Other Similar Funds or Accounts.

Complete if the organization answered "Yes" on Form 990, Part IV, line 6.

	(a) Donor advised funds	(b) Funds and other accounts
1 Total number at end of year		
2 Aggregate value of contributions to (during year)		
3 Aggregate value of grants from (during year)		
4 Aggregate value at end of year		
5 Did the organization inform all donors and donor advisors in writing that the assets held in donor advised funds are the organization's property, subject to the organization's exclusive legal control?		<input type="checkbox"/> Yes <input type="checkbox"/> No
6 Did the organization inform all grantees, donors, and donor advisors in writing that grant funds can be used only for charitable purposes and not for the benefit of the donor or donor advisor, or for any other purpose conferring impermissible private benefit?		<input type="checkbox"/> Yes <input type="checkbox"/> No

Part II Conservation Easements.

Complete if the organization answered "Yes" on Form 990, Part IV, line 7.

1 Purpose(s) of conservation easements held by the organization (check all that apply).

Preservation of land for public use (for example, recreation or education) Preservation of a historically important land area

Protection of natural habitat Preservation of a certified historic structure

Preservation of open space

2 Complete lines 2a through 2d if the organization held a qualified conservation contribution in the form of a conservation easement on the last day of the tax year.

	Held at the End of the Tax Year
a Total number of conservation easements	2a
b Total acreage restricted by conservation easements	2b
c Number of conservation easements on a certified historic structure included in (a)	2c
d Number of conservation easements included in (c) acquired after July 25, 2006, and not on a historic structure listed in the National Register	2d

3 Number of conservation easements modified, transferred, released, extinguished, or terminated by the organization during the tax year

4 Number of states where property subject to conservation easement is located

5 Does the organization have a written policy regarding the periodic monitoring, inspection, handling of violations, and enforcement of the conservation easements it holds? Yes No

6 Staff and volunteer hours devoted to monitoring, inspecting, handling of violations, and enforcing conservation easements during the year

7 Amount of expenses incurred in monitoring, inspecting, handling of violations, and enforcing conservation easements during the year

8 Does each conservation easement reported on line 2(d) above satisfy the requirements of section 170(h)(4)(B)(i) and section 170(h)(4)(B)(ii)? Yes No

9 In Part XIII, describe how the organization reports conservation easements in its revenue and expense statement and balance sheet, and include, if applicable, the text of the footnote to the organization's financial statements that describes the organization's accounting for conservation easements.

Part III Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets.

Complete if the organization answered "Yes" on Form 990, Part IV, line 8.

1a If the organization elected, as permitted under FASB ASC 958, not to report in its revenue statement and balance sheet works of art, historical treasures, or other similar assets held for public exhibition, education, or research in furtherance of public service, provide in Part XIII the text of the footnote to its financial statements that describes these items.

b If the organization elected, as permitted under FASB ASC 958, to report in its revenue statement and balance sheet works of art, historical treasures, or other similar assets held for public exhibition, education, or research in furtherance of public service, provide the following amounts relating to these items:

(i) Revenue included on Form 990, Part VIII, line 1 \$

(ii) Assets included in Form 990, Part X \$

2 If the organization received or held works of art, historical treasures, or other similar assets for financial gain, provide the following amounts required to be reported under FASB ASC 958 relating to these items:

a Revenue included on Form 990, Part VIII, line 1 \$

b Assets included in Form 990, Part X \$

Part III Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets (continued)

3 Using the organization's acquisition, accession, and other records, check any of the following that make significant use of its collection items (check all that apply):

- a Public exhibition
- b Scholarly research
- c Preservation for future generations
- d Loan or exchange program
- e Other

4 Provide a description of the organization's collections and explain how they further the organization's exempt purpose in Part XIII.

5 During the year, did the organization solicit or receive donations of art, historical treasures, or other similar assets to be sold to raise funds rather than to be maintained as part of the organization's collection? Yes No

Part IV Escrow and Custodial Arrangements.

Complete if the organization answered "Yes" on Form 990, Part IV, line 9, or reported an amount on Form 990, Part X, line 21.

1a Is the organization an agent, trustee, custodian or other intermediary for contributions or other assets not included on Form 990, Part X? Yes No

b If "Yes," explain the arrangement in Part XIII and complete the following table:

	Amount
c Beginning balance	1c
d Additions during the year	1d
e Distributions during the year	1e
f Ending balance	1f

2a Did the organization include an amount on Form 990, Part X, line 21, for escrow or custodial account liability? Yes No

b If "Yes," explain the arrangement in Part XIII. Check here if the explanation has been provided on Part XIII Yes No

Part V Endowment Funds.

Complete if the organization answered "Yes" on Form 990, Part IV, line 10.

	(a) Current year	(b) Prior year	(c) Two years back	(d) Three years back	(e) Four years back
1a Beginning of year balance					
b Contributions					
c Net investment earnings, gains, and losses					
d Grants or scholarships					
e Other expenditures for facilities and programs					
f Administrative expenses					
g End of year balance					

2 Provide the estimated percentage of the current year end balance (line 1g, column (a)) held as:

- a Board designated or quasi-endowment %
- b Permanent endowment %
- c Term endowment %

The percentages on lines 2a, 2b, and 2c should equal 100%.

3a Are there endowment funds not in the possession of the organization that are held and administered for the organization by:

	Yes	No
(i) Unrelated organizations	3a(i)	
(ii) Related organizations	3a(ii)	
b If "Yes" on line 3a(ii), are the related organizations listed as required on Schedule R?	3b	

4 Describe in Part XIII the intended uses of the organization's endowment funds.

Part VI Land, Buildings, and Equipment.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11a. See Form 990, Part X, line 10.

Description of property	(a) Cost or other basis (investment)	(b) Cost or other basis (other)	(c) Accumulated depreciation	(d) Book value
1a Land		920,161		920,161
b Buildings		1,827,590	670,035	1,157,555
c Leasehold improvements				
d Equipment		34,701,067	14,680,309	20,020,758
e Other				
Total. Add lines 1a through 1e. (Column (d) must equal Form 990, Part X, column (B), line 10c.)				22,098,474

Part VII Investments – Other Securities.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11b. See Form 990, Part X, line 12.

(a) Description of security or category (Including name of security)	(b) Book value	(c) Method of valuation: Cost or end-of-year market value
(1) Financial derivatives		
(2) Closely held equity interests		
(3) Other		
(A)		
(B)		
(C)		
(D)		
(E)		
(F)		
(G)		
(H)		
Total. (Column (b) must equal Form 990, Part X, col. (B) line 12.)		

Part VIII Investments – Program Related.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11c. See Form 990, Part X, line 13.

(a) Description of investment	(b) Book value	(c) Method of valuation: Cost or end-of-year market value
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
Total. (Column (b) must equal Form 990, Part X, col. (B) line 13.)		

Part IX Other Assets.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11d. See Form 990, Part X, line 15.

(a) Description	(b) Book value
(1)	
(2)	
(3)	
(4)	
(5)	
(6)	
(7)	
(8)	
(9)	
Total. (Column (b) must equal Form 990, Part X, col. (B) line 15.)	

Part X Other Liabilities.

Complete if the organization answered "Yes" on Form 990, Part IV, line 11e or 11f. See Form 990, Part X, line 25.

1. (a) Description of liability	(b) Book value
(1) Federal income taxes	
(2) Deferred gain on installment sale	343,060
(3) Deferred compensation liability	56,227
(4) Income taxes payable	518
(5)	
(6)	
(7)	
(8)	
(9)	
Total. (Column (b) must equal Form 990, Part X, col. (B) line 25.)	399,805

2. Liability for uncertain tax positions. In Part XIII, provide the text of the footnote to the organization's financial statements that reports the organization's liability for uncertain tax positions under FASB ASC 740. Check here if the text of the footnote has been provided in Part XIII

Part XI Reconciliation of Revenue per Audited Financial Statements With Revenue per Return.

Complete if the organization answered "Yes" on Form 990, Part IV, line 12a.

1	Total revenue, gains, and other support per audited financial statements		1	5,573,902
2	Amounts included on line 1 but not on Form 990, Part VIII, line 12:			
a	Net unrealized gains (losses) on investments	2a		
b	Donated services and use of facilities	2b		
c	Recoveries of prior year grants	2c		
d	Other (Describe in Part XIII.)	2d		
e	Add lines 2a through 2d		2e	
3	Subtract line 2e from line 1		3	5,573,902
4	Amounts included on Form 990, Part VIII, line 12, but not on line 1:			
a	Investment expenses not included on Form 990, Part VIII, line 7b	4a		
b	Other (Describe in Part XIII.)	4b		
c	Add lines 4a and 4b		4c	
5	Total revenue. Add lines 3 and 4c. (This must equal Form 990, Part I, line 12.)		5	5,573,902

Part XII Reconciliation of Expenses per Audited Financial Statements With Expenses per Return.

Complete if the organization answered "Yes" on Form 990, Part IV, line 12a.

1	Total expenses and losses per audited financial statements		1	4,753,273
2	Amounts included on line 1 but not on Form 990, Part IX, line 25:			
a	Donated services and use of facilities	2a		
b	Prior year adjustments	2b		
c	Other losses	2c		
d	Other (Describe in Part XIII.)	2d		
e	Add lines 2a through 2d		2e	
3	Subtract line 2e from line 1		3	4,753,273
4	Amounts included on Form 990, Part IX, line 25, but not on line 1:			
a	Investment expenses not included on Form 990, Part VIII, line 7b	4a		
b	Other (Describe in Part XIII.)	4b		
c	Add lines 4a and 4b		4c	
5	Total expenses. Add lines 3 and 4c. (This must equal Form 990, Part I, line 18.)		5	4,753,273

Part XIII Supplemental Information.

Provide the descriptions required for Part II, lines 3, 5, and 9; Part III, lines 1a and 4; Part IV, lines 1b and 2b; Part V, line 4; Part X, line 2; Part XI, lines 2d and 4b; and Part XII, lines 2d and 4b. Also complete this part to provide any additional information.

Part X - FIN 48 Footnote

GAAP provides accounting and disclosure guidance about positions taken by an organization in its tax returns that might be uncertain. Management has considered its tax positions and believes that all of the positions taken by the Company in its federal exempt and state organization tax return are more likely than not to be sustained upon examination. The Company's tax returns are subject to examination by Federal taxing authorities for a period of three years from the date they are filed and for a period of four years for California taxing authorities.

SCHEDULE J
(Form 990)

Compensation Information

For certain Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees
Complete if the organization answered "Yes" on Form 990, Part IV, line 23.
Attach to Form 990.
Go to www.irs.gov/Form990 for instructions and the latest information.

OMB No. 1545-0047

2022

Open to Public Inspection

Department of the Treasury
Internal Revenue Service
Name of the organization

San Antonio Water Company

Employer identification number
95-1183990

Part I Questions Regarding Compensation

1a Check the appropriate box(es) if the organization provided any of the following to or for a person listed on Form 990, Part VII, Section A, line 1a. Complete Part III to provide any relevant information regarding these items.

- | | |
|--|--|
| <input type="checkbox"/> First-class or charter travel | <input type="checkbox"/> Housing allowance or residence for personal use |
| <input type="checkbox"/> Travel for companions | <input type="checkbox"/> Payments for business use of personal residence |
| <input type="checkbox"/> Tax indemnification and gross-up payments | <input type="checkbox"/> Health or social club dues or initiation fees |
| <input type="checkbox"/> Discretionary spending account | <input type="checkbox"/> Personal services (such as maid, chauffeur, chef) |

b If any of the boxes on line 1a are checked, did the organization follow a written policy regarding payment or reimbursement or provision of all of the expenses described above? If "No," complete Part III to explain

2 Did the organization require substantiation prior to reimbursing or allowing expenses incurred by all directors, trustees, and officers, including the CEO/Executive Director, regarding the items checked on line 1a?

3 Indicate which, if any, of the following the organization used to establish the compensation of the organization's CEO/Executive Director. Check all that apply. Do not check any boxes for methods used by a related organization to establish compensation of the CEO/Executive Director, but explain in Part III.

- | | |
|--|--|
| <input type="checkbox"/> Compensation committee | <input checked="" type="checkbox"/> Written employment contract |
| <input type="checkbox"/> Independent compensation consultant | <input type="checkbox"/> Compensation survey or study |
| <input type="checkbox"/> Form 990 of other organizations | <input type="checkbox"/> Approval by the board or compensation committee |

4 During the year, did any person listed on Form 990, Part VII, Section A, line 1a, with respect to the filing organization or a related organization:

- | | | |
|--|-----------|-------------------------------------|
| a Receive a severance payment or change-of-control payment? | 4a | <input checked="" type="checkbox"/> |
| b Participate in or receive payment from a supplemental nonqualified retirement plan? | 4b | <input checked="" type="checkbox"/> |
| c Participate in or receive payment from an equity-based compensation arrangement? | 4c | <input checked="" type="checkbox"/> |
- If "Yes" to any of lines 4a–c, list the persons and provide the applicable amounts for each item in Part III.

Only section 501(c)(3), 501(c)(4), and 501(c)(29) organizations must complete lines 5–9.

5 For persons listed on Form 990, Part VII, Section A, line 1a, did the organization pay or accrue any compensation contingent on the revenues of:

- | | | |
|------------------------------------|-----------|--|
| a The organization? | 5a | |
| b Any related organization? | 5b | |
- If "Yes" on line 5a or 5b, describe in Part III.

6 For persons listed on Form 990, Part VII, Section A, line 1a, did the organization pay or accrue any compensation contingent on the net earnings of:

- | | | |
|------------------------------------|-----------|--|
| a The organization? | 6a | |
| b Any related organization? | 6b | |
- If "Yes" on line 6a or 6b, describe in Part III.

7 For persons listed on Form 990, Part VII, Section A, line 1a, did the organization provide any nonfixed payments not described on lines 5 and 6? If "Yes," describe in Part III

8 Were any amounts reported on Form 990, Part VII, paid or accrued pursuant to a contract that was subject to the initial contract exception described in Regulations section 53.4958-4(a)(3)? If "Yes," describe in Part III

9 If "Yes" on line 8, did the organization also follow the rebuttable presumption procedure described in Regulations section 53.4958-6(c)?

	Yes	No
1a		
1b		
2		
3		
4a		<input checked="" type="checkbox"/>
4b		<input checked="" type="checkbox"/>
4c		<input checked="" type="checkbox"/>
5a		
5b		
6a		
6b		
7		
8		
9		

Schedule J (Form 990) 2022 **San Antonio Water Company 95-1183990**

Part II Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees. Use duplicate copies if additional space is needed.

For each individual whose compensation must be reported on Schedule J, report compensation from the organization on row (i) and from related organizations, described in the instructions, on row (ii). Do not list any individuals that aren't listed on Form 990, Part VII.

Note: The sum of columns (B)(i)-(iii) for each listed individual must equal the total amount of Form 990, Part VII, Section A, line 1a, applicable column (D) and (E) amounts for that individual.

(A) Name and Title	(B) Breakdown of W-2 and/or 1099-MISC and/or 1099-NEC compensation:			(C) Retirement and other deferred compensation	(D) Nontaxable benefits	(E) Total of columns (B)(i)-(D)	(F) Compensation in column (B) reported as deferred on prior Form 990
	(i) Base compensation	(ii) Bonus & incentive compensation	(iii) Other reportable compensation				
1 Brian Iee General Manager	(i)	256,217	0	85,152	0	341,369	0
	(ii)	0	0	0	0	0	0
2 Theresa Layton Asst General Manager	(i)	205,276	0	34,838	0	240,114	0
	(ii)	0	0	0	0	0	0
3	(i)						
(ii)							
4	(i)						
(ii)							
5	(i)						
(ii)							
6	(i)						
(ii)							
7	(i)						
(ii)							
8	(i)						
(ii)							
9	(i)						
(ii)							
10	(i)						
(ii)							
11	(i)						
(ii)							
12	(i)						
(ii)							
13	(i)						
(ii)							
14	(i)						
(ii)							
15	(i)						
(ii)							
16	(i)						
(ii)							

95-1183990

San Antonio Water Company

Part III Supplemental Information

Provide the information, explanation, or descriptions required for Part I, lines 1a, 1b, 3, 4a, 4b, 4c, 5a, 5b, 6a, 6b, 7, and 8, and for Part II. Also complete this part for any additional information.

Area with horizontal dotted lines for supplemental information.

**SCHEDULE O
(Form 990)**Department of the Treasury
Internal Revenue Service**Supplemental Information to Form 990 or 990-EZ**Complete to provide information for responses to specific questions on
Form 990 or 990-EZ or to provide any additional information.

Attach to Form 990 or Form 990-EZ.

Go to www.irs.gov/Form990 for the latest information.

OMB No. 1545-0047

2022**Open to Public
Inspection**

Name of the organization

San Antonio Water Company

Employer identification number

95-1183990**Form 990, Part III, Line 4d - All Other Accomplishments**

Provided reliable and good quality water services at a cost effective rate to 1,227 domestic shareholders and 12 municipal and miscellaneous shareholders.

Form 990, Part VI, Line 6 - Classes of Members or Stockholders

The Company is a mutual water company that is required to deliver water only to stockholders.

Form 990, Part VI, Line 7a - Election of Members and Their Rights

Each shareholder has voting rights to elect the members of the governing body.

Form 990, Part VI, Line 11b - Organization's Process to Review Form 990

The 990 is reviewed by management as a representative of the governing body before it is filed and a copy is given to all members.

Form 990, Part VI, Line 12c - Enforcement of Conflicts Policy

The employee handbook has a section on Ethics/Conflicts of interest. In this section it describes what the employee's responsibilities are and the principles of conduct that is expected. It states that the employee shall not fail to report any action, conduct or situation that he or she reasonably believes may represent a violation of the Company's legal and ethical obligations. The policy states that if the employee believes he or she is in a potential conflict of interest that he or she should discuss

Name of the organization

San Antonio Water Company

Employer identification number

95-1183990

the situation with the General Manager. If an employee is found to have engaged in conduct in violation of the policy, the employee will be subject to discipline up to and including termination.

Form 990, Part VI, Line 15a - Compensation Process for Top Official

The Company contracted with an outside human resource consulting firm to conduct a compensation and benefits study. Salary ranges for all job descriptions were established based on the consulting firm's research and recommendation. This was approved by the Board of Directors along with an updated employee handbook. Annual employee evaluations are done and performance-based merit salary increases are determined by the matrix done by the consulting firm. The General Manager is reviewed by the Board of Directors and the Assistant General Manager is reviewed by the General Manager.

Form 990, Part VI, Line 15b - Compensation Process for Officers

The same process is used for other officers or key employees as is used for top management.

Form 990, Part VI, Line 19 - Governing Documents Disclosure Explanation

The audited annual financial statements are posted in the annual shareholders report and mailed annually to all shareholders. Monthly financial statements are presented every month at the open Board meetings. All documents are available under the California Public Records Act upon request.

Form 990/990PF	Rent Income and Deduction Worksheet	2022
Name San Antonio Water Company		Taxpayer Identification Number 95-1183990
Description Ground lease		

Use this summary worksheet to verify data entered for a specific activity for your rental information

1. Gross rents	1.	74,950
Expenses (see details on worksheets below):		
2. Fees for services	2.	
3. Depreciation Expense	3.	
4. Direct Expense	4.	
5. Total expenses. Add lines 8 through 12	5.	
6. Net Income/Loss. Line 7 minus Line 13	6.	74,950

Expense Details - Fees for Services:

Accounting	
Legal	
Commissions	
Management	
Other Professional Fees	
Total Fees for Services	

Expense Details - Depreciation Expense:

On non-investment property	
On investment property	
Amortization	
Depletion	
Total Depreciation Expense	

Expense Details - Direct Expense:

Interest	
Taxes/licenses	
Occupancy Expenses	
Repairs & Maintenance	
Travel/conferences/meetings	
Printing & Publication	
Advertising	
Insurance	
Utilities	
Supplies	
Other expenses	
Total Direct Expense	

Information is indicated for use on Form 990-T, Schedule A:

Schedule A, UBIT Activity Code _____ Seq # _____

- Part IV, Rent Income
- Part V, Debt Financing
- Part VI, Controlled Org Income
- Part VII, Investments for C(7)(9)(17)

Expense Allocation to Program Service Accomplishments for 990/990E2

First	
Second	
Third	
All other	

Form **990****Two Year Comparison Report****2021 & 2022**

For calendar year 2022, or tax year beginning

, ending

Name

Taxpayer Identification Number

San Antonio Water Company**95-1183990**

		2021	2022	Differences	
Revenue	1. Contributions, gifts, grants	1.			
	2. Membership dues and assessments	2.			
	3. Government contributions and grants	3.			
	4. Program service revenue	4.	4,984,655	5,115,948	131,293
	5. Investment income	5.	34,943	35,612	669
	6. Proceeds from tax exempt bonds	6.			
	7. Net gain or (loss) from sale of assets other than inventory	7.	343,060	343,060	
	8. Net income or (loss) from fundraising events	8.			
	9. Net income or (loss) from gaming	9.			
	10. Net gain or (loss) on sales of inventory	10.			
	11. Other revenue	11.	78,650	79,282	632
	12. Total revenue. Add lines 1 through 11	12.	5,441,308	5,573,902	132,594
Expenses	13. Grants and similar amounts paid	13.			
	14. Benefits paid to or for members	14.			
	15. Compensation of officers, directors, trustees, etc.	15.			
	16. Salaries, other compensation, and employee benefits	16.	1,181,557	1,294,719	113,162
	17. Professional fundraising fees	17.			
	18. Other professional fees	18.	272,362	253,236	-19,126
	19. Occupancy, rent, utilities, and maintenance	19.			
	20. Depreciation and Depletion	20.	947,867	1,048,943	101,076
	21. Other expenses	21.	1,731,427	2,156,375	424,948
	22. Total expenses. Add lines 13 through 21	22.	4,133,213	4,753,273	620,060
	23. Excess or (Deficit). Subtract line 22 from line 12	23.	1,308,095	820,629	-487,466
Other Information	24. Total exempt revenue	24.	5,441,308	5,573,902	132,594
	25. Total unrelated revenue	25.			
	26. Total excludable revenue	26.	5,441,308	5,573,902	132,594
	27. Total assets	27.	31,714,551	32,011,121	296,570
	28. Total liabilities	28.	1,620,409	1,096,350	-524,059
	29. Retained earnings	29.	30,094,142	30,914,771	820,629
	30. Number of voting members of governing body	30.	7	7	
	31. Number of independent voting members of governing body	31.	7	7	
	32. Number of employees	32.	13	10	
	33. Number of volunteers	33.			

Form 990 Tax Return History 2022

Name **San Antonio Water Company** Employer Identification Number **95-1183990**

	2018	2019	2020	2021	2022	2023
Contributions, gifts, grants						
Membership dues						
Program services revenue	4,460,371	4,771,432	5,321,303	4,984,655	5,115,948	
Capital gain or loss		306,860	344,059	343,060	343,060	
Investment income	58,676	78,349	75,124	34,943	35,612	
Fundraising revenue (income/loss)						
Gaming revenue (income/loss)						
Other revenue	56,850	61,254	63,098	78,650	79,282	
Total revenue	4,575,897	5,217,895	5,803,584	5,441,308	5,573,902	
Grants and similar amounts paid						
Benefits paid to or for members						
Compensation of officers, etc.						
Other compensation	1,071,568	1,098,546	1,157,326	1,181,557	1,294,719	
Professional fees	313,799	276,173	318,756	272,362	253,236	
Occupancy costs						
Depreciation and depletion	881,254	917,344	936,733	947,867	1,048,943	
Other expenses	2,077,358	1,338,717	1,684,560	1,731,427	2,156,375	
Total expenses	4,343,979	3,630,780	4,097,375	4,133,213	4,753,273	
Excess or (Deficit)	231,918	1,587,115	1,706,209	1,308,095	820,629	
Total exempt revenue	4,575,897	5,217,895	5,803,584	5,441,308	5,573,902	
Total unrelated revenue						
Total excludable revenue	4,575,897	5,217,895	5,803,584	5,441,308	5,573,902	
Total Assets	26,200,675	29,313,947	30,528,465	31,714,551	32,011,121	
Total Liabilities	741,449	2,245,279	1,742,418	1,620,409	1,096,350	
Net Fund Balances	25,459,226	27,068,668	28,786,047	30,094,142	30,914,771	

Federal Statements**Taxable Interest on Investments**

<u>Description</u>	<u>Amount</u>	<u>Unrelated Business</u>	<u>Exclusion Code</u>	<u>Postal Code</u>	<u>Acquired after 6/30/75</u>	<u>US Obs (\$ or %)</u>
Interest on reserves	\$ 35,612				14	
Total	\$ 35,612					

Federal Statements

Form 990, Part IX, Line 11g - Other Fees for Service (Non-employee)

Description	Total Expenses	Program Service	Management & General	Fund Raising
Outside services	\$ 25,486	\$ 25,486	\$	\$
Total	\$ 25,486	\$ 25,486	\$ 0	\$ 0

Form 990, Part IX, Line 24e - All Other Expenses

Description	Total Expenses	Program Service	Management & General	Fund Raising
Human resources expense	\$ 52,439	\$ 52,439	\$	\$
Conservation	45,204	45,204		
Communication	39,757	39,757		
All other	29,790	29,790		
State Income taxes	9,676	9,676		
Staff development & train	5,335	5,335		
Total	\$ 182,201	\$ 182,201	\$ 0	\$ 0

California Form 100 Return Summary

For calendar year 2022 or fiscal year beginning
SAN ANTONIO WATER COMPANY

and ending
0138200

Taxable Income

Net income (loss) before state adjustments	99,780	
Total additions	352,736	
Total deductions	343,060	
Business income		
Apportioned income		
California non-business income		
NOL deduction		
Taxable Income		109,456

Alternative Minimum Taxable Income

Net income	109,456	
Adjustments		
Preferences		
Alternative minimum taxable income		109,456

Tax Computation

Tax	9,676	
Alternative minimum tax		
Tax credits		
Total tax		9,676

Payments / Penalties

Payments	9,158	
5806 penalty		
Interest		
Failure to file penalty		
Failure to pay penalty		
Total payments / penalties		9,158

Overpayment credited to next year's estimated tax

Use tax

Refund

Tax due

518

	Next Year's Estimates
1st quarter	9,700
2nd quarter	
3rd quarter	
4th quarter	
Total	9,700

	Apportionment Percentage
Property	
Payroll	
Sales	
Average	100.000000

Form at bottom of page.

Installment 1 – File and Pay by the 15th day of the 4th month of the taxable year. When the due date falls on a weekend or holiday, the deadline to file and pay without a penalty is extended to the next business day.

If no payment is due, do not mail this form.

WHERE TO FILE: Using black or blue ink, make the check or money order payable to the "Franchise Tax Board." Write the corporation number, FEIN, and CA SOS file number, if applicable, and "2023 Form 100-ES" on the check or money order. Detach form below. Enclose, but **do not** staple, the payment with this form and mail to:

**FRANCHISE TAX BOARD
PO BOX 942857
SACRAMENTO CA 94257-0531**

Make all checks or money orders payable in U.S. dollars and drawn against a U.S. financial institution.

ONLINE SERVICES: Corporations can make payments online using Web Pay for Businesses. Corporations can make an immediate payment or schedule payments up to a year in advance. Go to ftb.ca.gov/pay for more information.

--- DETACH HERE --- IF NO PAYMENT IS DUE, DO NOT MAIL THIS FORM --- DETACH HERE ---
Caution: The corporation may be required to pay electronically. See instructions.
TAXABLE YEAR Installment 1
CALIFORNIA FORM

2023 Corporation Estimated Tax

100-ES

0138200 SANA 95-1183990 000000000000 23 FORM 1
 TYB 01-01-2023 TYE 12-31-2023
 SAN ANTONIO WATER COMPANY

139 NORTH EUCLID AVENUE
 UPLAND CA 91786 (909) 982-4107

Est Tax Amt 9700. QSub Tax Amt . Total Payment Amt 9700.

034

Date Accepted _____

DO NOT MAIL THIS FORM TO THE FTB

TAXABLE YEAR **2022** **California e-file Return Authorization for Corporations** FORM **8453-C**

Corporation name **SAN ANTONIO WATER COMPANY** California Corporation No., CA SOS file no., or FEIN **0138200**

Part I Tax Return Information (whole dollars only)

1 Total income (Form 100, line 9; Form 100S, line 8; Form 100W, line 9 or Form 100X, line 6)	1	452,516
2 Taxable income (Form 100, line 22; Form 100S, line 20; Form 100W, line 22 or Form 100X, line 10)	2	109,456
3 Total tax (Form 100, line 30; Form 100S, line 30; Form 100W, line 30 or Form 100X, line 19)	3	9,676
4 Tax due (Form 100, line 39; Form 100S, line 40; Form 100W, line 36 or Form 100X, line 21)	4	518
5 Overpayment (Form 100, line 40; Form 100S, line 41; Form 100W, line 37 or Form 100X, line 28)	5	

Part II Settle the Account Electronically for Taxable Year 2022

6 Direct deposit of refund (For Forms 100, 100S, and 100W only.)

7 Electronic funds withdrawal 7a Amount _____ 7b Withdrawal date (mm/dd/yyyy) _____

Part III Schedule of Estimated Tax Payments for Taxable Year 2023 (These are NOT installment payments for the current amount the corporation owes.)

	First Payment	Second Payment	Third Payment	Fourth Payment
8 Amount				
9 Withdrawal Date				

Part IV Banking Information (Have you verified the corporation's banking information?)

10 Routing number _____

11 Account number _____ 12 Type of account: Checking Savings

Part V Declaration of Officer

I authorize the corporate account to be settled as designated in Part II. If I check Part II, box 6, I declare that the bank account specified in Part IV for the direct deposit refund agrees with the authorization stated on my return. If I check Part II, box 7, I authorize an electronic funds withdrawal for the amount listed on line 7a and any estimated payment amounts listed on Part III, line 8 from the bank account specified in Part IV.

Under penalties of perjury, I declare that I am an officer of the above corporation and that the information I provided to my electronic return originator (ERO), transmitter, or intermediate service provider and the amounts in Part I above agree with the amounts on the corresponding lines of the corporation's 2022 California income tax return. To the best of my knowledge and belief, the corporation's return is true, correct, and complete. If the corporation is filing a balance due return, I understand that if the Franchise Tax Board (FTB) does not receive full and timely payment of the corporation's tax liability, the corporation will remain liable for the tax liability and all applicable interest and penalties. I authorize the corporation return and accompanying schedules and statements be transmitted to the FTB by the ERO, transmitter, or intermediate service provider. **If the processing of the corporation's return or refund is delayed, I authorize the FTB to disclose to the ERO or intermediate service provider the reason(s) for the delay or the date when the refund was sent.**

Sign Here Signature of officer CRAIG B. MILLER Date 03/03/2023 Title GENERAL MANAGER

Part VI Declaration of Electronic Return Originator (ERO) and Paid Preparer. See instructions.

I declare that I have reviewed the above corporation's return and that the entries on form FTB 8453-C are complete and correct to the best of my knowledge. (If I am only an intermediate service provider, I understand that I am not responsible for reviewing the corporation's return. I declare, however, that form FTB 8453-C accurately reflects the data on the return.) I have obtained the corporate officer's signature on form FTB 8453-C before transmitting this return to the FTB; I have provided the corporate officer with a copy of all forms and information that I will file with the FTB, and I have followed all other requirements described in FTB Pub. 1345, 2022 Handbook for Authorized e-file Providers. I will keep form FTB 8453-C on file for **four** years from the due date of the return or **four** years from the date the corporation return is filed, whichever is later, and I will make a copy available to the FTB upon request. If I am also the paid preparer, under penalties of perjury, I declare that I have examined the above corporation's return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. I make this declaration based on all information of which I have knowledge.

ERO Must Sign

ERO's signature CRAIG B. MILLER Date 03/03/2023 Check if also paid preparer Check if self-employed ERO's PTIN P00179355

Firm's name (or yours if self-employed) and address BOWEN, MCBETH, INC. Firm's FEIN 95-3655325
10722 ARROW RTE STE 110 ZIP code 91730
RANCHO CUCAMONGA CA

Under penalties of perjury, I declare that I have examined the above corporation's return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. I make this declaration based on all information of which I have knowledge.

Paid Preparer Must Sign

Paid preparer's signature _____ Date _____ Check if self-employed Paid preparer's PTIN _____

Firm's name (or yours if self-employed) and address _____ Firm's FEIN _____
 _____ ZIP code _____

CA Consent to DisclosureForm **8453-C****2022**

For calendar year 2022 or fiscal year beginning

and ending

Name

California Corporation Number

Employer Identification Number

SAN ANTONIO WATER COMPANY**0138200****95-1183990**

I consent to allow my ERO, Intermediate Service Provider, and/or my Transmitter to send this business return to the FTB. Additionally, I consent to allow FTB to send my ERO, Intermediate Service Provider, and/or my Transmitter an acknowledgment of receipt of transmission and an indication of whether or not this business return is accepted, and, if rejected the reason(s) for the rejection. If the processing of the return or refund is delayed, I authorize the FTB to disclose to my Intermediate Service Provider and/or Transmitter the reason(s) for the delay, or when the refund was sent.

By using this system to prepare and submit this tax return, I consent to the disclosure to the FTB of all information pertaining to my use of this system, including the Internet Provider address.

Voucher at bottom of page. ■

DO NOT MAIL A PAPER COPY OF THE CORPORATE OR EXEMPT ORGANIZATION TAX RETURN WITH THE PAYMENT VOUCHER. If the amount of payment is zero, do not mail this voucher.

WHERE TO FILE: Using black or blue ink, make check or money order payable to the "Franchise Tax Board." Write the corporation number, FEIN, CA SOS file number and "2022 FTB 3586" on the check or money order. Detach voucher below. Enclose, but do not staple the check or money order with voucher and mail to: FRANCHISE TAX BOARD PO BOX 942857 SACRAMENTO CA 94257-0531 Make all checks or money orders payable in U.S. dollars and drawn against a U.S. financial institution.

WHEN TO FILE: Corporations - File and Pay by the 15th day of the 4th month following the close of the taxable year. S corporations - File and Pay by the 15th day of the 3rd month following the close of the taxable year. Exempt organizations - File and Pay by the 15th day of the 5th month following the close of the taxable year. When the due date falls on a weekend or holiday, the deadline to file and pay without penalty is extended to the next business day.

ONLINE SERVICES: Corporations or exempt organizations can make payments online using Web Pay for Businesses. Corporations or exempt organizations can make an immediate payment or schedule payments up to a year in advance. Go to ftb.ca.gov/pay for more information.

--- DETACH HERE --- IF NO PAYMENT IS DUE, DO NOT MAIL THIS VOUCHER --- DETACH HERE ---

CAUTION: You may be required to pay electronically, see instructions.

TAXABLE YEAR

Payment Voucher for Corporations and Exempt Organizations e-filed Returns

CALIFORNIA FORM

2022

3586 (e-file)

0138200 SANA 95-1183990 000000000000 22 FORM 1 TYB 01-01-2022 TYE 12-31-2022 SAN ANTONIO WATER COMPANY

139 NORTH EUCLID AVENUE UPLAND CA 91786

(909) 982-4107

Amount of Payment 518.

TAXABLE YEAR

2022

**California Corporation
Franchise or Income Tax Return**

FORM

100

RP

0138200 SANA 95-1183990 000000000000 22
 TYB 01-01-2022 TYE 12-31-2022
 SAN ANTONIO WATER COMPANY

139 NORTH EUCLID AVENUE
 UPLAND CA 91786

Schedule Q Questions (continued on Side 2)

A FINAL RETURN? • Dissolved Surrendered (withdrawn) Merged/Reorganized IRC Section 338 sale QSub election

Enter date (mm/dd/yyyy) •

B 1. Is income included in a combined report of a unitary group? • Yes No

If "Yes," indicate: Wholly within CA (R&TC 25101.15)
 Within and outside of CA

2. Is there a change in the members listed in Schedule R-7 from the prior year? • Yes No

3. Enter the number of members (including parent or key corporation) listed in the Schedule R-7, Part I, Section A, subject to income or franchise tax •

4. Is form FTB 3544 attached to the return? • Yes No

C 1. During this taxable year, did another person or legal entity acquire control or majority ownership (more than a 50% interest) of this corporation or any of its subsidiaries that owned California real property (i.e., land, buildings), leased such property for a term of 35 years or more, or leased such property from a government agency for any term? • Yes No

2. During this taxable year, did this corporation or any of its subsidiaries acquire control or majority ownership (more than a 50% interest) in another legal entity that owned California real property (i.e., land, buildings), leased such property for a term of 35 years or more, or leased such property from a government agency for any term? • Yes No

3. During this taxable year, has more than 50% of the voting stock of this corporation cumulatively transferred in one or more transactions after an interest in California real property (i.e., land, buildings) was transferred to it that was excluded from property tax reassessment under R&TC Section 62(a)(2) and it was not reported on a previous year's tax return? • Yes No

(Yes requires filing of statement, penalties may apply – see instructions.)

State Adjustments	1 Net income (loss) before state adjustments. See instructions	1	99,780	00
	2 Amount deducted for foreign or domestic tax based on income or profits from Schedule A	2		00
	3 Amount deducted for tax under the provisions of the Corporation Tax Law from Schedule A	3	9,676	00
	4 Interest on government obligations	4		00
	5 Net California capital gain from Side 6, Schedule D, line 11	5	343,060	00
	6 Depreciation and amortization in excess of amount allowed under California law. Attach form FTB 3885	6		00
	7 Net income from corporations not included in federal consolidated return. See instructions	7		00
	8 Other additions. Attach schedule(s)	8		00
	9 Total. Add line 1 through line 8	9	452,516	00

SAN ANTONIO WATER COMPANY
0138200

State Adjustments (cont.)	10	Intercompany dividend elimination. Attach Schedule H (100)	10	00	
	11	Dividends received deduction. Attach Schedule H (100)	11	00	
	12	Additional depreciation allowed under CA law. Attach form FTB 3885	12	00	
	13	Capital gain from federal Form 1120, line 8	13	343,060 00	
	14	Charitable Contributions	14	00	
	15	Other deductions. Attach schedule(s)	15	00	
	16	Total. Add line 10 through line 15	16	343,060 00	
CA Net Income	17	Net income (loss) after state adjustments. Subtract line 16 from Side 1, line 9	17	109,456 00	
	18	Net income (loss) for state purposes. Complete Schedule R if apportioning or allocating income. See instructions	18	109,456 00	
	19	Net operating loss (NOL) deduction. See instructions	19	00	
	20	EZ, TTA, or LAMBRA NOL carryover deduction. See instructions	20	00	
	21	Disaster loss deduction. See instructions	21	00	
22	Net income for tax purposes. Combine line 19 through line 21. Then, subtract from line 18	22	109,456 00		
Taxes	23	Tax. <u>8.840</u> % x line 22 (at least minimum franchise tax, if applicable). See instructions	23	9,676 00	
	24	Credit name _____ code • _____ amount ▶	24	00	
	25	Credit name _____ code • _____ amount ▶	25	00	
	26	To claim more than two credits, see instructions	26	00	
	27	Add line 24 through line 26	27	00 00	
	28	Balance. Subtract line 27 from line 23 (at least minimum franchise tax, if applicable)	28	9,676 00	
	29	Alternative minimum tax. Attach Schedule P (100). See instructions	29	00 00	
	30	Total tax. Add line 28 and line 29	30	9,676 00	
	Payments	31	Overpayment from prior year allowed as a credit	31	2,858 00
		32	2022 Estimated tax payments. See instructions	32	6,300 00
33		2022 Withholding (Form 592-B and/or 593). See instructions	33	00	
34		Amount paid with extension of time to file tax return	34	00	
35		Total payments. Add line 31 through line 34	35	9,158 00	
Refund or Amount Due	36	Use tax. This is not a total line. See instructions	36	00	
	37	Payments balance. If line 35 is more than line 36, subtract line 36 from line 35	37	9,158 00	
	38	Use tax balance. If line 36 is more than line 35, subtract line 35 from line 36	38	00	
	39	Franchise or income tax due. If line 30 is more than line 37, subtract line 37 from line 30	39	518 00	
	40	Overpayment. If line 37 is more than line 30, subtract line 30 from line 37	40	00	
	41	Amount of line 40 to be credited to 2023 estimated tax	41	00	
	42	Refund. Subtract line 41 from line 40 See instructions to have the refund directly deposited. <input type="checkbox"/> Checking <input type="checkbox"/> Savings	42	00	
	42a	Routing number	42b	Type	
	42c	Account number			
	43	a Penalties & interest	43a	00	
	b <input type="checkbox"/> Check if estimate penalty computed using Exception B or C on form FTB 5806. See instructions.				
44	Total amount due. Add line 38, line 39, line 41, and line 43a. Then, subtract line 40 from the result	44	518 00		

Schedule Q Questions (continued from Side 1)

- D If the corporation filed on a water's-edge basis pursuant to R&TC Sections 25110 and 25113 in previous years, enter the date the water's-edge election ended (mm/dd/yyyy) ● _____
- E Was the corporation's income included in a consolidated federal return? ● Yes No
- F Principal business activity code. (Do not leave blank): ● 221300
- Business activity WATER PROD & DELIV
- Product or service WATER

Schedule Q Questions (continued on Side 3)

SAN ANTONIO WATER COMPANY
0138200

G Date incorporated (mm/dd/yyyy): 10/01/1882 Where: • State CA Country _____

H Date business began in California or date income was first derived from California sources (mm/dd/yyyy) • 10/01/1882

I First return? • Yes No If "Yes" and this corporation is a successor to a previously existing business, check the appropriate box.
• (1) Sole proprietorship (2) Partnership (3) Joint venture (4) Corporation (5) Other
(Attach statement showing name, address, and FEIN/SSN/ITIN of previous business.)

J "Doing business as" name. See instructions: • SAN ANTONIO WATER COMPANY

K At any time during the taxable year, was more than 50% of the voting stock:
1. Of the corporation owned by any single interest? • Yes No
2. Of another corporation owned by this corporation? • Yes No
3. Of this and one or more other corporations owned or controlled, directly or indirectly, by the same interests? • Yes No
If 1 or 3 is "Yes," enter the country of the ultimate parent • USA
If 1, 2, or 3 is "Yes," furnish a statement of ownership indicating pertinent names, addresses, and percentages of stock owned.
If the owner(s) is an individual, provide the SSN/ITIN and see FTB 1131 EN-SP, for more information. STMT 1

L Has the corporation included a reportable transaction or listed transaction within this return? (See instructions for definitions) • Yes No
If "Yes," complete and attach federal Form 8886 for each transaction.

M Is this corporation apportioning or allocating income to California using Schedule R? • Yes No

N How many affiliates in the combined report are claiming immunity from taxation in California under Public Law 86-272? • _____

O Corporation headquarters are: • (1) Within California (2) Outside of California, within the U.S. (3) Outside of the U.S.

P Location of principal accounting records: SEE STMT 2

Q Accounting method: • (1) Cash (2) Accrual (3) Other

R Does this corporation or any of its subsidiaries have a Deferred Intercompany Stock Account (DISA)? • Yes No
If "Yes," enter the total balance of all DISAs • \$ _____

S Is this corporation or any of its subsidiaries a RIC? • Yes No

T Is this corporation treated as a REMIC for California purposes? • Yes No

U 1. Is this corporation a REIT for California purposes? • Yes No
2. If question U1 is "Yes," does the entity own any qualified REIT subsidiaries that are incorporated or qualified with the California Secretary of State? If yes, see instructions. • Yes No

V Is this corporation an LLC or limited partnership electing to be taxed as a corporation for federal purposes? • Yes No
If "Yes", enter the effective date of the election (mm/dd/yyyy): _____

W Is this corporation to be treated as a credit union? • Yes No

X Is the corporation under audit by the IRS or has it been audited by the IRS in a prior year? • Yes No

Y Have all required information returns (e.g. federal Forms 1099, 5471, 5472, 8300, 8865, etc.) been filed with the Franchise Tax Board? • N/A Yes No

Z Does the taxpayer (or any corporation of the taxpayer's combined group, if applicable) own 80% or more of the stock of an insurance company? • Yes No

AA Did the corporation file the federal Schedule UTP (Form 1120)? • Yes No

BB Does any member of the combined report own an SMLLC or generate/claim credits that are attributable to an SMLLC? • Yes No

CC 1. Has this business entity previously filed an unclaimed property Holder Remit Report with the State Controller's Office? • Yes No
2. If "Yes," when was the last report filed? (mm/dd/yyyy) • _____ 3. Amount last remitted ■ \$ _____

Sign Here	Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.			
	Signature of officer <input type="checkbox"/>	Title <u>GENERAL MANAGER</u>	Date	Telephone <u>909-982-4107</u>
Preparer's Use Only	Officer's email address (optional)			
	Preparer's signature <input type="checkbox"/>	Date	Check if self-employed <input type="checkbox"/>	• PTIN <u>P00179355</u>
	Firm's name (or yours, if self-employed) and address <u>BOWEN, MCBETH, INC.</u> <u>10722 ARROW RTE STE 110</u> <u>RANCHO CUCAMONGA, CA 91730</u>			• Firm's FEIN <u>95-3655325</u>
				• Telephone <u>909-944-6465</u>
May the FTB discuss this return with the preparer shown above? See instructions				• <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

SAN ANTONIO WATER COMPANY
0138200

Schedule A Taxes Deducted. Use additional sheet(s) if necessary.

(a) Nature of tax	(b) Taxing authority	(c) Total amount	(d) Nondeductible amount
STATE INCOME TAX	FRANCHISE TAX BOARD	9,676	9,676
PROPERTY AND PAYROLL	COUNTY, IRS AND EDD	323,747	00
Total. Enter total of column (c) on Schedule F, line 17, and total of column (d) on Side 1, line 2 or line 3. If the corporation uses California computation method to compute the net income, see instructions.		333,423	9,676

Schedule F Computation of Net Income. See instructions.

		1c	2	3	4	5a	5b	6	7	8	9	10	11	
Income	1 a) Gross receipts or gross sales	5,115,948												
	b) Less returns and allowance													
	c) Balance		5,115,948											
	2	Cost of goods sold. Attach federal Form 1125-A (California Schedule V)												
	3	Gross profit. Subtract line 2 from line 1c			5,115,948									
	4	Total dividends. Attach federal Schedule C (California Schedule H (100))												
	5 a)	Interest on obligations of the United States and U.S. instrumentalities												
	b)	Other interest. Attach schedule			SEE STMT 3			35,612						
	6	Gross rents							74,950					
	7	Gross royalties												
	8	Capital gain net income. Attach federal Schedule D (California Schedule D)									343,060			
9	Ordinary gain (loss). Attach federal Form 4797 (California Schedule D-1)													
10	Other income (loss). Attach schedule			SEE STMT 4							4,332			
11	Total Income. Add line 3 through line 10												5,573,902	
Deductions	12	Compensation of officers. Attach federal Form 1125-E or equivalent schedule												
	13	Salaries and wages (not deducted elsewhere)										769,387		
	14	Repairs and maintenance										355,777		
	15	Bad debts												
	16	Rents												
	17	Taxes (California Schedule A). See instructions										333,423		
	18	Interest. Attach schedule												
	19	Charitable Contributions. Attach schedule												
	20	Depreciation. Attach federal Form 4562 and FTB 3885											1,048,943	
	21	Less depreciation claimed elsewhere on return												
	21a												1,048,943	
	22	Depletion. Attach schedule												
	23	Advertising												
	24	Pension, profit-sharing plans, etc.											68,812	
	25	Employee benefit plans											382,011	
	26 a)	Total travel and entertainment												
	b)	Deductible amounts												
	27	Other deductions. Attach schedule											2,515,769	
	28	Specific deduction for organizations under R&TC Section 23701r or 23701t. See instructions												
29	Total deductions. Add line 12 through line 28												5,474,122	
30	Net income before state adjustments. Subtract line 29 from line 11. Enter here and on Side 1, line 1												99,780	

Schedule J Add-On Taxes and Recapture of Tax Credits. See instructions.

1	LIFO recapture due to S corporation election, IRC Sec. 1363(d) deferral: \$												
2	Interest computed under the look-back method for completed long-term contracts (Attach form FTB 3834)												
3	Interest on tax attributable to installment:	a	Sales of certain timeshares and residential lots										
		b	Method for nondealer installment obligations										
4	IRC Section 197(f)(9)(B)(ii) election												
5	Credit recapture name:												
6	Combine line 1 through line 5, revise Side 2, line 39 or line 40, whichever applies, by this amount. Write "Schedule J" to the left of line 39 or line 40												

SAN ANTONIO WATER COMPANY
0138200

Schedule V Cost of Goods Sold

1	Inventory at beginning of year	<input checked="" type="radio"/>	1		00
2	Purchases	<input checked="" type="radio"/>	2		00
3	Cost of labor	<input type="radio"/>	3		00
4	a Additional IRC Section 263A costs. Attach schedule	<input type="radio"/>	4a		00
	b Other costs. Attach schedule	<input type="radio"/>	4b		00
5	Total. Add line 1 through line 4b		5		00
6	Inventory at end of year	<input checked="" type="radio"/>	6		00
7	Cost of goods sold. Subtract line 6 from line 5. Enter here and on Side 4, Schedule F, line 2		7		00

Method of inventory valuation ▶

Was there any change in determining quantities, costs of valuations between opening and closing inventory? Yes No
If "Yes," attach an explanation.

Enter California seller's permit number, if any ▶

Check if the LIFO inventory method was adopted this taxable year for any goods. If checked, attach federal Form 970

If the LIFO inventory method was used for this taxable year, enter the amount of closing inventory under LIFO

Do the rules of IRC Section 263A (with respect to property produced or acquired for resale) apply to the corporation? Yes No

The corporation may not be required to complete Schedules L, M-1, and M-2. See Schedule M-1 instructions for reporting requirements.

Schedule L Balance Sheet	Beginning of taxable year		End of taxable year	
	(a)	(b)	(c)	(d)
Assets				
1 Cash		<input checked="" type="radio"/> 6,117,388		<input type="radio"/> 8,249,957
2 a Trade notes and accounts receivable	<input checked="" type="radio"/> 1,277,750		<input type="radio"/> 612,119	
b Less allowance for bad debts	<input checked="" type="radio"/> ()	<input checked="" type="radio"/> 1,277,750	<input type="radio"/> ()	<input type="radio"/> 612,119
3 Inventories		<input checked="" type="radio"/> 162,452		<input type="radio"/> 171,431
4 Federal and state government obligations		<input checked="" type="radio"/> ()		<input type="radio"/> ()
5 Other current assets. STMT 6		<input checked="" type="radio"/> 12,096		<input type="radio"/> 9,238
6 Loans to stockholders/officers.		<input checked="" type="radio"/> ()		<input type="radio"/> ()
7 Mortgage and real estate loans		<input checked="" type="radio"/> ()		<input type="radio"/> ()
8 Other investments. STMT 7		<input checked="" type="radio"/> 54,019		<input type="radio"/> 56,227
9 a Buildings and other fixed depreciable assets	<input checked="" type="radio"/> 36,427,036		<input type="radio"/> 36,528,657	
b Less accumulated depreciation	<input checked="" type="radio"/> (14,366,295)	<input checked="" type="radio"/> 22,060,741	<input type="radio"/> (15,350,344)	<input type="radio"/> 21,178,313
10 a Depletable assets				
b Less accumulated depletion	()	<input checked="" type="radio"/> ()	()	<input type="radio"/> ()
11 Land (net of any amortization)		<input checked="" type="radio"/> 920,161		<input type="radio"/> 920,161
12 a Intangible assets (amortizable only)	<input checked="" type="radio"/> ()		<input type="radio"/> ()	
b Less accumulated amortization	<input checked="" type="radio"/> ()	<input checked="" type="radio"/> ()	<input checked="" type="radio"/> ()	<input checked="" type="radio"/> ()
13 Other assets. STMT 8		<input checked="" type="radio"/> 1,109,944		<input type="radio"/> 813,675
14 Total assets.		<input checked="" type="radio"/> 31,714,551		<input type="radio"/> 32,011,121
Liabilities and Stockholders' Equity				
15 Accounts payable		<input checked="" type="radio"/> 864,554		<input type="radio"/> 692,037
16 Mortgages, notes, bonds payable in less than 1 year		<input checked="" type="radio"/> ()		<input type="radio"/> ()
17 Other current liabilities. STMT 9		<input checked="" type="radio"/> 15,716		<input type="radio"/> 5,026
18 Loans from stockholders.		<input checked="" type="radio"/> ()		<input type="radio"/> ()
19 Mortgages, notes, bonds payable in 1 year or more		<input checked="" type="radio"/> ()		<input type="radio"/> ()
20 Other liabilities. STMT 10		<input checked="" type="radio"/> 740,139		<input type="radio"/> 399,287
21 Capital stock: a Preferred stock	<input checked="" type="radio"/> ()		<input type="radio"/> ()	
b Common stock	<input checked="" type="radio"/> 638,900	<input checked="" type="radio"/> 638,900	<input type="radio"/> 638,900	<input type="radio"/> 638,900
22 Paid-in or capital surplus. Attach reconciliation		<input checked="" type="radio"/> 2,879,515		<input type="radio"/> 2,879,515
23 Retained earnings - Appropriated. STMT 11		<input checked="" type="radio"/> 3,707,315		<input checked="" type="radio"/> 7,231,693
24 Retained earnings - Unappropriated		<input checked="" type="radio"/> 22,868,412		<input checked="" type="radio"/> 20,164,663
25 Adjustments to shareholders' equity. Attach schedule		()		()
26 Less cost of treasury stock		()		()
27 Total liabilities and stockholders' equity		<input checked="" type="radio"/> 31,714,551		<input type="radio"/> 32,011,121

SAN ANTONIO WATER COMPANY

0138200

Schedule M-1 Reconciliation of Income (Loss) per Books With Income (Loss) per Return.

If the corporation completed federal Schedule M-3 (Form 1120/1120-F), see instructions.

1	Net income per books	820,629	7	Income recorded on books this year not included in this return (itemize)	
2	Federal income tax		a	Tax-exempt interest <input checked="" type="radio"/> \$	
3	Excess of capital losses over capital gains		b	Other \$	
4	Taxable income not recorded on books this year (itemize)		c	Total. Add line 7a and line 7b	
5	Expenses recorded on books this year not deducted in this return (itemize)		8	Deductions in this return not charged against book income this year (itemize)	
a	Depreciation \$		a	Depreciation \$	
b	State taxes \$ 9,676		b	State tax refunds \$	
c	Travel and entertainment <input checked="" type="radio"/> \$		c	Other \$ 720,849	
d	Other \$		d	Total. Add line 8a through line 8c	720,849
e	Total. Add line 5a through line 5d	9,676	9	Total. Add line 7c and line 8d	720,849
6	Total. Add line 1 through line 5e	830,305	10	Net income per return. Subtract line 9 from line 6	109,456

Schedule M-2 Analysis of Unappropriated Retained Earnings per Books (Side 5, Schedule L, line 24)

1	Balance at beginning of year	22,868,412	5	Distributions:	
2	Net income per books	820,629	a	Cash	
3	Other increases (itemize)		b	Stock	
			c	Property	
			6	Other decreases (itemize)	
				RESERVES	3,524,378
4	Total. Add line 1 through line 3	23,689,041	7	Total. Add line 5 and line 6	3,524,378
			8	Balance at end of year. Subtract line 7 from line 4	20,164,663

Schedule D California Capital Gains and Losses

Part I Short-Term Capital Gains and Losses - Assets Held One Year or Less. Use additional sheet(s) if necessary.

(a)	(b)	(c)	(d)	(e)	(f)
Kind of property and description (Example, 100 shares of Z Co.)	Date acquired (mm/dd/yyyy)	Date sold (mm/dd/yyyy)	Gross sales price	Cost or other basis plus expense of sale	Gain (loss) (d) less (e)
1			344,000	940	343,060
					00
2	Short-term capital gain from installment sales from form FTB 3805E, line 26 or line 37				00
3	Unused capital loss carryover from 2021				00
4	Net short-term capital gain (loss). Combine line 1 through line 3				343,060

Part II Long-Term Capital Gains and Losses - Assets Held More Than One Year. Use additional sheet(s) if necessary.

5					00
					00
6	Enter gain from Schedule D-1, line 9 and/or any capital gain distributions				00
7	Long-term capital gain from installment sales from form FTB 3805E, line 26 or line 37				00
8	Net long-term capital gain (loss). Combine line 5 through line 7				000
9	Enter excess of net short-term capital gain (line 4) over net long-term capital loss (line 8)				343,060
10	Net capital gain. Enter excess of net long-term capital gain (line 8) over net short-term capital loss (line 4)				00
11	Total lines 9 and 10. Enter here and on Form 100, Side 1, line 5. If losses exceed gains, carry forward losses to 2023				343,060

TAXABLE YEAR

2022

Alternative Minimum Tax and Credit Limitations — Corporations

CALIFORNIA SCHEDULE

P (100)

Attach to Form 100 or Form 109.

Corporation name

SAN ANTONIO WATER COMPANY

California corporation number

0138200

Part I Tentative Minimum Tax (TMT) and Alternative Minimum Tax (AMT) Computation

1	Net income (loss) after state adjustments. Enter the amount from Form 100, line 17; Schedule R, line 1c; or Form 109, the lesser of line 1 or line 2. See instructions	<input checked="" type="radio"/> 1	109,456	00
2	Adjustments. See instructions.			
a	Depreciation of tangible property placed in service after 1986 and before 1999	<input checked="" type="radio"/> 2a		00
b	Amortization of certified pollution control facilities placed in service after 1986	<input checked="" type="radio"/> 2b		00
c	Amortization of mining exploration and development costs incurred after 1987	<input checked="" type="radio"/> 2c		00
d	Basis adjustments in determining gain or loss from sale or exchange of property	<input checked="" type="radio"/> 2d		00
e	Long-term contracts entered into after February 28, 1986	<input checked="" type="radio"/> 2e		00
f	Installment sales of certain property	<input checked="" type="radio"/> 2f		00
g	Tax shelter farm activities (personal service corporations only)	<input checked="" type="radio"/> 2g		00
h	Passive activities (closely held corporations and personal service corporations only)	<input checked="" type="radio"/> 2h		00
i	Certain loss limitations	<input checked="" type="radio"/> 2i		00
j	Beneficiaries of estates and trusts. Enter the amount from Schedule K-1 (541), line 12a	<input checked="" type="radio"/> 2j		00
k	Merchant marine capital construction funds	<input checked="" type="radio"/> 2k		00
l	Combine line 2a through line 2k	<input checked="" type="radio"/> 2l		0
3	Tax preference items. See instructions.			
a	Depletion	<input checked="" type="radio"/> 3a		00
b	Intangible drilling costs	<input checked="" type="radio"/> 3b		00
c	Add line 3a and line 3b	<input checked="" type="radio"/> 3c		00
4	Pre-adjustment alternative minimum taxable income (AMTI):			
a	Combine line 1, line 2l, and line 3c	<input checked="" type="radio"/> 4a	109,456	00
b	Apportioned pre-adjustment AMTI. If income is derived from sources both within and outside of California, see instructions. Otherwise, enter the amount from line 4a	<input checked="" type="radio"/> 4b	109,456	00
5	Adjusted current earnings (ACE) adjustment:			
a	Enter ACE. See instructions	<input checked="" type="radio"/> 5a	109,456	00
b	Apportioned ACE. If income is derived from sources both within and outside of California, see instructions. Otherwise, enter the amount from line 5a	<input checked="" type="radio"/> 5b	109,456	00
c	Subtract line 4b from line 5b (even if one or both of the figures are negative). If negative, use brackets	<input checked="" type="radio"/> 5c	0	00
d	Multiply line 5c by 75% (.75) and enter the result as a positive number	<input checked="" type="radio"/> 5d		0
e	Enter the excess, if any, of the corporation's total increases in AMTI from prior year ACE adjustments over its total reductions in AMTI from prior year ACE adjustments. Enter an amount on line 5e (even if line 5c is positive)	<input checked="" type="radio"/> 5e		00
f	ACE adjustment:			
	• If line 5c is a positive amount or zero, enter the amount from line 5d on line 5f as a positive amount.			
	• If line 5c is a negative amount, enter the smaller of line 5d or line 5e on line 5f as a negative amount	<input checked="" type="radio"/> 5f		0
6	Combine line 4b and line 5f. If zero or less, enter -0-	<input checked="" type="radio"/> 6	109,456	00
7	a Reduction for disaster loss deduction, if any, from Form 100, line 21	<input checked="" type="radio"/> 7a		00
	b AMT net operating loss deduction. See instructions	<input checked="" type="radio"/> 7b		00
c	Combine line 7a and line 7b	<input checked="" type="radio"/> 7c		00
8	AMTI. Subtract line 7c from line 6	<input checked="" type="radio"/> 8	109,456	00
9	Enter \$40,000 exemption. See instructions	<input checked="" type="radio"/> 9	40,000	00
10	Enter \$150,000 limitation. See instructions	<input checked="" type="radio"/> 10	150,000	00
11	Subtract line 10 from line 8. If zero or less, enter -0-	<input checked="" type="radio"/> 11		00
12	Multiply line 11 by 25% (.25)	<input checked="" type="radio"/> 12		00
13	Exemption. Subtract line 12 from line 9. If zero or less, enter -0-	<input checked="" type="radio"/> 13	40,000	00
14	Subtract line 13 from line 8. If zero or less, enter -0-	<input checked="" type="radio"/> 14	69,456	00
15	Multiply line 14 by 6.65% (.0665)	<input checked="" type="radio"/> 15	4,619	00
16	Banks and financial corps. Multiply Form 100, line 22, by 2.00% (.0200). See instructions	<input checked="" type="radio"/> 16		00

SAN ANTONIO WATER COMPANY
0138200

Part I Tentative Minimum Tax (TMT) and Alternative Minimum Tax (AMT) Computation (continued)

17 TMT. Add line 15 and line 16 from Side 1	<input checked="" type="radio"/>	17	4,619	00
18 Regular tax before credits. Enter the amount from Form 100, line 23 or Form 109, line 10. See instructions	<input checked="" type="radio"/>	18	9,676	00
19 AMT. Subtract line 18 from line 17. If zero or less, enter -0-. See instructions	<input checked="" type="radio"/>	19		000

Part II Credits that Reduce Tax. See instructions.

1 Regular tax from Form 100, line 23 or Form 109, line 10	<input checked="" type="radio"/>	1	9,676	00
2 TMT (before credits) from Part I, line 17 (but not less than the minimum franchise tax, if applicable)	<input checked="" type="radio"/>	2	4,619	00

		(a) Credit amount	(b) Credit used this year	(c) Tax balance that may be offset by credits	(d) Credit carryover
Section A – Credits that reduce excess regular tax.					
3 Subtract line 2 from line 1. If zero or less, enter -0- and see instructions. This is the excess regular tax which may be offset by credits.		3		<input checked="" type="radio"/> 5,057	
A1 Credits that reduce excess regular tax and have no carryover provisions.					
4 Code: 162 Prison Inmate Labor Credit.		4 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	
A2 Credits that reduce excess regular tax and have carryover provisions. See instructions.					
5 Code: <input checked="" type="radio"/> Credit Name: _____		5 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
6 Code: <input checked="" type="radio"/> Credit Name: _____		6 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
7 Code: <input checked="" type="radio"/> Credit Name: _____		7 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
8 Code: <input checked="" type="radio"/> Credit Name: _____		8 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
9 Code: 188 Credit for prior year AMT from Part III, line 3		9 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Section B – Credits that may reduce regular tax below TMT.					
10 If Part II, line 3 is zero, enter the amount from line 1 minus the minimum franchise tax, if applicable. If line 3 is more than zero, enter the total of Part II, line 2, minus the minimum franchise tax, if applicable, plus line 9, column (c) or the last entry in column (c)		10		<input checked="" type="radio"/> 0	
B Credits that reduce net tax and have carryover provisions. See instructions.					
11 Code: <input checked="" type="radio"/> Credit Name: _____		11 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
12 Code: <input checked="" type="radio"/> Credit Name: _____		12 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
13 Code: <input checked="" type="radio"/> Credit Name: _____		13 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
14 Code: <input checked="" type="radio"/> Credit Name: _____		14 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Section C – Credits that may reduce AMT. See instructions.					
15 Enter the AMT from Part I, line 19		15		<input checked="" type="radio"/> 0	
16a Code: 180 Solar Energy Credit carryover from Section B, column (d)		16a <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
16b Code: 181 Commercial Solar Energy Credit carryover from Section B, column (d)		16b <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
17 Code: 176 Enterprise Zone Hiring & Sales or Use Tax Credit carryover from Section B, column (d)		17 <input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
18 Adjusted AMT. Enter the balance from line 17, column (c) here and on Form 100, line 29 or Form 109, Side 1, line 13		18		<input checked="" type="radio"/> 0	

Part III Credit for Prior Year AMT

1 Enter the AMT from the 2021 Schedule P (100). See instructions	<input checked="" type="radio"/>	1		00
2 Carryover of unused credit for prior year AMT. See instructions	<input checked="" type="radio"/>	2		00
3 Total available credit. Add line 1 and line 2. Enter here and on Part II, line 9, column (a).	<input checked="" type="radio"/>	3		00

CA Schedule P ACE Adjustment Worksheet

Schedule
P (100)**2022**

For calendar year 2022 or fiscal year beginning

and ending

Name

California Corporation Number

Employer Identification Number

SAN ANTONIO WATER COMPANY**0138200****95-1183990****Line 5a**

1 Pre-adjustment AMTI (enter the amount from line 4 of Schedule P)		1	109,456
2 ACE depreciation adjustment:			
a Depreciation expense recomputed for AMT purposes	2a		1,050,421
b Depreciation expense recomputed for ACE purposes:			
(1) Post-1997 property	2b(1)		54,106
(2) Post-1989, pre-1998 property	2b(2)		64,778
(3) Post 1986, pre-1990 property	2b(3)		
(4) Post-1980, pre-1987 property	2b(4)		
(5) Property described in sections 168(f)(1) through (4)	2b(5)		
(6) Other property	2b(6)		931,537
(7) Total depreciation expense recomputed for ACE purposes (add lines 2b(1) through 2b(6))	2b(7)		1,050,421
c ACE depreciation adjustment (subtract line 2b(7) from line 2a)		2c	
3 Inclusion in ACE of items included in earnings and profits (E&P):			
a Tax-exempt interest income	3a		
b Death benefits from life insurance contracts	3b		
c All other distributions from life ins contracts (including surrenders)	3c		
d Inside buildup of undistributed income in life insurance contracts	3d		
e Other items (see Regulations sections 1.56(g)-1(c)(6)(iii) through (ix) for a partial list)	3e		
f Total increase to ACE due to inclusion in ACE of items included in E&P (add lines 3a through 3e)		3f	
4 Disallowance of items not deductible in computing E&P:			
a Certain dividends received	4a		
b Dividends paid on certain preferred stock of public utilities that are deductible under section 247	4b		
c Dividends paid to an ESOP that are deductible under section 404(k)	4c		
d Non-patronage dividends that are paid and deductible under section 1382(c)	4d		
e Other items (see Regulations section 1.56(g)-1(d)(3)(i) and (ii) for a partial list)	4e		
f Total increase to ACE due to disallowance of items not deductible in computing E&P (add lines 4a through 4e)		4f	
5 Other adjustments based on rules for computing E&P:			
a Intangible drilling costs	5a		
b Circulation expenditures	5b		
c Organizational expenditures	5c		
d LIFO inventory adjustments	5d		
e Installment sales	5e		
f Total other E&P adjustments (combine lines 5a through 5e)		5f	
6 Disallowance of loss on exchange of debt pools		6	
7 Acquisition expenses of life insurance companies for qualified foreign contracts		7	
8 Depletion		8	
9 Basis adjustments in determining gain or loss from sale or exchange of pre-1994 property		9	
10 Adjusted current earnings. Combine lines 1, 2c, 3f, 4f, and 5f through 9. Enter the result here and on line 5a of Schedule P		10	109,456

SAWCOCA San Antonio Water Company
95-1183990
FYE: 12/31/2022

3/6/2023 4:59 PM

California Statements

Statement 1 - Form 100, Side 3, Question K(1) - Corporation Owned By Any Single Interest

Name	EIN/SSN/ITIN	Percent Owned	Address	City	State	Zip Code
City of Upland	956-00-0805	68.000	P.O. Box 460	Upland	CA	91785

California Statements**Statement 2 - Form 100, Side 3, Question P - Location of Principal Accounting Records**

<u>Address</u>	<u>City</u>	<u>State</u>	<u>Zip Code</u>	<u>Country</u>
139 N Euclid Avenue	Upland	CA	91785	

Statement 3 - Form 100, Side 4, Schedule F, Line 5b - Other Interest

<u>Description</u>	<u>Amount</u>
Interest Income	\$ 35,612
Total	\$ 35,612

Statement 4 - Form 100, Side 4, Schedule F, Line 10 - Other Income (Loss)

<u>Description</u>	<u>Amount</u>
Other miscellaneous	\$ 4,332
Total	\$ 4,332

Statement 5 - Form 100, Side 4, Schedule F, Line 27 - Other Deductions

<u>Description</u>	<u>Amount</u>
Power - gas & electric	\$ 1,052,882
Office supplies/expenses	71,168
Directors fees & expenses	32,540
Insurance	57,861
Communication	39,757
Outside services	25,486
Human resources	52,439
Accounting & legal	227,750
Water resource management	154,708
Conservation	45,204
Staff development & training	5,335
All others	29,790
Water prod. excess income	720,849
Total	\$ 2,515,769

Statement 6 - Form 100, Side 5, Schedule L, Line 5 - Other Current Assets

<u>Description</u>	<u>Beginning of Year</u>	<u>End of Year</u>
Prepaid expenses	\$ 9,238	\$ 9,238
Prepaid income taxes	2,858	
Total	\$ 12,096	\$ 9,238

California Statements**Statement 7 - Form 100, Side 5, Schedule L, Line 8 - Other Investments**

<u>Description</u>	<u>Beginning of Year</u>	<u>End of Year</u>
Deferred compensation asset	\$ 54,019	\$ 56,227
Total	\$ 54,019	\$ 56,227

Statement 8 - Form 100, Side 5, Schedule L, Line 13 - Other Assets

<u>Description</u>	<u>Beginning of Year</u>	<u>End of Year</u>
Pomona Valley Protective Asso	\$ 1	\$ 1
Note receivable	688,000	344,000
Documents and studies	1,151,966	1,227,266
Less: Accum Amortization	-730,023	-757,592
Total	\$ 1,109,944	\$ 813,675

Statement 9 - Form 100, Side 5, Schedule L, Line 17 - Other Current Liabilities

<u>Description</u>	<u>Beginning of Year</u>	<u>End of Year</u>
Deposits	\$ 1,700	\$ 1,700
Deferred revenue	14,016	2,808
Income taxes payable		518
Total	\$ 15,716	\$ 5,026

Statement 10 - Form 100, Side 5, Schedule L, Line 20 - Other Liabilities

<u>Description</u>	<u>Beginning of Year</u>	<u>End of Year</u>
Deferred gain on installment	\$ 686,120	\$ 343,060
Deferred compensation liab	54,019	56,227
Total	\$ 740,139	\$ 399,287

Statement 11 - Form 100, Side 5, Schedule L, Line 23 - Retained Earnings - Appropriated

<u>Description</u>	<u>Beginning of Year</u>	<u>End of Year</u>
Depreciation/Obsolesence res	\$ 3,707,315	\$ 7,231,693
Total	\$ 3,707,315	\$ 7,231,693

Form 100, Side 6, Schedule M-1, Line 8c - Deductions on Return Not on Books

<u>Description</u>	<u>Amount</u>
Water operations deduction	\$ 720,849
Total	<u>\$ 720,849</u>

California Statements

Statement 12 - Form 3885, Part II, Line 14 - Depreciation

Description	Date Acquired	Cost	Accum Depr	Method	Life	Current Depr	Additional First Year Depr
Building & Site Improvements	1/01/1950	\$ 1,827,590	\$ 597,846	S/L	20.0	72,189	\$
Wells, Shafts - Bldg & Equip	12/31/1953	4,910,919	3,097,066	S/L	20.0	129,922	
Boosters - Bldg & Equip	12/31/1970	2,500,593	1,458,926	S/L	20.0	110,797	
Reservoirs	1/01/1953	3,081,787	950,282	S/L	40.0	79,433	
Tunnels & Forebay	1/01/1956	1,587,111	805,060	S/L	20.0	50,245	
Spreading Works - San Antonio	4/01/2002	50,235	49,722	S/L	20.0	108	
Pipelines	1/01/1930	19,228,760	5,867,103	S/L	45.0	488,951	
Autos & Equipment	1/01/1998	541,858	412,111	S/L	5.0	32,141	
Tools	1/01/1992	110,727	83,171	S/L	4.0	3,917	
Telemetry System	1/01/2001	625,622	500,418	S/L	9.0	15,218	
Office Equipment	1/01/1998	524,367	489,731	S/L	4.0	6,639	
Documents & Studies	1/01/1993	917,029	730,023	S/L	7.0	60,861	
Total		\$ 35,906,598	\$ 15,041,459			\$ 1,050,421	\$ 0

95-1183990

CA Asset Report

FYE: 12/31/2022

Form 1120, Page 1

Asset	Description	Date In Service	Cost	Basis for Depr	CA Prior	CA Current	Federal Current	Difference Fed - CA
Other Depreciation:								
1	Land & Water Rights	12/31/50	920,161	920,161	0	0	0	0
2	Building & Site Improvements	1/01/50	1,827,590	1,827,590	597,846	72,189	72,189	0
3	Wells, Shafts - Bldg & Equip	12/31/53	4,910,919	4,910,919	3,097,066	129,922	129,922	0
4	Boosters - Bldg & Equip	12/31/70	2,500,593	2,500,593	1,458,926	110,797	110,797	0
5	Reservoirs	1/01/53	3,081,787	3,081,787	950,282	79,433	79,433	0
6	Tunnels & Forebay	1/01/56	1,587,111	1,587,111	805,060	50,245	50,245	0
7	Spreading Works - Cucamonga	1/01/44	54,860	54,860	54,860	0	0	0
8	Spreading Works - San Antonio	4/01/02	50,235	50,235	49,722	108	108	0
9	Pipelines	1/01/30	19,228,760	19,228,760	5,867,103	488,951	488,951	0
10	Autos & Equipment	1/01/98	541,858	541,858	412,111	32,141	32,141	0
11	Tools	1/01/92	110,727	110,727	83,171	3,917	3,917	0
12	Telemetry System	1/01/01	625,622	625,622	500,418	15,218	15,218	0
13	Office Equipment	1/01/98	524,367	524,367	489,731	6,639	6,639	0
14	Documents & Studies	1/01/93	917,029	917,029	730,023	60,861	60,861	0
Total Other Depreciation			<u>36,881,619</u>	<u>36,881,619</u>	<u>15,096,319</u>	<u>1,050,421</u>	<u>1,050,421</u>	<u>0</u>
Total ACRS and Other Depreciation			<u>36,881,619</u>	<u>36,881,619</u>	<u>15,096,319</u>	<u>1,050,421</u>	<u>1,050,421</u>	<u>0</u>
Grand Totals			<u>36,881,619</u>	<u>36,881,619</u>	<u>15,096,319</u>	<u>1,050,421</u>	<u>1,050,421</u>	<u>0</u>
Less: Dispositions			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Less: Start-up/Org Expense			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net Grand Totals			<u>36,881,619</u>	<u>36,881,619</u>	<u>15,096,319</u>	<u>1,050,421</u>	<u>1,050,421</u>	<u>0</u>

95-1183990

CA AMT Asset Report

FYE: 12/31/2022

Form 1120, Page 1

Asset	Description	Date In Service	Cost	Bus Sec % 179 Bonus	Basis for Depr	PerConv Meth	Prior	Current
Other Depreciation:								
1	Land & Water Rights	12/31/50	920,161		920,161	0 -- Land	0	0
2	Building & Site Improvements	1/01/50	1,827,590		1,827,590	20 MO S/L	597,846	72,189
3	Wells, Shafts - Bldg & Equip	12/31/53	4,910,919		4,910,919	20 MO S/L	3,097,066	129,922
4	Boosters - Bldg & Equip	12/31/70	2,500,593		2,500,593	20 MO S/L	1,458,926	110,797
5	Reservoirs	1/01/53	3,081,787		3,081,787	40 MO S/L	950,282	79,433
6	Tunnels & Forebay	1/01/56	1,587,111		1,587,111	20 MO S/L	805,060	50,245
7	Spreading Works - Cucamonga	1/01/44	54,860		54,860	20 MO S/L	54,860	0
8	Spreading Works - San Antonio	4/01/02	50,235		50,235	20 MO S/L	49,722	108
9	Pipelines	1/01/30	19,228,760		19,228,760	45 MO S/L	5,867,103	488,951
10	Autos & Equipment	1/01/98	541,858		541,858	5 MO S/L	412,111	32,141
11	Tools	1/01/92	110,727		110,727	4 MO S/L	83,171	3,917
12	Telemetry System	1/01/01	625,622		625,622	9 MO S/L	500,418	15,218
13	Office Equipment	1/01/98	524,367		524,367	4 MO S/L	489,731	6,639
14	Documents & Studies	1/01/93	917,029		917,029	7 MO S/L	730,023	60,861
Total Other Depreciation			<u>36,881,619</u>		<u>36,881,619</u>		<u>15,096,319</u>	<u>1,050,421</u>
Total ACRS and Other Depreciation			<u>36,881,619</u>		<u>36,881,619</u>		<u>15,096,319</u>	<u>1,050,421</u>
Grand Totals			36,881,619		36,881,619		15,096,319	1,050,421
Less: Dispositions and Transfers			0		0		0	0
Net Grand Totals			<u>36,881,619</u>		<u>36,881,619</u>		<u>15,096,319</u>	<u>1,050,421</u>

95-1183990

CA ACE Asset Report

FYE: 12/31/2022

Form 1120, Page 1

Asset	Description	Date In Service	Cost	Bus Sec % 179 Bonus	Basis for Depr	PerConv Meth	Prior	Current
Other Depreciation:								
1	Land & Water Rights	12/31/50	920,161		920,161	0 -- Land	0	0
2	Building & Site Improvements	1/01/50	1,827,590		1,827,590	20 MO S/L	597,846	72,189
3	Wells, Shafts - Bldg & Equip	12/31/53	4,910,919		4,910,919	20 MO S/L	3,097,066	129,922
4	Boosters - Bldg & Equip	12/31/70	2,500,593		2,500,593	20 MO S/L	1,458,926	110,797
5	Reservoirs	1/01/53	3,081,787		3,081,787	40 MO S/L	950,282	79,433
6	Tunnels & Forebay	1/01/56	1,587,111		1,587,111	20 MO S/L	805,060	50,245
7	Spreading Works - Cucamonga	1/01/44	54,860		54,860	20 MO S/L	54,860	0
8	Spreading Works - San Antonio	4/01/02	50,235		50,235	20 MO S/L	49,722	108
9	Pipelines	1/01/30	19,228,760		19,228,760	45 MO S/L	5,867,103	488,951
10	Autos & Equipment	1/01/98	541,858		541,858	5 MO S/L	412,111	32,141
11	Tools	1/01/92	110,727		110,727	4 MO S/L	83,171	3,917
12	Telemetry System	1/01/01	625,622		625,622	9 MO S/L	500,418	15,218
13	Office Equipment	1/01/98	524,367		524,367	4 MO S/L	489,731	6,639
14	Documents & Studies	1/01/93	917,029		917,029	7 MO S/L	730,023	60,861
Total Other Depreciation			<u>36,881,619</u>		<u>36,881,619</u>		<u>15,096,319</u>	<u>1,050,421</u>
Total ACRS and Other Depreciation			<u>36,881,619</u>		<u>36,881,619</u>		<u>15,096,319</u>	<u>1,050,421</u>
Grand Totals			36,881,619		36,881,619		15,096,319	1,050,421
Less: Dispositions and Transfers			0		0		0	0
Net Grand Totals			<u>36,881,619</u>		<u>36,881,619</u>		<u>15,096,319</u>	<u>1,050,421</u>

<u>Asset</u>	<u>Description</u>	<u>Date In Service</u>	<u>Cost</u>	<u>CA</u>	<u>CA AMT</u>	<u>CA ACE</u>
Other Depreciation:						
1	Land & Water Rights	12/31/50	920,161	0	0	0
2	Building & Site Improvements	1/01/50	1,827,590	91,380	91,380	91,380
3	Wells, Shafts - Bldg & Equip	12/31/53	4,910,919	245,546	245,546	245,546
4	Boosters - Bldg & Equip	12/31/70	2,500,593	125,030	125,030	125,030
5	Reservoirs	1/01/53	3,081,787	77,045	77,045	77,045
6	Tunnels & Forebay	1/01/56	1,587,111	79,355	79,355	79,355
7	Spreading Works - Cucamonga	1/01/44	54,860	0	0	0
8	Spreading Works - San Antonio	4/01/02	50,235	405	405	405
9	Pipelines	1/01/30	19,228,760	427,306	427,306	427,306
10	Autos & Equipment	1/01/98	541,858	97,606	97,606	97,606
11	Tools	1/01/92	110,727	23,639	23,639	23,639
12	Telemetry System	1/01/01	625,622	69,514	69,514	69,514
13	Office Equipment	1/01/98	524,367	27,997	27,997	27,997
14	Documents & Studies	1/01/93	917,029	126,145	126,145	126,145
Total Other Depreciation			<u>36,881,619</u>	<u>1,390,968</u>	<u>1,390,968</u>	<u>1,390,968</u>
Total ACRS and Other Depreciation			<u>36,881,619</u>	<u>1,390,968</u>	<u>1,390,968</u>	<u>1,390,968</u>
Grand Totals			<u>36,881,619</u>	<u>1,390,968</u>	<u>1,390,968</u>	<u>1,390,968</u>

CA Two Year Comparison Worksheet Page 1

Form **100****2021 & 2022**

Name SAN ANTONIO WATER COMPANY	California Corporate Number 0138200	Employer Identification Number 95-1183990
--	---	---

	2021	2022	Differences
State Adjustments			
Net income (loss) before state adjustments	94,270	99,780	5,510
Amount deducted for foreign or domestic tax			
Amount deducted for tax under Corporate Tax Law	9,142	9,676	534
Interest on government obligations			
Net CA capital gain from Schedule D	343,060	343,060	
Depreciation/amortization exceeding CA amount			
Net income not included in federal consolidated return			
Other additions			
Total	446,472	452,516	6,044
Intercompany dividend deduction (Schedule H)			
Dividends received deduction (Schedule H)			
Additional depreciation/amortization allowed under CA law			
Capital gain from federal Form 1120	343,060	343,060	
Contributions			
Other deductions			
Total	343,060	343,060	
Net income (loss) after state adjustments	103,412	109,456	6,044
Net Income			
Average apportionment percentage (Schedule R)	100.0000	100.0000	0.0000
Net income (loss) for state purposes	103,412	109,456	6,044
Net operating loss carryover deduction			
Pierce's disease, EZ, LARZ, TTA or LAMBRA NOL c/o			
Disaster loss carryover deduction			
Net income for tax purposes	103,412	109,456	6,044
Tax and Payments			
Tax	9,142	9,676	534
Credits			
Balance	9,142	9,676	534
Alternative minimum tax (Schedule P)			
Total tax	9,142	9,676	534
Prior year overpayment applied	144	2,858	2,714
Estimated tax payments	11,856	6,300	-5,556
Withholding			
Amount paid with extension			
Total payments	12,000	9,158	-2,842
Add-on taxes and recapture of tax credits			
Tax due		518	518
Penalties and interest			
Use tax			
Overpayment	2,858		-2,858
Balance due		518	518

CA Two Year Comparison Worksheet Page 2

Form **100****2021 & 2022**

Name SAN ANTONIO WATER COMPANY	California Corporate Number 0138200	Employer Identification Number 95-1183990
--	---	---

	2021	2022	Differences
Schedule M-1			
Net income per books	1,308,095	820,629	-487,466
Federal income tax			
Excess of capital losses over capital gains			
Taxable Income not on books			
Book expenses not deducted	9,142	9,676	534
Income on books not on return			
Return deductions not on books	1,213,825	720,849	-492,976
Net income per return	103,412	109,456	6,044
Schedule M-2			
Balance at beginning of year	21,654,092	22,868,412	1,214,320
Net income per books	1,308,095	820,629	-487,466
Other increases			
Cash distributions			
Stock distributions			
Property distributions			
Other decreases	93,775	3,524,378	3,430,603
Balance at end of year	22,868,412	20,164,663	-2,703,749

Item Title: Nominees for the Position of Director of the Company

Purpose:

Present a list of nominees for Company Directors to consider for the Annual Meeting on April 11, 2023.

Issue:

Does the Board wish to submit a list of nominees for the position of director of the Company for inclusion with the 2023 Notice of the Annual Meeting of Shareholders?

Manager's Recommendation:

Consider this matter as it relates to giving notice and preparation for the Annual Meeting. Take action as the Board deems appropriate.

Background:

Pursuant to Article II of the Bylaws, Section 2.04 "Notice of Shareholders' Meetings", if the Company intends to present any nominees for election as director(s), it must present the names of those nominees with the notice of the meeting.

Current Directors with expiring terms:

- Director Will Elliott
- Director Martha Goss
- Director Rudy Zuniga
- ⊖ ~~Director Bob Bowcock~~

Nominees for the slate of officers submitted on the City of Upland's proxy are as follows:

- Director Will Elliott [Incumbent]
- Director Martha Goss [Incumbent]
- Director Rudy Zuniga [Incumbent]
- ⊖ ~~Director Bob Bowcock [Incumbent]~~

Should there be no presentation of nominees by the Company, then all nominations for office of director must occur at the appropriate time during the annual meeting.

Impact on the Budget:

None

Previous Actions:

Historically the Company has selected and presented nominees with the notice of the Annual Meeting.

Agenda Date: March 21, 2023

Agenda Item No. 6B

Item Title: 2022 Company Audit

Purpose:

To present the Company's 2022 independent audit.

Issue:

Review the Company's 2022 Audit.

Manager's Recommendation:

No action proposed.

Background:

Bowen, McBeth, Inc has completed their audit of the Companies 2022 financial statements. The audit is attached and will also be included in the Company's Shareholder Report for the upcoming 2023 Annual Shareholder's meeting scheduled for April 11th.

Impact on the Budget:

None.

Previous Actions:

None

JAMES M. GARBO, CPA
RANDAL L. DOUGLASS, CPA
CRAIG B. MILLER, CPA

Item 6B



To the Board of Directors
and Management
San Antonio Water Company

We have audited the financial statements of San Antonio Water Company for the year ended December 31, 2022, and have issued our report thereon dated February 21, 2023. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated December 6, 2022. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for selection and use of appropriate accounting policies. We will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Company are described in Note 1 to the financial statements. The Company is following the new standard ASU 2016-02, Leases (Topic 842). However, any adjustment related to the standard are immaterial and therefore, no adjustments will be made. The existing policies were not changed during the year ended December 31, 2022. We noted no transactions entered into by the Company during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. Management has informed us that they used all the relevant facts available to them at the time to make the best judgments about accounting estimates, such as estimating the useful life of their capital assets. We considered this information in the scope of our

audit and, based on our procedures, we were able to conclude that the estimates provided by management were reasonable for financial statement purposes.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit. We appreciated the courtesy and cooperation extended to our audit team by all members of management and staff from the Company during the performance of our work.

Corrected and Uncorrected Misstatements

For the purpose of this letter, professional standards define a misstatement as a proposed correction of the financial statements, that, in our judgment, may not have been detected except through our auditing procedures. A misstatement may or may not indicate matters that could have a material effect, both individually and in the aggregate, on the Organization's financial reporting process. There were no material adjustments in the current audit. Overall, two adjustments, related to the income tax expense and the asset and liability related to the 457b plan, caused the following changes to the financial statements:

- Decrease to total assets of approximately \$15,800
- Decrease to total liabilities of approximately \$12,500
- Increase to total expense of approximately \$3,300

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. Management has corrected all such misstatements. In addition, none of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to the financial statements taken as a whole. The aggregate of the audit adjustments caused a net decrease in the net assets of approximately \$3,300 to the financial statements.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditors' report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated February 21, 2023.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a “second opinion” on certain situations. If a consultation involves the application of an accounting principle or a determination of the type of auditor’s opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Company’s auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

We wish to thank the General Manager, the Assistant General Manager, and all staff for their support and assistance during our audit.

This report is intended solely for the information and use of the Board of Directors, Finance Committee, management, and others within the Company and is not intended to be and should not be used by anyone other than these specified parties.

Bowen, McBeth, Inc.

Rancho Cucamonga, California
February 21, 2023

SAN ANTONIO WATER COMPANY
FINANCIAL STATEMENTS
DECEMBER 31, 2022

**San Antonio Water Company
Table of Contents**

CONTENTS	PAGE
Organization Data	1
Independent Auditors' Report	2
 FINANCIAL STATEMENTS	
Balance Sheets	4-5
Statement of Operations and Retained Earnings.....	6
Statement of Cash Flows	7
Notes to Financial Statements	8-22

**San Antonio Water Company
Organization Data
December 31, 2022**

DATE AND STATE OF INCORPORATION:

Organized October 25, 1882 under the laws of the State of California

DATE OF ANNUAL MEETING:

Date and time designated by Board of Directors

DURATION OF CHARTER

Perpetual

OFFICERS:

Rudy Zuniga..... President
Will Elliott..... Vice President
Martha Goss.....Secretary/Chief Financial Officer

DIRECTORS:

Bob Cable	Will Elliott	Martha Goss
Bill Velto	Rudy Zuniga	Kati Parker
Bob Bowcock		

GENERAL MANAGER:..... Brian Lee
ASSISTANT GENERAL MANAGER:.....Teri Layton

JAMES M. GARBO, CPA
RANDAL L. DOUGLASS, CPA
CRAIG B. MILLER, CPA



BOWEN, McBETH, INC.
CERTIFIED PUBLIC ACCOUNTANTS

10722 ARROW ROUTE, SUITE 110
RANCHO CUCAMONGA, CALIFORNIA 91730
TELEPHONE (909) 944 6465 FAX OR MSG (909) 980 4788

INDEPENDENT AUDITORS' REPORT

**Board of Directors
San Antonio Water Company
Upland, California**

Report on the Financial Statements

Opinion

We have audited the accompanying financial statements of San Antonio Water Company (a nonprofit corporation), which comprise the balance sheets as of December 31, 2022 and 2021, and the related statement of operations and retained earnings, and cash flows for the year ended December 31, 2022, and the related notes to the financial statements.

In our opinion, the financial statements present fairly, in all material respects, the financial position of San Antonio Water Company of December 31, 2022 and 2021, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of San Antonio Water Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about San Antonio Water Company's

ability to continue as a going concern within one year after the date that the financial statements are available to be issued.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of San Antonio Water Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about San Antonio Water Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Bowen, McBeth, Inc.

Bowen, McBeth, Inc.

February 21, 2023

San Antonio Water Company
Balance Sheets
December 31, 2022 and 2021

ASSETS

	2022	2021
CURRENT ASSETS		
Cash and cash equivalents		
Cash undesignated	\$ 1,018,264	\$ 2,410,073
Cash designated	7,231,693	3,707,315
Receivables		
Due from domestic customers	116,538	153,270
Due from municipal customers	254,602	425,432
Due from miscellaneous customers	15,990	10,504
Other receivables	224,989	688,544
Prepaid income taxes		2,858
Note receivable, current portion	344,000	344,000
Prepaid expenses	9,238	9,238
Inventory - supplies, materials	171,431	162,452
TOTAL CURRENT ASSETS	9,386,745	7,913,686
INVESTMENTS		
Deferred compensation asset	56,227	54,019
TOTAL INVESTMENTS	56,227	54,019
PROPERTY, PLANT, AND EQUIPMENT		
Land, water rights, wells, buildings and equipment	37,448,818	37,347,197
Less: accumulated depreciation	(15,350,344)	(14,366,295)
TOTAL PROPERTY, PLANT, AND EQUIPMENT	22,098,474	22,980,902
OTHER ASSETS		
Pomona Valley Protective Association	1	1
Note receivable, net of current portion		344,000
Documents and studies	1,227,266	1,151,966
Less: accumulated amortization	(757,592)	(730,023)
TOTAL OTHER ASSETS	469,675	765,944
TOTAL ASSETS	\$ 32,011,121	\$ 31,714,551

The accompanying notes are an integral part of the financial statements

**San Antonio Water Company
Balance Sheets (continued)
December 31, 2022 and 2021**

LIABILITIES AND STOCKHOLDERS' EQUITY

	<u>2022</u>	<u>2021</u>
CURRENT LIABILITIES		
Trade accounts payable	\$ 182,236	\$ 204,392
Accrued expenses	509,801	660,162
Deposits	1,700	1,700
Deferred revenue	2,808	14,016
Income taxes payable	518	
Current portion of deferred gain	343,060	343,060
	<u>1,040,123</u>	<u>1,223,330</u>
TOTAL CURRENT LIABILITIES		
LONG TERM LIABILITITES		
Deferred gain on sale of property, net of current portion		343,060
Deferred compensation liabilities	56,227	54,019
	<u>56,227</u>	<u>397,079</u>
TOTAL LONG TERM LIABILITIES		
TOTAL LIABILITIES	<u>1,096,350</u>	<u>1,620,409</u>
STOCKHOLDERS' EQUITY		
Capital stock, par value \$100; authorized 15,000 shares; issued and outstanding 6,389 shares	638,900	638,900
Paid-in capital in excess of par value	447,258	447,258
Contributed property, plant and equipment	2,432,257	2,432,257
Retained earnings:		
Undesignated cumulative retained earnings	20,164,663	22,868,412
Designated by Board of Directors:		
Depreciation/Obsolesence reserve	7,231,693	3,707,315
Total retained earnings	27,396,356	26,575,727
TOTAL STOCKHOLDERS' EQUITY	<u>30,914,771</u>	<u>30,094,142</u>
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	<u>\$ 32,011,121</u>	<u>\$ 31,714,551</u>

The accompanying notes are an integral part of the financial statements

San Antonio Water Company
Statement of Operations and Retained Earnings
For the Year Ended December 31, 2022

REVENUE

Domestic water income - stockholders	
Base rate - Includes availability charges	\$ 514,297
Supplemental usage - Includes Tier 2 and 3 charges	432,309
Municipal water income - stockholders	
Base rate - Includes availability charges	3,432,694
Miscellaneous water income - stockholders	
Base rate - Includes availability charges	258,881
Supplemental usage - Includes Tier 2 and 3 charges	159,766
Dormant water availability charge	51,859
Sale of stored ground water	250,000
Water connections	5,691
Net gain on sale of assets	343,060
Miscellaneous	14,783
TOTAL REVENUE	5,463,340

EXPENSES

Administrative services	360,157
Field labor	409,230
Payroll taxes & benefits	525,332
Repairs	355,777
Power-gas & electric (Utilities)	1,052,882
Office supplies/expenses	71,168
Directors fees & expenses	32,540
Insurance	57,861
Depreciation & amortization	1,048,943
Communication	39,757
Outside services	25,486
Human resources expense	52,439
Property taxes	249,238
Accounting & legal expense	227,750
Water resource management	154,708
Conservation	45,204
Staff development & training	5,335
All other	29,790
TOTAL EXPENSES	4,743,597

INCOME FROM OPERATIONS

719,743

OTHER INCOME

Ground lease	74,950
Interest (net of fees)	35,612
	110,562

INCOME BEFORE PROVISION FOR INCOME TAXES

830,305

PROVISION FOR INCOME TAXES

9,676

NET INCOME

820,629

RETAINED EARNINGS, JANUARY 1

26,575,727

RETAINED EARNINGS, DECEMBER 31

\$ 27,396,356

The accompanying notes are an integral part of the financial statements

San Antonio Water Company
Statement of Cash Flows
For the Year Ended December 31, 2022

NET INCOME	\$	820,629
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization		1,048,943
Gain on sale of property as part of the installment sale		(343,060)
Changes in assets and liabilities related to operations:		
(Increase) decrease in receivables		202,075
(Increase) decrease in other receivables		463,555
(Increase) decrease in prepaid income taxes		2,858
(Increase) decrease in inventories		(8,979)
(Increase) decrease in deferred compensation asset		(2,208)
Increase (decrease) in payables		(22,155)
Increase (decrease) in accrued expenses		(150,361)
Increase (decrease) in income taxes payable		518
Increase (decrease) in deferred compensation liability		2,208
Increase (decrease) in deferred revenue		(11,208)
		2,002,815
NET CASH PROVIDED BY OPERATING ACTIVITIES		
Cash flows from investing activities:		
Proceeds from sale of property as part of the installment sale		344,000
Purchases of property, plant and equipment		(105,654)
Purchases of documents and studies		(108,592)
		129,754
NET CASH PROVIDED BY INVESTING ACTIVITIES		
NET DECREASE IN CASH AND CASH EQUIVALENTS		2,132,569
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR		6,117,388
		8,249,957
CASH AND CASH EQUIVALENTS, END OF YEAR	\$	8,249,957
RECONCILIATION TO CASH AND CASH EQUIVALENTS, page 4		
Cash undesignated	\$	1,018,264
Cash designated		7,231,693
		\$ 8,249,957
SUPPLEMENTAL INFORMATION:		
Cash paid for income taxes	\$	9,676
Installment Sale		
Deferred gain	\$	343,600
Cash received		356,934
Interest received		12,934

The accompanying notes are an integral part of the financial statements

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The San Antonio Water Company (Company) is a mutual water company and, in accordance with Internal Revenue Code Section 501 (c) (12), is exempt from federal income taxes. To qualify for the exemption, at least 85% of the Company's revenue must be from shareholders. The Company does pay California income taxes on other income unrelated to the water operations.

GAAP provides accounting and disclosure guidance about positions taken by an organization in its tax returns that might be uncertain. Management has considered its tax positions and believes that all of the positions taken by the Company in its federal exempt and state organization tax return are more likely than not to be sustained upon examination. The Company's tax returns are subject to examination by Federal taxing authorities for a period of three years from the date they are filed and for a period of four years for California taxing authorities.

Changes in fair value of investments that occur during the year are recognized as investment earnings reported for that year. Investment income includes interest earnings, dividends, unrealized gains and losses and any gains or losses realized upon the liquidation or sale of investments.

The Company uses the straight-line method of depreciation over the useful lives of 4 years to 50 years depending on the asset for its plant and equipment. Property and equipment are carried at historical cost, which is purchase or construction cost, less accumulated depreciation and any recognized impairment loss. Work in progress includes all direct and certain indirect costs of construction, in accordance with our accounting policy. Depreciation of constructed assets commences when the assets are ready for their intended use.

The Company assesses potential impairment to its long-lived assets when there is evidence that events or changes in circumstances have made full recovery of the asset's carrying value unlikely. An impairment loss would be recognized when the sum of the expected future undiscounted net cash flows is less than the carrying amount of the asset. Should impairment exist, the impairment loss would be measured based on the excess of the carrying amount of the asset over the asset's fair value. No impairment charges were recognized on long-lived assets during the years ending December 31, 2022 and 2021.

Documents and studies are carried at historical cost less accumulated amortization and any recognized impairment loss. The Company amortizes the documents and studies with finite lives on a straight-line basis over their estimated useful lives. Documents and studies include maps and research documents that are being amortized over 5-15 years.

Inventories are valued at lower of cost or market using the first-in, first-out method.

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

For purposes of the statements of cash flows, the Company considers all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents. Also, the Company considers all short term highly liquid investments that are readily convertible to known amounts of cash and so near to maturity that they present insignificant risk of changes in value.

Accounts receivable are considered to be fully collectible; accordingly, no allowance for doubtful accounts is normally required. The Company reviews any accounts receivable other than trade receivables that are over a year old for collectability. When collectability is in question then the process is started to force a sale of the shares to cover the receivable.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses during the reported periods. Actual results could differ from those estimates.

The Company evaluated events subsequent to December 31, 2022 and through February 21, 2023, the audit report date and the issue date of the financial statements.

The Company's financial instruments are cash, certificate of deposit, accounts receivable, and accounts payable. The recorded values of cash, certificate of deposit, accounts receivable and accounts payable approximate their fair values based on their short-term nature.

Revenue Recognition: San Antonio Water delivers water to its shareholders. Each shareholder must have at least a quarter share of stock in the company in order to receive water. This is considered the shareholders entitlement. Water is delivered to each shareholder at the base rate up to their entitlement and any water delivered after that is delivered at the excess, or tier 2 or tier 3 rate. Revenue is recognized every other month at a single point in time when the shareholders water meter is read.

NOTE 2. WATER RIGHTS AND ASSESSMENTS

Chino Basin

The Company holds water rights within the Chino groundwater basin based on a 1978 adjudication. Annual production rights may be adjusted by the Courts. The cost of administering the judgment provisions is assessed annually to the parties and water producers under the terms of the judgment.

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 2. WATER RIGHTS AND ASSESSMENTS (continued)

Cucamonga Basin

The Company holds water rights within the Cucamonga groundwater basin based on a 1958 Decree. Although the decree defines responsibilities there is no provision for assessments. Parties to this basin include the San Antonio Water Company, Cucamonga Valley Water District and the West End Consolidated Water Company.

Six Basins

The Company holds water rights within the Six Basins groundwater basin based on a 1998 adjudication. Operating safe yield is adjusted annually. The cost of administering the judgment provisions is assessed annually to the parties and water producers under the terms of the Judgment.

Pomona Valley Protective Association

The Company holds stock in the Pomona Valley Protective Association (PVPA), nonprofit entity that spreads San Antonio Canyon flow waters for the benefit of its shareholders. The water is spread over approximately 760 acres of land owned by PVPA. Under the recent Six Basins Judgment of 1998, PVPA conducts water spreading at the direction of the Six Basins Watermaster.

Stream Diversions

The Company holds water rights in the San Antonio Canyon. Company stream diversions were established pre-1914 and are shared by the Company and the City of Pomona. The two parties have shared expenses to date based on percentage of water rights. There is no assessment mechanism in place.

The Company initiated a water rights investigation of the San Antonio Canyon Watershed in 2009. The investigation confirmed that the Company stripped most riparian, appropriative and overlying rights to property previously sold within the canyon. Those stripped rights remain with the Company. Most of the cabins in the Mt. Baldy area are currently permitted under a US Forest Service special-use permit with no apparent provision of water rights conveyed with said permits.

In 2009, the Company developed a License Agreement for the purpose of allowing certain private and special-use lots to continue using water from the San Antonio Creek, provided that the lots limit and pay for their water usage as an ongoing claim and not as a commodity rate.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 3. INVESTMENTS

Investments are recorded at fair value. The historical cost and fair value at December 31, 2022 is as follows:

	2022			
	Historical Cost	Reinvested Gains	Book Value	Fair Value
Mutual funds	<u>\$ 54,010</u>	<u>\$ 2,217</u>	<u>\$ 56,227</u>	<u>\$ 56,227</u>
	2021			
	Historical Cost	Reinvested Gains	Book Value	Fair Value
Mutual funds	<u>\$ 40,578</u>	<u>\$ 13,441</u>	<u>\$ 54,019</u>	<u>\$ 54,019</u>

Investments in the amount of \$56,227 have been restricted by the Board for the payments of a non-qualified deferred compensation plan established for the general manager (See Note 12).

NOTE 4. FAIR VALUE MEASUREMENTS

Under the Fair Value Measurements statement, which prioritizes the inputs to valuation techniques used to measure fair value, the three levels of the fair value hierarchy are as follows:

- Level 1 – inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the Organization has the ability to access at measurement date.
- Level 2 – inputs are inputs other than quoted prices included in Level 1 that are either directly or indirectly observable for the assets or liabilities.
- Level 3 – inputs are unobservable inputs for the assets or liabilities.

The level in the fair value hierarchy within which a fair measurement in its entirety falls is based on the lowest level input that is significant to the fair value measurement in its entirety.

All of the Company's investments at December 31, 2022 and 2021 are measured within the Level 1 of the fair value hierarchy with the LAIF being measured within the Level 2 (See Note 10).

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 5. PROPERTY, PLANT, AND EQUIPMENT

Property, plant, and equipment are shown at 1929 appraised values plus subsequent additions at cost. Actual values may be higher.

	2022	2021
Land and water rights	\$ 920,161	\$ 920,161
Tunnels and forebay	1,587,111	1,587,111
Wells, shafts, building	4,910,919	4,910,919
Pipelines	19,228,761	18,532,025
Boosters	2,500,593	2,500,593
Reservoirs	3,081,787	3,081,787
Work in progress	1,484,227	2,211,330
All other	3,735,259	3,603,271
	<u>37,448,818</u>	<u>37,347,197</u>
Less: Accumulated depreciation	(15,350,344)	(14,366,295)
TOTALS	<u><u>\$ 22,098,474</u></u>	<u><u>\$ 22,980,902</u></u>

A detailed listing of changes to property, plant, and equipment is as follows:

	Balance 01/01/22	Additions	Disposals/ Retirements	Work in Progress Transfers	Balance 12/31/22
Land and water rights	\$ 920,161	\$	\$	\$	\$ 920,161
Tunnels and forebay	1,587,111				1,587,111
Wells, shafts, building	4,910,919				4,910,919
Pipelines	18,532,025			696,735	19,228,760
Boosters	2,500,593				2,500,593
Reservoirs	3,081,787				3,081,787
Work in progress	2,211,330	102,519		(829,622)	1,484,227
All other	3,603,271	3,135	4,033	132,887	3,735,260
	<u>\$37,347,197</u>	<u>\$ 105,654</u>	<u>\$ 4,033</u>	<u>\$</u>	<u>\$37,448,818</u>

Depreciation of \$988,082 was charged to operations in 2022.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 6. OTHER ASSETS

Documents and Studies

	2022	2021
Master Plan Update 2017	\$ 278,870	\$ 278,870
Facilities Mapping	135,534	135,534
Water Rights Study	112,798	112,798
Hydrogeologic Study	48,000	48,000
Urban Water Management Plan (UWMP)	42,942	33,292
Work in Progress	310,236	244,586
All other	298,886	298,886
	1,227,266	1,151,966
Less: Accumulated amortization	(757,592)	(730,023)
TOTALS	\$ 469,674	\$ 421,943

Amortization of \$60,861 was charged to operations in 2022.

Estimated future amortization expense for the document and studies as December 31, 2022.

December 31,		
2023	\$	55,782
2024		54,802
2025		31,563
2026		14,964
2027		14,964
Thereafter		297,599
	\$	469,674

Master Plan Update

A 2017 Master Plan Update was adopted by the Board on December 6, 2017 and placed in service in January 2018. The Company is currently working towards completing a new update and expects it to be finished in 2023.

Facilities Mapping

The Company started in 2019 and began amortizing in 2021, a Geographic Information System (GIS). The intent of the GIS database is to aggregate pertinent information of Company facilities into a database that can be readily queried. Water Systems Consulting is currently maintaining the database and will implement any updates or changes.

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 6. OTHER ASSETS (continued)

Water Rights Study

A legal opinion of the Company's water rights was completed in 1993.

Hydrogeologic Study

This study evaluated the hydrogeologic characteristics of the local ground water basins. Its purpose was to evaluate the feasibility of rehabilitating some existing well casings and identify possible sites for new water wells. The study was completed in 1997.

Urban Water Management Plan

Urban Water Management Plan's (UWMP) are prepared by water suppliers to support long-term resource planning and ensure adequate water supplies are available to meet existing and future water demands. The State of California requires all urban water suppliers to create an UWMP once every five years.

The company completed its first UWMP in 2005. In 2010 the Company shifted its UWMP from 'retailer' to 'wholesaler', impacting Best Management Practices (BMP's) identified in the 2005 UWMP and the 2010 requirements of a State mandated 20% water reduction by 2020.

The most recent UWMP was completed in the 2022 year.

All Other

These assets include well site evaluations, San Antonio Creek Watershed Sanitary Survey, Cucamonga Basin groundwater study, alternative spread in Cucamonga wash, study to expand spreading grounds, Edison Ponds, alternative energy feasibility study and photo history documentation.

Pomona Valley Protective Association

The Company is a member and owns a small interest (1.5%) in the Pomona Valley Protective Association (PVPA), a nonprofit entity that owns approximately 760 acres of land dedicated to water conservation.

Due to the nature of the PVPA as a membership organization, the Company's investment is stated at \$1 on the Company's records.

NOTE 7. DEFERRED REVENUE

The San Bernardino County Transportation Authority has paid for a ground lease at East 6th Street, Ontario to use while they work on the I-10 Freeway Corridor Contract 1 Project. They paid the full amount of \$8,040 for the five year term of the lease. San Antonio Water recorded the \$1,608 lease income for the year and the remaining amount of \$1,608 is recorded as deferred revenue. The Company also was paid the full amount of \$4,800 for an 4 month lease starting in October 2022. The deferred amount is \$1,200. Total deferred revenue is \$14,016 and \$2,808 for 2021 and 2022, respectively.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 8. MAJOR CUSTOMERS

The Company’s principal operation consists of providing domestic and irrigation water to its stockholders. Revenue from its major shareholder is as follows:

GOVERNMENTAL AGENCY	2022	2021
City of Upland (see note 9)	\$ 3,392,179	\$ 2,722,953
% of Total Revenue	60.9%	50.0%
Accounts Receivable from Major Customer	\$ 200,346	\$ 367,573

NOTE 9. LICENSE AGREEMENTS

The following agreements have expired December 31, 2021 and the Company is working to renew the agreements with the parties involved. Until such time that new agreements are in place, the parties have agreed to continue honoring the terms of the expired agreements.

City of Upland Water Service Agreement:

The City of Upland’s Water Service Agreement started on January 1, 2017 and expired on December 31, 2021. The agreement provides the City full yearly entitlement at the base rate with no seasonal restrictions. In exchange the City has no guarantee of full entitlement delivery and is prohibited from exceeding its annual entitlement unless agreed to by Company.

City of Ontario Water Service Agreement:

The City of Ontario’s Water Service Agreement started on January 1, 2017 and expired on December 31, 2021. The agreement provides the City a full yearly entitlement at the base rate with no seasonal restrictions. In exchange the City has no guarantee of full entitlement delivery and is prohibited from exceeding its annual entitlement unless agreed to by Company.

Monte Vista Water District (MVWD) Water Service Agreement:

The Monte Vista Water District Water Service Agreement started on January 1, 2017 and expired on December 31, 2021. The agreement provides the District a full yearly entitlement at the base rate with no seasonal restrictions. In exchange the District has no guarantee of full entitlement delivery and is prohibited from exceeding its annual entitlement unless agreed to by Company.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 10. CONCENTRATION OF CREDIT RISK

The Company maintains its cash and certificates of deposit balances in two financial institutions. The balance at Citizens Business Bank is collateralized up to \$2,000,000. The remaining balance is insured by the Federal Deposit Insurance Corporation up to \$250,000 per institution. At December 31, 2022, the Company maintained deposits of \$3,157,725 leaving an uninsured balance of \$907,725 at this institution. Also, at December 31, 2022 the Company had a balance of \$5,156,484 deposited with the Local Agency Investment Fund (LAIF). This is a highly liquid account that is managed by the State of California. The fund is fully secured and is at no cost to the Company. We have included this amount in the cash and cash equivalents due to the amounts being readily convertible to cash. Based on the investments of the LAIF it is considered to fall into the Level 2 of the fair value hierarchy at December 31, 2022. (See Note 4).

Net earnings on LAIF was comprised of interest in the amount of \$22,677 at December 31, 2022.

NOTE 11. LIQUIDITY AND AVAILABILITY OF FINANCIAL ASSETS

The following reflects the Company's financial assets as of December 31, 2022, reduced by amounts not available for general use because of board designated reserves that have been created to fund the Depreciation/Obsolescence reserves or due to contractual requirements.

Financial assets at December 31, 2022:

Cash	\$	8,249,957
Receivables		387,130
Other receivables		224,989
Note receivable, current portion		344,000
Total financial assets		9,206,076
Less: Unavailable for general expenditures within one year due to:		
Board designated reserves		7,231,693
Total unavailable financial assets		7,231,693
Financial assets available to meet cash needs for general expenditures within one year		
	\$	1,974,383

As part of its liquidity management, excess cash is invested in the Local Agency Investment Funds which is a highly liquid account that is managed by the State of California. The fund pays interest and is very liquid. The fund is fully secured and is at no cost to the Company.

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 12. PENSION PLAN

On May 15, 2018, the Board approved changing the current employee Nationwide 401(k) plan to the Nationwide Flexible Advantage Program. This changed the current plan from an annuity that provides some protection for principle investments and beneficiaries but carries associated fees which reduce the interest gained relative to current investments in the market.

The Nationwide Flexible Advantage Program provides more investment flexibility for the employee, in person and online education and tools, lowers overall cost and provides a higher return on investments. The transfer of assets and contributions to the new investment platform started in May of 2019. The Company expense for the pension plan was \$68,971 and \$68,821 for 2021 and 2022, respectively.

On February 5, 2019 the company established a non-qualified deferred compensation plan for the General Manager. The plan pays 7.5% of the General Manager salary to the deferred compensation and also pays for a \$100,000 whole life insurance policy. At December 31, 2022 the plan had a total liability of \$56,227 which is comprised of mutual funds investments (See Note 3). Total cost for the deferred compensation plan and life insurance policy was \$15,677 and \$17,395 for 2021 and 2022, respectively.

NOTE 13. PAYROLL AND RELATED EXPENSES

The San Antonio Water Company tracks all expenses based on a specific activity and desires to expand the understanding of our shareholders by presenting a clear picture of labor expenses. For 2022 the Company's payroll expense was \$1,077,645 which includes base pay and time off compensation (i.e. vacation, sick leave, holidays, etc.). Benefit costs (i.e. health insurance, retirement, etc.) were \$249,493 and the cost of employment (i.e. payroll taxes and worker's compensation insurance) was \$90,679. This is a total of \$1,417,817 for labor and related expenses.

NOTE 14. SALE OF STORED GROUND WATER

In November of 2022, the Water Company leased the pumping rights from Six Basins of 500 acre-feet of water for \$500 per acre foot for \$250,000 to the Three Valleys Municipal Water District.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 15. CASH ACCUMULATION DESIGNATED BY BOARD OF DIRECTORS FOR DEPRECIATION AND OBSOLESCENCE RESERVES

On February 18, 2020, the Board approved the following reserve policies:

- Operating reserve – 90-180 days budgeted operating expense
- Capital Investment and Depreciation Reserve Funds (D&O Reserve) – 5%-20% of Company’s total property & equipment from auditor’s statement
- Debt Service Reserves – Minimum as set forth in borrowing documents

On February 16, 2021, the Board approved a Facility Modernization Fund for the purpose of funding rehabilitation of abandoned property and a new office and yard facility in the future. This reserve is called Modernization Fund.

Given the above reserve policies, at year end the Company’s status is as follows:

Reserve	Desired Amount based on policy	Actual Amount
Operating Reserve	\$875K - \$1.75M	\$1.0 million
D&O Reserve	\$1.2 million - \$4.6 million	\$5.7 million
Debt Service Reserve	\$0	\$0
Modernization Fund	\$0	\$1.4 million

The Company currently does not have any debt and does not require any reserves in the Debt Service Reserves Fund.

The Company is currently updating their master plan. The last update of the master plan in 2017 summarized recommended Capital Improvement projects and cost estimates for the domestic and irrigation system totaling \$18,787,626.

Development of the D&O reserves will fund depreciation of assets and all capital improvements, Master Plan and non-master plan improvements. In the past, the Company funded this reserve with monies received from the sale of any stored water in the groundwater basins where company rights exist, and any positive balance of operations resulting from the annual service operations of the Company. New policies in 2020 changed this methodology and amounts in reserves are determined by the policy and not the source of revenue.

During 2022, a total of \$56,209 was spent on projects in the Capital Facilities Improvement Plan [Master Plan] and \$208,771 was spent on capital improvement projects or other asset not identified in the master plan.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 15. CASH ACCUMULATION DESIGNATED BY BOARD OF DIRECTORS FOR DEPRECIATION AND OBSOLESCENCE RESERVES (continued)

The following details the amount required to fund the reserves as established by the board of directors.

Board of Directors Established Reserves Amounts	(in thousands)
Depreciation and Obsolescence Reserve	\$ 16,331.3
Cash Available for Reserves at Year End	5,798.9
Additional funds required to fund the reserves	\$ 10,532.4

NOTE 16. CONTINGENCIES

The Company is periodically involved in legal actions and claims that arise as a result of events that occur in the normal course of operations. The ultimate resolution of these actions is not expected to have a material adverse effect on the Company's financial position.

NOTE 17. SALE OF PROPERTY

The Company, in 2019, sold a portion of property to the City of Upland for them to construct a replacement reservoir. The sale price was \$1,720,000 payable in installments of \$344,000 plus interest. The gain is being recognized over the term of the installment period as the payments are made. The total gain will be \$1,715,297 with \$343,059 being recognized each year as payment is made. At December 31, 2022 and December 31, 2021 the balances were as follows:

	2022	2021
Note receivable on installment sale	\$ 344,000	\$ 688,000
Deferred gain on sale of property	343,060	686,120

NOTE 18. STOCK AUCTION

The Company implemented a procedure to collect debt on past water usage bills from shareholders who were no longer receiving services through the process of a stock auction. On November 15, 2022, a stock auction was held and 2 stock certificates were auctioned. The Company received 9 bids. The highest bids of both quarter shares of stock were \$15,053 and \$16,888, respectively. Upon collecting the delinquent fees and calculated related expenses associated with the auction, the remaining funds are distributed to the delinquent shareholder or turned over to the State of California or respective state in accordance with State law.

**San Antonio Water Company
Notes to Financial Statements
December 31, 2022**

NOTE 18. STOCK AUCTION (continued)

In 2022, the Company was able to locate and distribute \$27,067 of unclaimed money to the past shareholders. In accordance to law, the shareholder's last residency state receives the unclaimed monies due. The following was turned over to the proper states:

* Arizona Unclaimed Property	\$ 13,467
* Comptroller, State of New York	\$ 102,986
* State of Alabama Treasurer	\$ 26,797

At this point the Company is waiting for the approval to remit further money to the State of California. The financial statements includes under accrued expenses a total of \$464,368 owed to respective shareholders for recent and prior year's stock auctions.

NOTE 19. GROUND LEASES

The Company has ground leases with cell phone service companies and a transportation authority in order for them to set up cell phone towers and for the transportation authority to store their equipment on land owned by the Company. The Company is following the newly issued ASU 2016-02, Leases (Topic 842). For the Company as lessor there is very little change to the accounting and disclosure. There are a total of 7 leases with varying payments. The following is the future lease income:

December 31,		
2023	\$	61,991
2024		64,704
2025		64,704
2026		65,378
2027		67,397
Thereafter		466,720
	<u>\$</u>	<u>790,894</u>

NOTE 20. FUNCTIONAL CLASSIFICATION OF EXPENSES

The costs of providing the operations and maintenance and general and administrative activities has been summarized on a functional basis in the following schedule. Accordingly, the costs have been recorded to the operations or administrative services benefited. General and administrative expenses include those expenses that are not directly identifiable with any other specific function but provide for the overall support and direction of the Company.

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 20. FUNCTIONAL CLASSIFICATION OF EXPENSES (continued)

	Operations & Maintenance	General & Administrative	Total
Facility related field labor	\$ 319,776	\$	\$ 319,776
Repairs to facilities and equipment	355,777		355,777
Power-gas & electric	1,052,882		1,052,882
Customer service	67,771		67,771
Conservation	45,204		45,204
Non-facility related labor	89,454		89,454
Supplies	9,460		9,460
Depreciation/amortization	1,048,943		1,048,943
Property taxes	249,238		249,238
Water resource management	154,708		154,708
Administrative services		297,720	297,720
Payroll taxes		74,509	74,509
Worker's compensation insurance		16,170	16,170
Benefits pay (vacation, sick, etc.)		290,332	290,332
Benefits insurance		160,491	160,491
Office/IT support		42,943	42,943
Directors fees & expense		32,540	32,540
Liability insurance		41,692	41,692
Communication		39,757	39,757
Dues & publications		4,483	4,483
Outside services		25,486	25,486
Income tax expense		9,676	9,676
Accounting		76,184	76,184
Legal		151,565	151,565
Human resource expense		52,440	52,440
All other		44,072	44,072
TOTAL	<u>\$ 3,393,213</u>	<u>\$ 1,360,060</u>	<u>\$ 4,753,273</u>

NOTE 21. CONTRIBUTED PROPERTY, PLANT AND EQUIPMENT

Government Entities

San Antonio Water Company received assets from government entities from the construction of the SR 30/210 freeway by Caltrans, the United States Forest Service requested construction of certain water services related assets for their purposes of which the Company was reimbursed and received title, and the Company received monies from FEMA for the repair of company assets that had been damaged by prior year storm events.

San Antonio Water Company
Notes to Financial Statements
December 31, 2022

NOTE 21. CONTRIBUTED PROPERTY, PLANT AND EQUIPMENT (continued)

Developers

San Antonio Water Company received assets from developers of housing projects after completion. The developers installed waterlines, equipment, and other assets, which are then quitclaimed to the Company.

	2022	2021
Total Contributed Property, Plant and Equipment	<u>\$ 2,432,257</u>	<u>\$ 2,432,257</u>

Item Title: Comprehensive System Master Plan & Asset Management Program

Purpose:

Discussion and Possible Action to approve a System Wide Master Plan.

Issue:

Develop a comprehensive plan for future Capital Improvement Projects.

Manager's Recommendation:

Approve the 2020 System Wide Master Plan.

Background:

In 2020 the Company awarded a professional services agreement to WSC Engineering and began preparing a system wide analysis and development of a computer model of our facilities. After three years of effort, research and field testing we have completed the computer model and developed the attached 2020 Master Plan draft.q

The draft 2020 Master Plan was presented to the PROC in February and they recommended it be brought to the full Board with a recommendation to approve.

Impact on the Budget:

No direct impact. Projects listed in the Master Plan will be budgeted accordingly in the years to come.

Previous Actions:

Mater Plan development contract awarded in 2020 for \$224,085



DRAFT 2020 Comprehensive System Water Master Plan and Asset Management Plan

JANUARY 2023

SAN ANTONIO WATER COMPANY

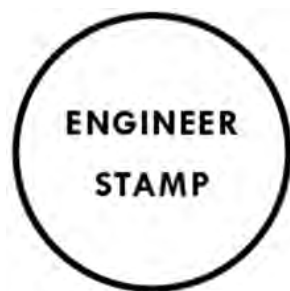




SAN ANTONIO WATER COMPANY

DRAFT 2020 Comprehensive System Water Master Plan and Asset Management Plan

JANUARY 2023



Prepared by Water Systems Consulting, Inc



ACKNOWLEDGEMENTS

The 2020 Comprehensive System Water Master Plan and Asset Management Plan was prepared by Water Systems Consulting, Inc. The primary authors are listed below.



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Water Systems Consulting, Inc. would like to acknowledge the significant contributions of San Antonio Water Company. The primary contributors are listed below.



Brian Lee, General Manager

Tommy Hudspeth, Water Utility Superintendent

TABLE OF CONTENTS

Executive Summary	ES-1
Water Supply	ES-2
Booster Pump Stations	ES-2
Storage	ES-2
Distribution and Transmission Pipelines	ES-3
Recommended Improvements	ES-3
1.0 Introduction	1-1
1.1. Overview and Purpose	1-2
1.2. Relation to Other Planning Documents	1-2
1.3. Background Information	1-3
2.0 Existing System and Evaluation Criteria	2-1
2.1 System Components	2-2
2.2 System Evaluation Criteria	2-19
3.0 Demand Projections	3-1
3.1 Current Demand	3-2
3.2 Growth and Demand Projections	3-7
3.3 Peak Demands	3-10
4.0 Production Analysis	4-1
4.1 Supply Production Analysis	4-2
4.2 Booster Pump Station Analysis	4-4
4.3 Storage Analysis	4-6
5.0 Hydraulic Model Development	5-1
5.1 Model Structure and Demands	5-2
5.2 Model Calibration	5-3
6.0 Capacity Analysis	6-1
6.1 Domestic System	6-2
6.2 Fire Flow Analysis	6-5
6.3 Irrigation System	6-12
7.0 Operational Analysis	7-1
7.1 Rezoning	7-2

Table of Contents

7.2 Relocation..... 7-4

7.3 Water Age Analysis..... 7-7

7.4 Operational Improvement Projects..... 7-7

8.0 Rehabilitation and Replacement 8-1

8.1 Pipeline Asset Management 8-2

8.2 Tank Condition Assessment 8-9

8.3 Well Condition Assessment 8-9

8.4 Pump Station Condition Assessment 8-13

9.0 Supply Risk and Resiliency Analysis..... 9-1

9.1 Supply Risk and Resilience Analysis 9-2

9.2 Recommendations 9-9

10.0 Recommended Capital Improvement Program 10-1

10.1 Cost Estimating Basis and Assumptions 10-2

10.2 Improvement Projects Summary 10-2

10.3 Implementation 10-4

Appendix A Hydraulic Model Development..... A

Appendix B Supply Risk and Resiliency Analysis Technical Memorandum B

Appendix C Cost Estimates C

LIST OF FIGURES

Figure 1-1. SAWCo Vicinity Map	1-4
Figure 2-1. Distribution System	2-4
Figure 2-2. Domestic System Hydraulic Profile	2-5
Figure 2-3. Irrigation System Hydraulic Profile	2-6
Figure 2-4. SAWCo Wells and Groundwater Basins.....	2-11
Figure 2-5. Booster Pump Stations	2-14
Figure 2-6. Reservoirs.....	2-16
Figure 3-1. Historical Domestic System Demand	3-3
Figure 3-2. Historical Irrigation System Demand	3-4
Figure 3-3. Spatially Allocated Demand within the Hydraulic Model	3-6
Figure 3-4. Possible Future Development	3-9
Figure 6-1. Domestic System Pressure Analysis.....	6-4
Figure 6-2. Existing Domestic System Available Fire Flow	6-6
Figure 6-3. Recommended New Hydrants	6-11
Figure 6-4. Irrigation System Pressure Analysis.....	6-13
Figure 6-5. Recommended Irrigation Valves	6-15
Figure 7-1. Recommended Irrigation Mains to be Relocated.....	7-6
Figure 8-1. Percentage of Existing Domestic Pipe by Material	8-2
Figure 8-2. Percentage of Existing Irrigation Pipe by Material	8-3
Figure 8-3. Domestic Pipeline End of Useful Life	8-5
Figure 8-4. Estimated Cumulative Miles of Domestic Pipeline Failures	8-6
Figure 8-5. Irrigation Pipeline End of Useful Life	8-7
Figure 8-6. Estimated Cumulative Miles of Irrigation Pipeline Failures	8-8
Figure 9-1. Supply Risk and Resilience Analysis Process.....	9-2
Figure 9-2. Average and Risk Adjusted Supply Projections.....	9-5

Figure 9-3. Scenario 5 Tunnel Collapse Supply Portfolio for the Domestic and Irrigation Systems
..... 9-8

LIST OF TABLES

Table ES-1. Recommended Capital Improvement Projects.....	ES-4
Table 2-1. Domestic System Summary	2-2
Table 2-2. Irrigation System Summary	2-3
Table 2-3. SAWCo's Water Supply and Rights.....	2-9
Table 2-4. Active Production Well Summary	2-10
Table 2-5. Domestic System Booster Pump Station Summary	2-12
Table 2-6. Irrigation System Booster Pump Station Summary	2-13
Table 2-7. Storage Reservoir Summary	2-15
Table 2-8. Distribution and Transmission Main Summary	2-17
Table 2-9. 2021 Consumer Confidence Report	2-18
Table 2-10. System Reliability Evaluation Criteria	2-19
Table 2-11. System Capacity Evaluation Criteria	2-20
Table 3-1. Future Domestic Demand	3-7
Table 3-2. Domestic Daily Demand Factors	3-10
Table 3-3. Irrigation Daily Demand Factors	3-10
Table 4-1. Domestic Supply Sources Design, Observed, and Firm Capacity	4-2
Table 4-2. Domestic Supply Capacity vs. Demand.....	4-2
Table 4-3. Irrigation Supply Sources Design, Observed, and Firm Capacity	4-3
Table 4-4. Irrigation Supply Capacity vs. Demand.....	4-3
Table 4-5. Domestic Booster Pump Station Analysis.....	4-5
Table 4-6. Domestic Operational Storage Requirements	4-7
Table 4-7. Irrigation Operational Storage Requirements	4-7
Table 4-8. Domestic Fire Flow Storage Requirements	4-7
Table 4-9. Domestic Emergency Storage Requirements.....	4-8
Table 4-10. Existing Domestic System Storage Analysis	4-9

Table 4-11. Existing Irrigation System Storage Analysis	4-9
Table 4-12. Future Domestic System Storage Analysis.....	4-10
Table 4-13. Modified Future Domestic System Storage Analysis - Total Required Storage...	4-10
Table 5-1. Summary of Domestic Modeled Demands	5-3
Table 5-2. Summary of Irrigation Modeled Demands	5-3
Table 6-1. Average Pressure Ranges per Zone	6-2
Table 6-2. Recommended Improvement Projects	6-8
Table 7-1. Booster #19 Pump Station Analysis with RZ-1	7-3
Table 7-2. Irrigation System Relocation Projects.....	7-5
Table 7-3. Recommended Operational CIP Projects.....	7-8
Table 8-1. Pipeline Estimated Useful Life Based on Material	8-3
Table 8-2. Irrigation Pipelines Identified for Rehabilitation & Replacement.....	8-9
Table 8-3. Well Rehabilitation and Replacement Projects	8-10
Table 8-4. Well Condition Scoring.....	8-11
Table 8-5. Domestic Well Condition Assessment.....	8-11
Table 8-6. Domestic Well Scoring based on Weighted Criteria	8-11
Table 8-7. Irrigation Well Condition Assessment.....	8-12
Table 8-8. Irrigation Well Scoring based on Weighted Criteria	8-12
Table 8-9. Recommended Well R&R Projects.....	8-13
Table 8-10. Domestic Pump Station Condition Assessment.....	8-14
Table 8-11. Irrigation Pump Station Condition Assessment.....	8-14
Table 9-1. Scenario Gap Analysis.....	9-7
Table 10-1. CIP Projects Summary.....	10-3
Table 10-2. 10-Year CIP	10-5

ACROYNMS & ABBREVIATIONS

ADD	Average Day Demand
AF	Acre-feet
AFY	Acre-feet per Year
APN	Assessor’s Parcel Numbers
AWWA	American Water Works Association
BPS	Booster Pump Station
CCTV	Acronym
CIP	Capital Improvement Program
DWR	Department of Water Resources
ES	Executive Summary
EUL	End of Useful Life
FF	Fire Flow
GIS	Geographic Information Systems
GPM	Gallons per Minute
HGL	Hydraulic Grade Line
HP	Horsepower
ID	Identification
MDD	Maximum Day Demand
MG	Million Gallons
MGD	Million Gallons per Day
MSL	Mean Sea Level
NRW	Non-Revenue Water
NTU	Nephelometric Turbidity Units
OSY	Operating Safe Yield
PHD	Peak Hour Demand
PRV	Pressure Reducing Valve

PVC	Polyvinyl Chloride
RZ	Rezoning
SAWCO	San Antonio Water Company
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
TCP	1,2,3-Trichloropropane
TM	Technical Memorandum
TT	Treatment Technique
TTHM	Total Trihalomethanes
US	United States
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
WMP	Water Master Plan
WSC	Water Systems Consulting, Inc.
WSCP	Water Shortage Contingency Plan
WTP	Water Treatment Plant

WATER MASTER PLAN

Executive Summary

San Antonio Water Company (SAWCo) is a private non-profit Mutual Water Company that owns and operates a small water distribution system in the unincorporated community of San Antonio Heights. SAWCo also provides non-potable water to various irrigation customers, including neighboring agencies. This Comprehensive System Water Master Plan and Asset Management Plan assesses the ability of the system to meet customer demands and identifies a list of improvements and anticipated costs to address condition and capacity deficiencies.

IN THIS SECTION

- Water Supply
- Booster Pump Stations
- Storage
- Distribution and Transmission Pipelines
- Recommended Improvements

Water Supply

SAWCo relies on local surface and groundwater supply sources through a diversion along the San Antonio Creek, groundwater infiltrated and conveyed through the San Antonio Tunnel, and from 11 groundwater wells within the Chino, Cucamonga, and Six Basins groundwater basins.

The domestic system is supplied by groundwater from the San Antonio Tunnel, by two wells within the Chino Basin, and one well within the Cucamonga Basin. Excess domestic water from the San Antonio Tunnel may be conveyed into the irrigation system to minimize water losses.

The irrigation system is supplied by surface water from the San Antonio Creek and by eight wells, five of which are located within the Cucamonga Basin and three within Six Basins.

The condition of groundwater wells was assessed based on well age, lost capacity, and efficiency. The evaluation only considers a few factors to help SAWCo prioritize wells that will need further investigation and planning for well rehabilitation efforts. Each well should include a thorough well and site investigation before any rehabilitation efforts or pump and motor replacements. SAWCo has prioritized redrilling Well 19 to increase reliability for the domestic system.

Booster Pump Stations

SAWCo maintains and operates six booster pump stations within the domestic system. All booster pump stations are adequately sized to meet maximum day capacity, except for BPS #18. However, although BPS #18 alone does not meet the required capacity, the southern portion of the pressure zone is fed directly from wells or can be supplied from another pressure zone. In addition, pump age and efficiency do not indicate any upgrades are required at this time.

SAWCo currently utilizes one booster pump station within the irrigation system. An additional booster pump station, BPS #9, is not currently used. It is recommended that additional analysis is completed to determine the feasibility of reinstating BPS #9.

Storage

SAWCo's domestic distribution system contains six storage reservoirs that provide a total capacity of 6.8 million gallons of operational, emergency, and fire flow storage. There is sufficient capacity within the existing system to meet storage needs for all pressure zones. The domestic system has a total storage surplus of 1.97 million gallons under current conditions.

SAWCo's domestic system is nearly built out, and any estimates of future development are likely to occur near the Holly Drive pressure zone, although development in this area is unlikely. Parcels identified as potential future development are estimated to add approximately 30 acre-foot per year demand, which would result in a 0.1 million-gallon storage deficit within the Holly

Drive pressure zone. SAWCo will continue to monitor development and address future storage needs, should they occur, through the development process.

It is recommended that all domestic storage reservoirs are inspected and cleaned using a professional dive team.

Distribution and Transmission Pipelines

SAWCo's water distribution system consists of approximately 50 miles of active distribution and transmission mains that range in size from 2-inch to 36-inch diameter. Approximately 28 miles compose the domestic system, and the remaining 22 miles serve the irrigation system.

The available fire flow and pipeline velocity was evaluated using the hydraulic model developed for this Water Master Plan. The majority of the system is sufficient to meet the required fire flow and not exceed the maximum velocity. Only one fire flow project is recommended to replace the existing 4-inch main with an 8-inch line at failure. Additionally, six fire hydrants are recommended for installation and construction of an additional pipeline within Hillcrest Drive to provide thorough coverage throughout the domestic system.

Pipeline condition was also evaluated based on pipe age and material. Approximately 1,200 feet of domestic mains and 12.5 miles of irrigation mains have exceeded its estimated end of useful life. Pipeline candidates for rehabilitation or replacement are identified and can be prioritized by SAWCo staff as needed. Additionally, many irrigation mains are identified for relocation from private yards to provide SAWCo better access to its assets.

Recommended Improvements

The total recommended projects to correct existing and anticipated future deficiencies cost approximately \$9 million. The projects are categorized based on improvement type and are prioritized for completion over the next 10 years or beyond in Section 10.0. Table ES-1 summarizes the recommended capital improvement projects and planning level cost estimates. Cost estimates include markups for construction contingency and project design.

Table ES-1. Recommended Capital Improvement Projects

PROJECT	ESTIMATED COST	SECTION REFERENCE
REZONING	\$56,300	
RZ-1: Expanded Holly Drive Zone Feasibility Study	\$56,300	Section 7.1
FIRE FLOW	\$233,000	
FF-1: Ponte Vecchino Ct Pipeline	\$110,100	Section 6.2
FF-2: Hillcrest Drive Pipeline	\$39,600	Section 6.2
FF-3: Hydrant Installation	\$83,300	Section 6.2.2
REHABILITATION & REPLACEMENT	\$6,556,800	
R&R-1: Well 19	\$2,912,000	Section 4.1.1
R&R-2: Domestic Tank Inspections	\$61,800	Section 8.2
R&R-3: San Antonio Tunnel Inspection	\$524,200	Section 9.2
R&R-4: E 25 th St Main Replacement	\$110,200	Section 8.1
R&R-5: Belleview Rd Main Replacement	\$29,200	Section 8.1
R&R-6: Irrigation Wells 22, 24, 25A, and 27 Evaluation	\$110,000	Section 8.3.1
R&R-7: Main Box Surface Water Pipeline Replacement	\$2,426,900	Section 8.1
R&R-8: Benson Ave Irrigation Replacement	\$382,500	Section 8.1
OPERATION & MAINTENANCE	\$2,333,100	
O-1: Annual Domestic Pipeline Replacement	\$261,700	Section 7
O-2: Annual Irrigation Pipeline Replacement	\$174,700	Section 7
O-3: San Antonio Creek to Upland tee Irrigation Pipeline Evaluation	\$541,000	Section 7
O-4: Production Meter Upgrades/Replacement	\$436,000	Section 7
O-5: Backup Well Generators	\$687,500	Section 7
O-6: BPS #9 Analysis	\$62,500	Section 7.4.1
O-7: Irrigation Valves	\$69,700	Section 6.3.3

TOTAL ESTIMATED COST \$9,079,200

Note: Costs are provided in 2022 dollars. Total budget estimate for each project may span multiple years in the CIP.

WATER MASTER PLAN

1.0 Introduction

This Comprehensive System Water Master Plan and Asset Management Plan Update (Water Master Plan or WMP) guides SAWCo's planned capital project expenditures and asset management for its water system in an efficient and cost-effective manner. This section presents the main goals of the WMP and provides background information.

IN THIS SECTION

- Overview and Purpose
- Relation to Other Planning Documents
- Background Information

1.1. Overview and Purpose

The San Antonio Water Company (SAWCo) is a private non-profit Mutual Water Company formed in 1882 under the General Corporation Laws of the United States with the purpose to furnish, lease, or sell water for irrigation, milling, manufacturing and other purposes to the newly established Ontario irrigation colony. Land for the irrigation colony was sold primarily for the booming citrus industry at the time, and a share in SAWCo was also sold with every acre of land.

Each shareholder was entitled a portion of available local water, distributed equally by SAWCo amongst shareholders on a non-profit basis. Today, SAWCo exercises the same mission of providing beneficial water service to all shareholders based on established monthly entitlements and a total fixed number of shares: 6,389. SAWCo provides water to its shareholders within two separate systems: the domestic system that serves the unincorporated community of San Antonio Heights and the irrigation system, where SAWCo delivers raw water as a wholesaler to nearby agencies or for non-potable irrigation and industrial uses.

The primary purpose of this Comprehensive System Water Master Plan and Asset Management Plan, referred to as the Water Master Plan (WMP) Update throughout this report, is to evaluate both the domestic and irrigation systems and develop a comprehensive plan for water system improvements. The major project objectives include:

- Develop an accurate hydraulic model of the domestic and irrigation distribution systems.
- Identify existing and future system capacity deficiencies to meet current and projected water demands.
- Evaluate asset existing conditions to quantify and prioritize asset rehabilitation and replacement.
- Evaluate loss-risk of local supply sources and production facilities. Develop recommendations and potential water supply alternatives to reduce supply source risk.
- Develop a prioritized list of improvement projects, including anticipated costs, to address the system condition, deficiencies, assure reliability and capacity of the distribution system, and maintain an adequate annual capital expenditure budget.

1.2. Relation to Other Planning Documents

The purpose of a WMP is to identify improvements of the water distribution system necessary to meet existing and projected demands, and to develop a water facilities improvement program that will assist SAWCo in long-term planning and budgeting. Other documents were referenced during the preparation of the WMP, and this plan is likely to be relied upon when other planning documents are updated.

The following is a summary of other documents that are considered for SAWCo's water system planning and budgeting:

2015 and 2020 Urban Water Management Plans. The 2015 and 2020 Urban Water Management Plans (UWMPs) assess SAWCo's current and long-term sources of supply and complies with California State Department of Water Resources (DWR) criteria for water supply planning. The

UWMP and the WMP are complementary documents, with the UWMP focusing on source of supply and the WMP focusing on storage and distribution of the water.

2017 Water Master Plan. SAWCo's most recent WMP was completed in 2017 and was prepared by Civiltec Engineering, Inc. The 2017 WMP focused on the domestic distribution system and presents a capital improvement program with annual asset replacement costs, specific pipeline replacement projects, and recommendations for specific future developments.

2017 Water Rate and Fee Study. SAWCo's most recent Rate Study was completed in 2017 by Carollo Engineers and includes rate updates for water to accurately recover costs of providing service to the shareholders and stabilize revenue. This WMP analyses the current rates and expected annual revenues to develop an appropriate annual capital improvement budget.

1.3. Background Information

1.3.1. Location

SAWCo's Bylaws specify the service area is made up of a Basic Area and an Extended Area. The Basic Area generally coincides with the unincorporated community of San Antonio Heights located north of the City of Upland in San Bernardino County, shown in Figure 1-1. The Basic Area is bounded on the south by the City of Upland, on the north by the San Bernardino Mountains, on the west by the Los Angeles County Line and on the east by Cucamonga Creek. SAWCo provides retail service to all end users who reside in the Basic Area. The distribution system within the Basic Area is referred to as the Domestic System throughout this master plan.

The Extended Area includes all areas outside of the Basic Area, and predominantly includes wholesale shareholders. There are however a limited number of retail customers in the Extended Area including the Upland Hills Golf course, the Red Hill Golf Course, Redhill Homeowners Association, two rock companies and several grove irrigators. The distribution system in the Extended Area is referred to as the Irrigation System throughout this master plan.

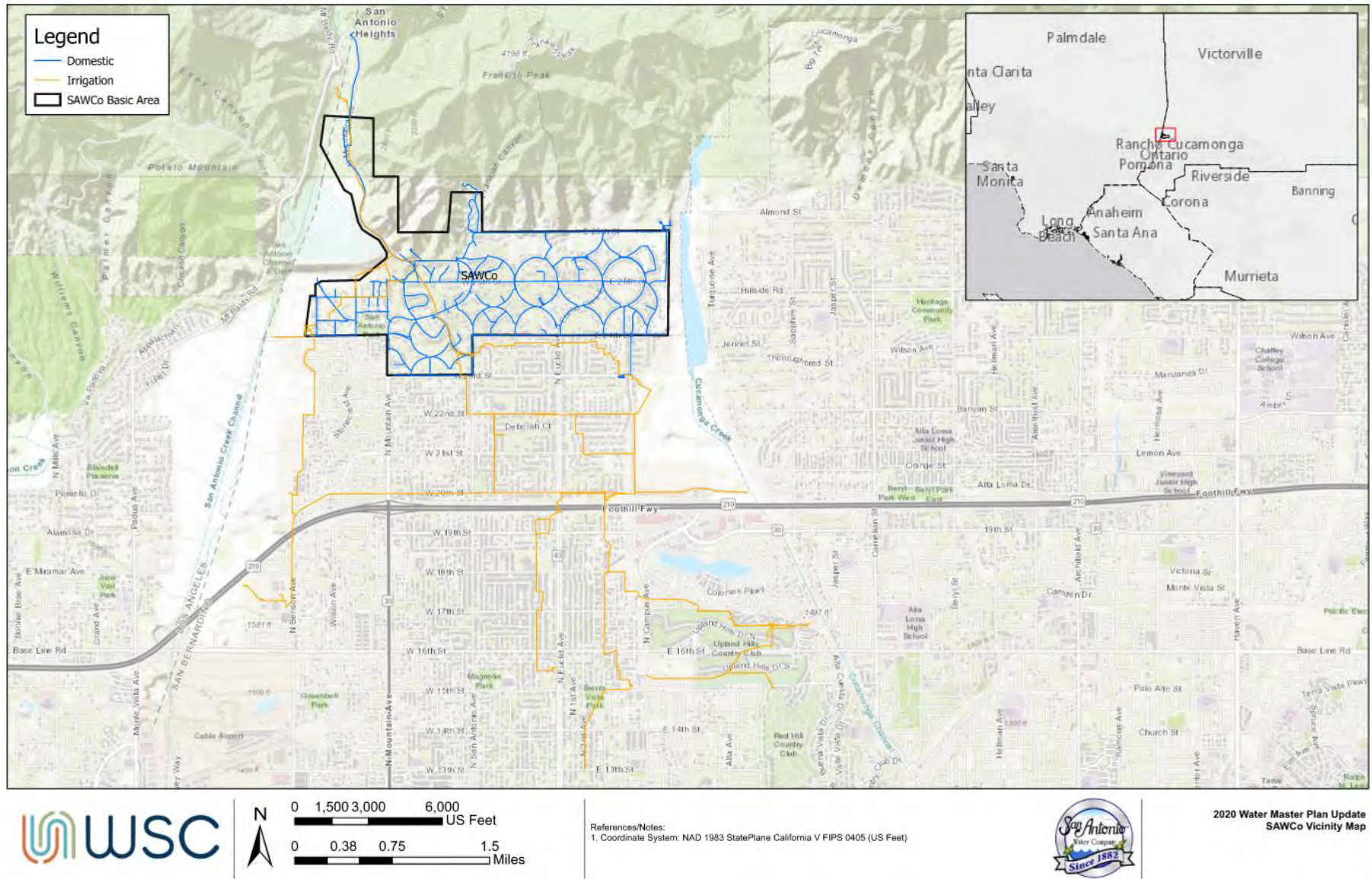


Figure 1-1. SAWCo Vicinity Map

1.3.2. Climate

SAWCo's service area is a semi-arid, Mediterranean environment with mild winters, warm summers, and moderate rainfall. Average monthly temperature ranges from 52 to 77 degrees Fahrenheit (°F), with an average annual temperature of 63 °F. The average annual precipitation at the San Antonio Dam was 22.6 inches between 1957 through 2015.

1.3.3. Population

SAWCo's basic area closely follows the boundaries of the census designated place of San Antonio Heights, which had a population of 3,371 in 2010 per the US Census (Datausa.io, 2017). At the time of this WMP, SAWCo was also developing its 2020 Urban Water Management Plan (UWMP). As part of the UWMP, SAWCo utilized the Department of Water Resources (DWR) 2020 UWMP Population Tool to estimate 2020 population. It was estimated that in 2020, SAWCo served a population of 3,303 people within the Basic Area. This is a slight decline from the 2010 population. According to the Southern California Association of Governments (SCAG), the population is expected to grow slowly through 2040. San Antonio Heights is primarily residential.

SAWCo also provides water for irrigation, industrial, agricultural, and wholesale in the extended area. Land use and planning in the extended area is under the jurisdiction of numerous cities and San Bernardino County.

1.3.4. Distribution System

SAWCo's domestic water distribution system is comprised of three (3) active, vertical groundwater wells, six (6) booster stations, and six (6) storage reservoirs that provide up to 6.8 million gallons (MG) of total storage. The system is divided into three (3) pressure zones and is composed of roughly 28 miles of distribution mains serving approximately 1,200 connections, most residential with a few commercial and institutional accounts.

SAWCo's irrigation water distribution system is comprised of eight (8) wells, one (1) booster station, and three (3) storage reservoirs that provide up to 2.25 MG. The irrigation system is composed of roughly 22 miles of irrigation mains.

1.3.5. Water Sources

SAWCo currently receives all its water supply from local sources including the San Antonio Creek, groundwater from the San Antonio Tunnel, and three groundwater basins: Chino Basin, Cucamonga Basin, and Six Basin. Surface water from San Antonio Creek are pre-1914 water

rights, and annual water availability is influenced by rainfall. The San Antonio Tunnel is a deep rock tunnel 100 feet below ground surface that collects naturally percolated groundwater. The three groundwater basins are each adjudicated, and SAWCo's has water rights as defined by the various legal Judgements in place to protect and manage each basin. SAWCo also participates in groundwater recharge operations that enhance groundwater supply.

2.0 Existing System and Evaluation Criteria

This Section describes SAWCo’s water distribution systems and evaluation criteria. SAWCo owns and operates two distribution systems: the domestic system and the irrigation system. The domestic system serves potable water to residences in San Antonio Heights and the irrigation system delivers raw water to customers and nearby agencies. The two systems operate independently of each other.

IN THIS SECTION

- System Components
- System Evaluation Criteria

2.1 System Components

SAWCo's potable water system includes four (4) pressure zones, three (3) active wells, six (6) booster pump stations (BPS), six (6) storage reservoirs, and approximately 28 miles of distribution mains. SAWCo's irrigation system includes eight (8) active wells, one (1) BPS, three (3) storage reservoirs, and about 22 miles of irrigation mains. Table 2-1 summarizes the domestic distribution system by zone and Table 2-2 summarizes the irrigation system. A map of the entire SAWCo system is provided in Figure 2-1.

Table 2-1. Domestic System Summary

Distribution Zone	HGL (ft)	Supply		Gravity Storage	
		Source	Booster Station	Reservoir	Capacity (MG)
Holly Drive	2,675	---	Booster #19	Holly Tank A Holly Tank B ¹	0.12 0.12
High Zone	2,400	San Antonio Tunnel	Booster #14 Booster #16 ³ Booster #20 ³	Reservoir 5 Reservoir 6	0.1 1.0
Low Zone	2,207	Well 15 Well 16 Well 32 ²	Booster #18	Reservoir 7 Reservoir 12	0.5 5.0
Canyon	2,714	High Zone	Booster #17	---	---

Notes:

¹To be constructed in 2023.

²Well 32 may discharge directly into the Low Zone or pumped into Reservoir 12.

³Pump from the Low Zone to Reservoirs 5 and 6 for gravity storage.

Table 2-2. Irrigation System Summary

Distribution Zone	Supply		Gravity Storage	
	From	Booster Station	Reservoir	Capacity (MG)
Irrigation System	San Antonio Creek			
	Well 2			
	Well 3			
	Well 22		Reservoir 1	1.0
	Well 24	Booster #1	Reservoir 4	0.75
	Well 25A		Reservoir 9	0.5
	Well 26			
	Well 27			
	Well 31			

SAWCo serves water over a range of elevations from 1,360 feet to 2,520 feet above MSL. SAWCo uses BPSs to increase and maintain pressure as needed throughout the system. A hydraulic profile of the domestic distribution system is shown in Figure 2-2 and the irrigation distribution system in Figure 2-3.

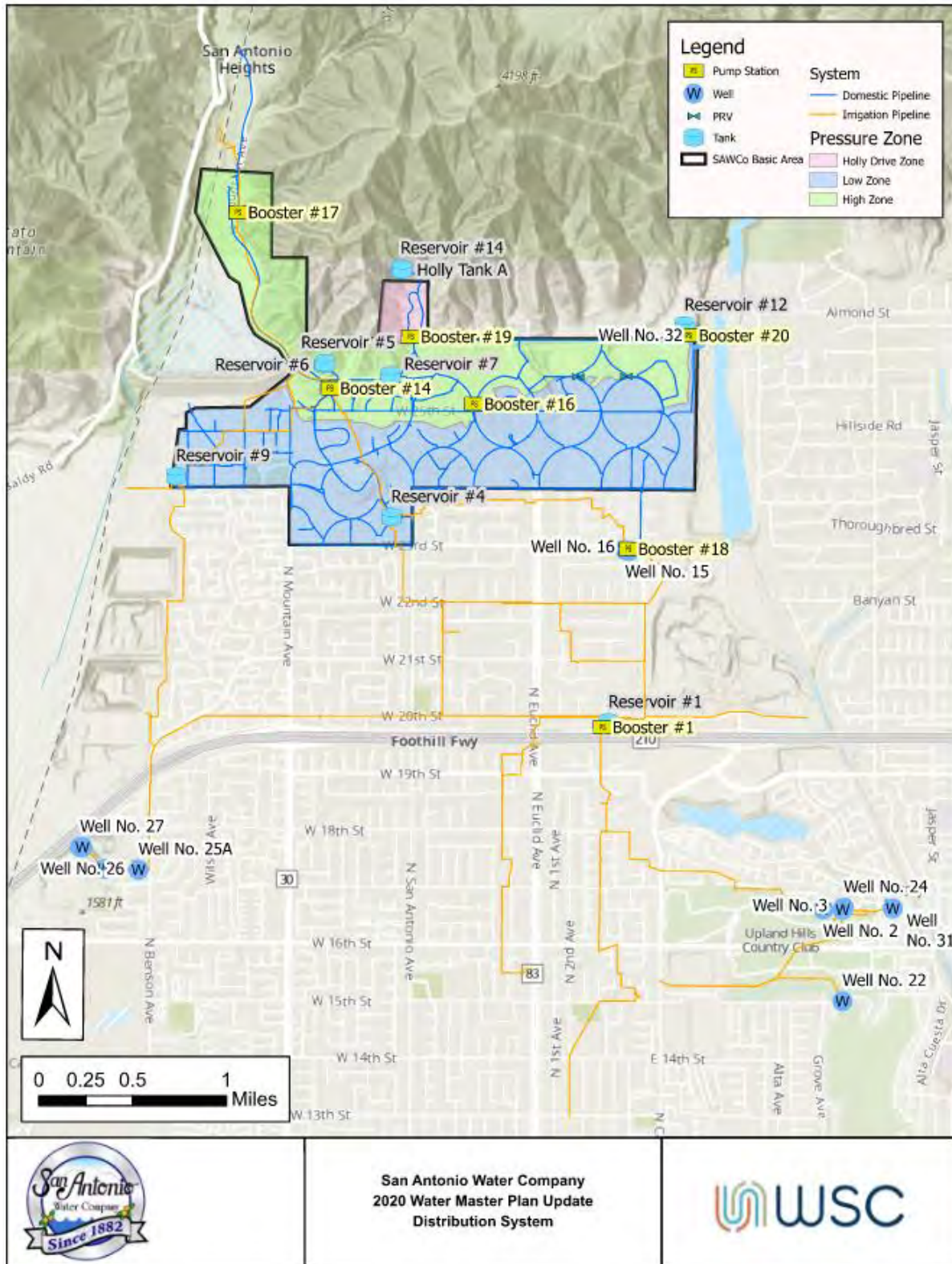


Figure 2-1. Distribution System

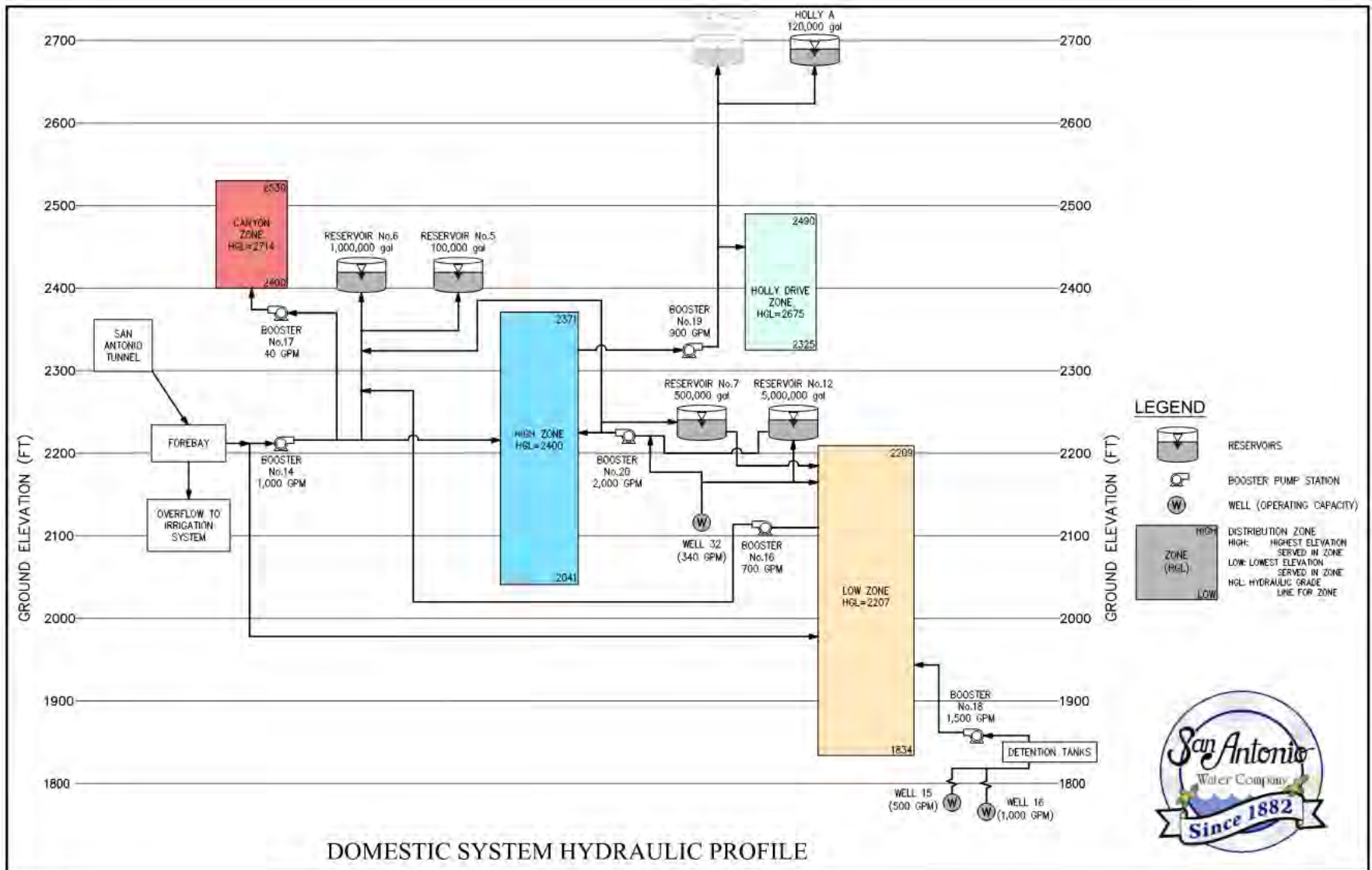


Figure 2-2. Domestic System Hydraulic Profile

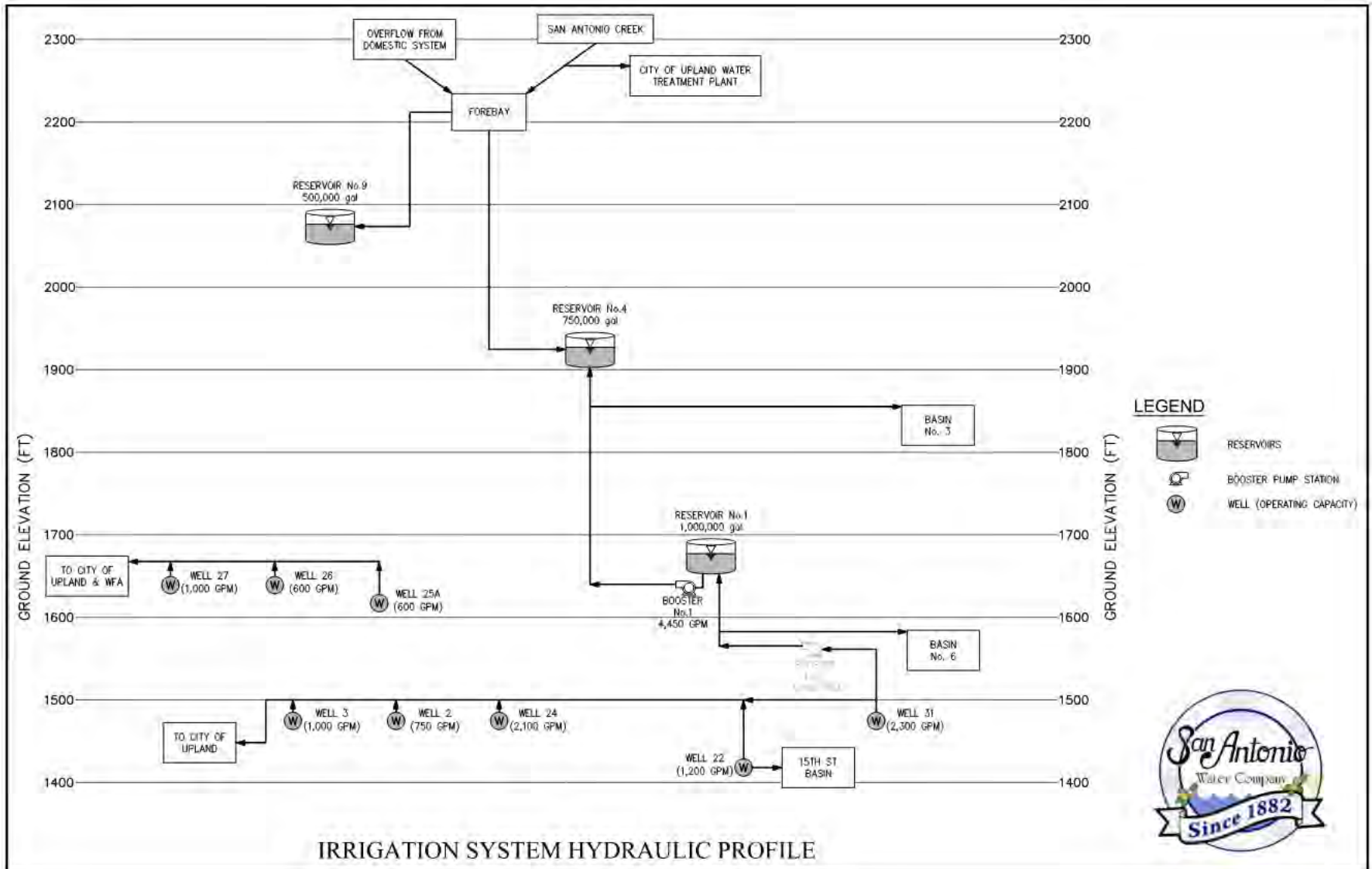


Figure 2-3. Irrigation System Hydraulic Profile

Each distribution zone's supply sources and associated facilities are described below:

Holly Zone: The Holly Zone begins at Holly Drive and 26th Street. The Holly Zone is served by a 0.12 MG reservoir constructed in late 2021. SAWCo plans to construct one more 0.12 MG reservoir in 2023. Booster #19 pumps water from the High Zone into the Holly Drive Zone and reservoirs. The Holly Zone has been identified as an area for potential development.

High Zone: The High Zone is supplied by three boosters, #14, #16 and #20. Booster #14, pumps San Antonio Tunnel water from the Forebay into the High Zone while both Booster #16 and Booster #20 pump from the Low Zone into Reservoir 5 for gravity storage. The High Zone contains two pressure reducing valve (PRV) stations that reduce pressures from the High Zone to serve the Low Zone. The PRV stations are located on Prospect Ave/Vista Drive and Cliff Road/Euclid Crescent East. The PRV at Cliff Road and Euclid Crescent East serve an isolated area: Thunder Mountain Road, Cypress Drive, and portions of Euclid Crescent East and Cliff Road. The High Zone also supplies the Canyon Zone through Booster #17.

Low Zone: The Low Zone is the largest zone within SAWCo's system. It is located at the southern part of the distribution system. The Low Zone is supplied by the San Antonio Tunnel by gravity, and Wells 15 and Well 16 supplement supply when demands are greater than Tunnel supply. Booster #18 pumps chlorinated water from Wells 15 and 16 into the Low Zone directly into the distribution system or into storage within Reservoirs 7 or 12. Well 32 is directly connected to the Low Zone and can pump chlorinated water into the Low Zone as well.

Canyon Zone: The Canyon Zone is supplied from the High Zone through Booster #17, which includes two 5 horsepower (HP) boosters that supply a small pressurized captive system to two residential services and the United States Forestry Station.

Irrigation System: The irrigation system is supplied by Wells 2, 3, 22, 24, 25A, 26, 27, and 31. Well 22 is used primarily to serve the (Redhill Country Club and can be used to serve the) City of Upland. The irrigation system contains three storage reservoirs: 1, 4, and 9. Booster #1 can be used to offset water deliveries due to system demand or flow issues. The irrigation system also contains one out of operation BPS (Booster #9).

2.1.1 Existing Supply Sources

SAWCo relies entirely on local surface water and groundwater supply sources through a diversion along the San Antonio Creek, groundwater infiltrated and conveyed through the San Antonio Tunnel, and 11 groundwater wells within three groundwater basin areas: the Six Basins, Cucamonga Basin, and Chino Basin. This section describes SAWCo's existing supplies and water rights.

SAWCo's surface water rights from the San Antonio Creek are pre-1914 water rights and have been supported by Court Judgements per a confidential report entitled "Opinion Re Water Rights of San Antonio Water Company," dated June 1993, prepared by the law firm of Lagerlof, Senecal, Drescher & Swift (Senecal Report). Water is diverted along the creek and apportioned to both SAWCo and the City of Pomona Utility Service Department (Pomona). SAWCo has rights to all the diverted water up to flows above 21.5 Miner's Inches (approximately 200 gpm), and then the diversion is split 60 percent to SAWCo and 40 percent to Pomona. During high flows, Pomona's allocations caps at 312 Miner's Inches (2,915 gpm) and additional flows are allocated to SAWCo up to its maximum allocation. SAWCo diverts some of its surface water to spreading grounds north of the San Antonio Tunnel, where it percolates into the tunnel and is conveyed to the distribution system. Surface water downstream of the spreading grounds is provided to the City of Upland where it is treated at their San Antonio Water Treatment Plant before entering the City's distribution system or delivered directly to minor irrigators, aggregate companies, golf courses, or used for ground water recharge.

The San Antonio Tunnel is a deep rock 6-foot by 6-foot rectangular tunnel located 100 feet below ground surface and is supported by redwood beans and solid rock. SAWCo has rights to all the water in the tunnel, which is limited by the available supply and physical capacity of the tunnel. Groundwater naturally percolates into the tunnel. Supply from the tunnel flow can vary greatly year to year depending on annual rain and snow.

The SAWCo service area overlaps the convergence of the Six Basins, Cucamonga Basin, and Chino Basin, shown in Figure 2-4. The Six Basins is bounded by the San Jose Hills to the south, Chino Basin to the east, the San Gabriel Mountains to the north, and the San Gabriel Basin to the west. It comprised of six adjacent groundwater basins including the Four Basins (Pomona Basin, Canyon Basin, Upper Claremont Heights Basin, and Lower Claremont Heights Basin) and the Two Basins (Ganesha Basin and Live Oak Basin). SAWCo's groundwater wells overly the Upper Claremont Heights Basins and SAWCo owns the right to produce 7.166-percent of the operating safe yield (OSY) of the Four Basins set forth in the Six Basins Judgment (Six Basins Judgment, 1998). The OSY is determined annually by the Six Basins Watermaster and tracks the annual water rights accounting for each user, which includes the annual rights based on OSY, any carryover water from the previous year, and the storage balance.

The Cucamonga Basin is bounded by the Chino Basin to the south and east, the Red Hill Fault to the west, and by the San Gabriel Mountains to the north. In 1958 a stipulated Cucamonga Basin Judgment specified water rights for individual groundwater producers, how much can be exported to non-overlying areas, and specific requirements for spreading (Cucamonga Basin Judgment, 1958). There is currently no annual report prepared to document the implementation of the Judgment or accounting of the basin. The Judgment stipulates SAWCo's water production right is 6,500 AFY if they spread 2,000 AFY of imported water from the San Antonio Canyon. If the annual spreading is less than 2,000 AFY, the water rights also diminish to a

minimum amount of 4,500 AFY. However, if the spreading exceeds 2,000 AFY, SAWCo can credit 95% of the excess up to a maximum of 8,500 AFY production.

The Chino Basin is one of the largest groundwater basins in Southern California. The basin contains approximately 5,000,000 acre-feet (AF) of water and has an unused storage capacity of approximately 1,000,000 AF. The Chino Basin consists of approximately 235 square miles of the upper Santa Ana River watershed and lies within portions of San Bernardino County, Riverside County, and Los Angeles County. SAWCo overlies a small portion of the basin in its northwest region. The groundwater pumping and storage rights in the Chino Basin were adjudicated pursuant to the Original Judgment in Chino Basin Municipal Water District vs. City of Chino et al (Judgment) in 1978. The Judgment also established the Chino Basin Watermaster to administer and enforce the provisions of the 1978 Judgment. The 1978 Judgement allocates water based on the OSY of the basin to three separate pools: the Overlying Agricultural Pool, Overlying Non-Agricultural pool, and the Appropriative Pool. SAWCo belongs to the Appropriative Pool and has a right to 2.748-percent of the total appropriate rights in the Chino Basin. The OSY of the basin was updated in 2020 and is currently 131,000 AFY. Based on the current OSY, SAWCo's appropriative right in the Chino Basin is 1,232 AFY.

Table 2-3 below summarizes SAWCo's existing supplies and water rights.

Table 2-3. SAWCo's Water Supply and Rights

Supply Source	Water Rights (AFY)
San Antonio Creek	Up to 13,864 ¹
San Antonio Tunnel	2,500 ²
Six Basins	932.1 ³
Cucamonga Basin	5,996 ⁴
Chino Basin	1,232 ⁵

Notes:

¹ Based on the maximum diversion allowed year-round per the confidential Senecal Report. Actual right to divert water is limited based on total stream flow and is on average 4,300 AFY.

² Average supply, the water rights in the San Antonio Tunnel are not limited.

³ Water rights determined annually by the Six Basins Watermaster based on OSY, carryover, and storage balance. Value listed is as of January 1, 2020.

⁴ Minimum right to 4,500 AFY. Production can increase if water is spread in the basin from San Antonio Canyon to a maximum amount of 8,500 AFY.

⁵ Based on the 2020 OSY.

SAWCo operates 11 vertical wells within the local groundwater basins that supply the distribution systems. Three wells (Well 15, Well 16, and Well 32) feed the domestic distribution system and meet all drinking water quality requirements. The additional eight wells serve the irrigation distribution system. SAWCo uses the groundwater wells to supplement flows from the San Antonio Creek and Tunnel to meet system demands. Table 2-4 summarizes the active production wells, and their location in each groundwater basin is shown in Figure 2-4.

In addition to the supply sources listed above, SAWCo has two existing interties with the City of Upland that can be used to feed the Low Zone if needed. Each intertie is supplied from a metered 6-inch main and has a rated capacity to provide 500 gpm.

Table 2-4. Active Production Well Summary

Well	Water System	Ground-water Basin	Year Drilled	Motor Size (HP)	Design Production Capacity (gpm)	Observed Production Capacity (gpm)	Date Measured
Well 15	Domestic	Chino	1924	100	500	401	02/08/2018
Well 16	Domestic	Chino	1988	200	1,000	989	01/25/2018
Well 32	Domestic	Cucamonga	1987	60	340	287	04/11/2018
Well 2	Irrigation	Cucamonga	1924	150	750	801	08/08/2019
Well 3	Irrigation	Cucamonga	1924	150	1,000	1,164	02/01/2018
Well 22	Irrigation	Cucamonga	1931	200	1,200	1,890	02/08/2018
Well 24	Irrigation	Cucamonga	1947	350	2,100	2,627	08/08/2019
Well 25A	Irrigation	Six Basins	1958	125	600	301	09/22/2016
Well 26	Irrigation	Six Basins	1956	150	600	366	08/29/2019
Well 27	Irrigation	Six Basins	2001	150	1,000	515	08/08/2019
Well 31	Irrigation	Cucamonga	1957	360	2,300	1,887	02/01/2018
Total					11,390	11,228	

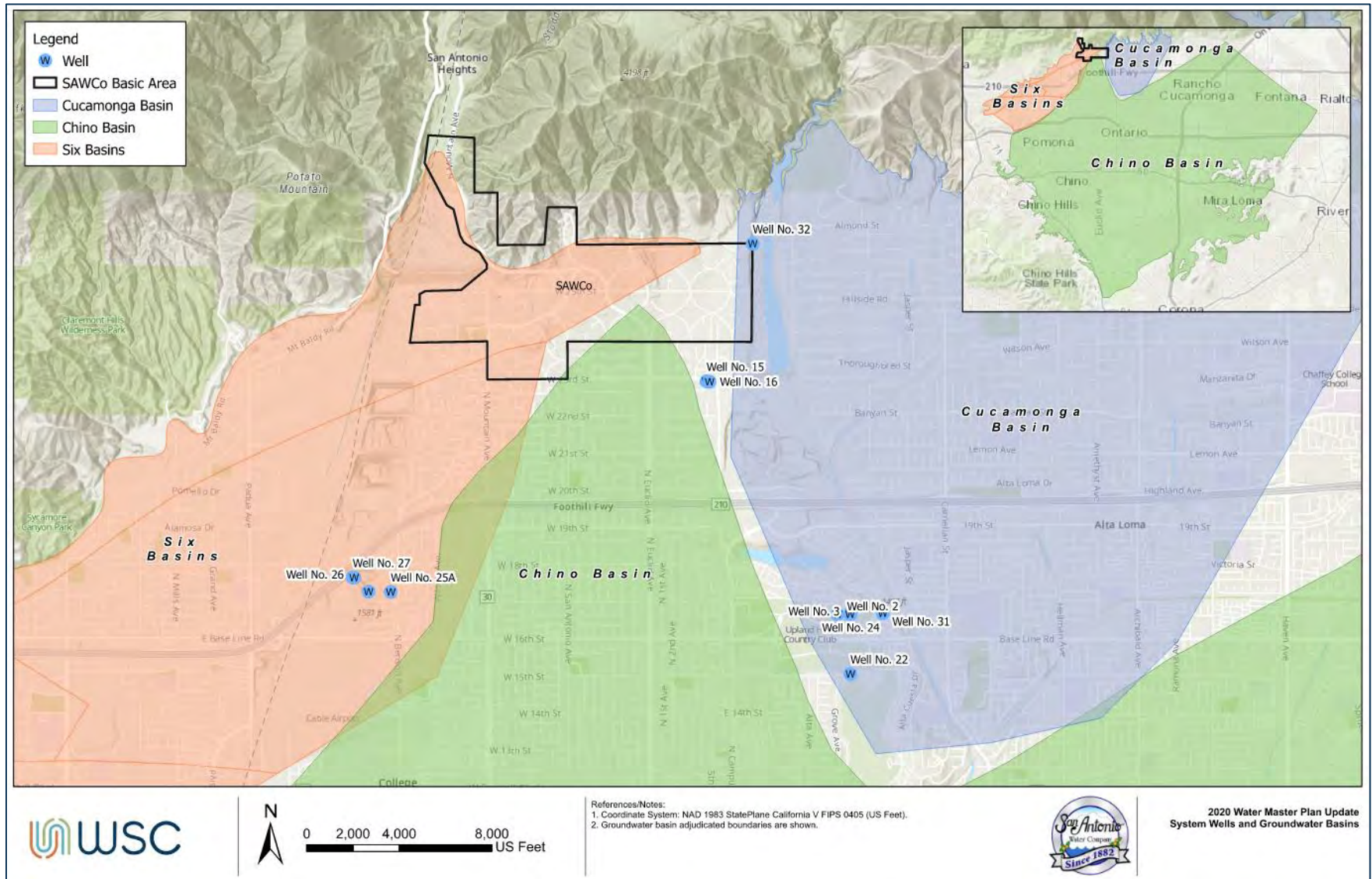


Figure 2-4. SAWCo Wells and Groundwater Basins

2.1.2 Booster Pump Stations

SAWCo maintains and operates six (6) BPSs within the domestic water distribution system, summarized in Table 2-5. Each pump station contains one or two pumps. SAWCo also owns two (2) BPSs within the irrigation system and described in Table 2-6. Figure 2-5 shows the location of the BPSs.

Table 2-5. Domestic System Booster Pump Station Summary

Booster Pump Station	Year Built	Pump	Pump Make and Model	Design Capacity	Design Total Head	Motor Size (HP)	Zone Pumping From/To
Booster #14 Forebay	2013	Booster 1	Peerless Vertical – 10MA	500 gpm	300 ft	50	Tunnel Water/ High Zone
		Booster 2		500 gpm	300 ft	50	
Booster #16 Euclid	2000	Booster 1	Armstrong 10-L-30	350 gpm	216 ft	25	Low Zone/ High Zone
		Booster 2		350 gpm	216 ft	25	
Booster #17 V-Screen	1950	Booster 1	Goulds e-SV 10SV6FB30	53 gpm	135 ft	5	High Zone/ Canyon Boosted Area
		Booster 2		53 gpm	135 ft	5	
Booster #18 Station 18	2004	Booster 2	Unknown	1,500 gpm	989 ft	125	Well 15 and Well 16/ Low Zone
Booster #19 Holly Drive	1982	Booster 1	Fairbanks 10M.4	450 gpm	296 ft	41.5	High Zone/ Holly Drive Zone
		Booster 2		450 gpm	296 ft	41.5	
Booster #20 26 th Street	2007	Booster 1	Goulds Lineshaft 60 Hz 11CHC	1,000 gpm	235 ft	75	Reservoir #6, Well 32, and Low Zone/ High Zone
		Booster 2		1,000 gpm	235 ft	75	

Table 2-6. Irrigation System Booster Pump Station Summary

Booster Pump Station	Year Built	Pump	Design Capacity	Design Total Head	Motor Size (HP)
Booster #1 20 th Street	2007	Booster 1	2,225 gpm	275 ft	200
		Booster 2	2,225 gpm	275 ft	200
Booster #9 16 th Street ¹	1949	Booster 1	1,034 gpm	184 ft	60
		Booster 2	658 gpm	177 ft	50
		Booster 3	1,614 gpm	267 ft	150

¹ Booster #9 is currently inactive.

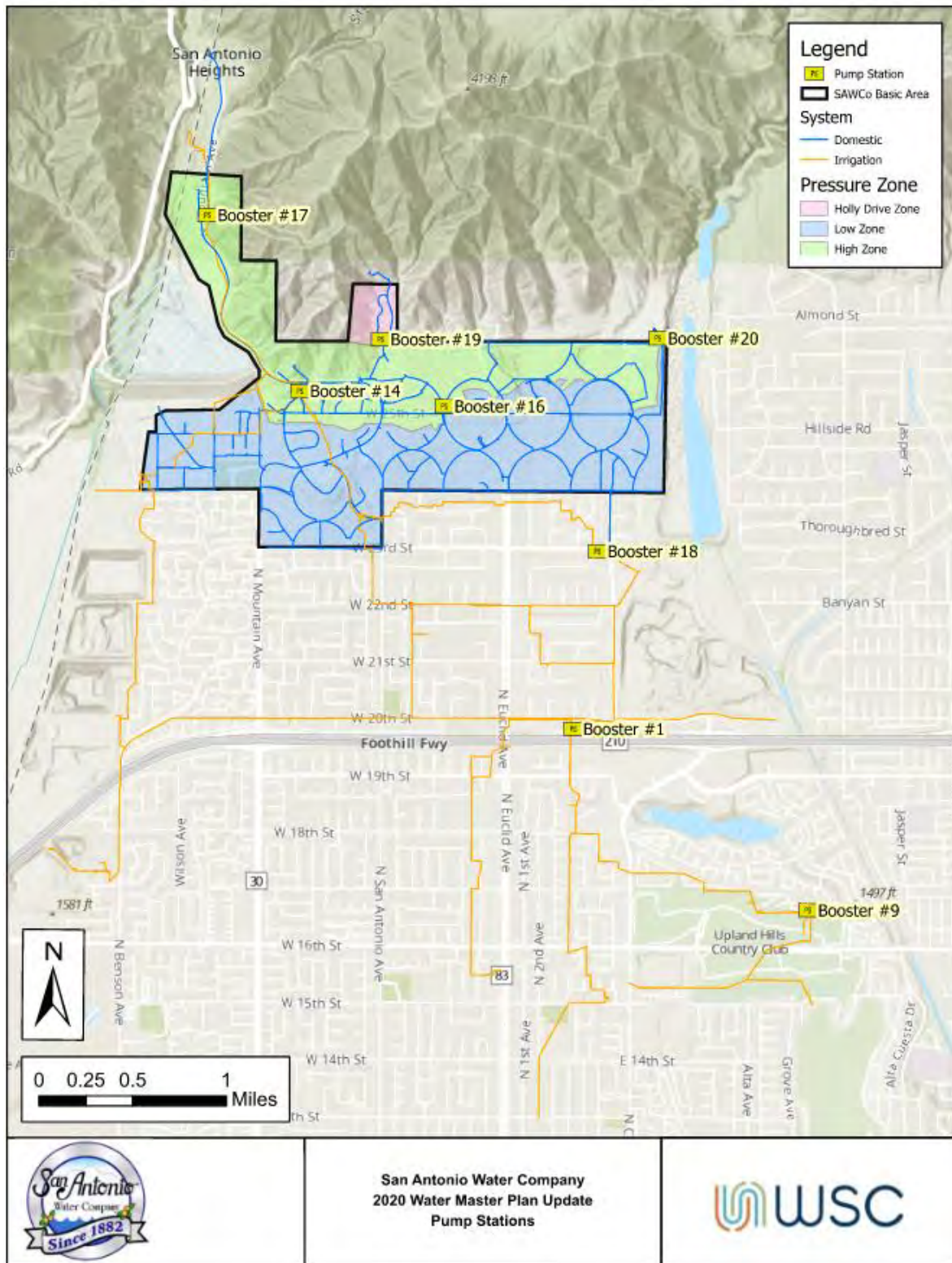


Figure 2-5. Booster Pump Stations

2.1.3 Storage

SAWCo's domestic system contains six (6) storage reservoirs that provide operational, emergency, and fire flow (FF) storage for the distribution system. The total storage capacity for the domestic system is 6.8 MG. SAWCo plans to construct an additional reservoir (Holly Drive B) in 2023. The total domestic system capacity includes the capacity of the Holly Drive B reservoir.

The irrigation system includes three (3) reservoirs for operational storage only, with a total storage capacity of 2.25 MG. Table 2-7 summarizes the storage reservoir characteristics and Figure 2-6 shows reservoir locations.

Table 2-7. Storage Reservoir Summary

SYSTEM	RESERVOIR NAME	YEAR BUILT	MATERIAL	GROUND ELEVATION (FT)	TANK DIAMETER (FT)	TANK HEIGHT (FT)	CAPACITY (MG)
DOMESTIC	Reservoir 5	2011	Steel	2,375	23	32	0.1
	Reservoir 6	1970	Steel	2,375	73	32	1
	Reservoir 7	1950	Concrete	2,206	75	15	0.5
	Reservoir 12	1983	Steel	2,171	163	32	5
	Holly Drive A	2021	Steel	2,667	40	10.5	0.12
	Holly Drive B	2023	Steel	2,667	40	10.5	0.12
TOTAL DOMESTIC SYSTEM CAPACITY¹							6.84
IRRIGATION	Reservoir 1 20 th Street	1930	Concrete	1,646	130	10	1
	Reservoir 4 23 rd Street	1951	Concrete	1,907	100	12	0.75
	Reservoir 9 Euclid Extension	1956	Concrete	2,041	73	16	0.5
TOTAL IRRIGATION SYSTEM CAPACITY							2.25

¹ Holly Drive B is planned to be constructed in 2023. Total Domestic System Capacity includes Holly Drive A and Holly Drive B.

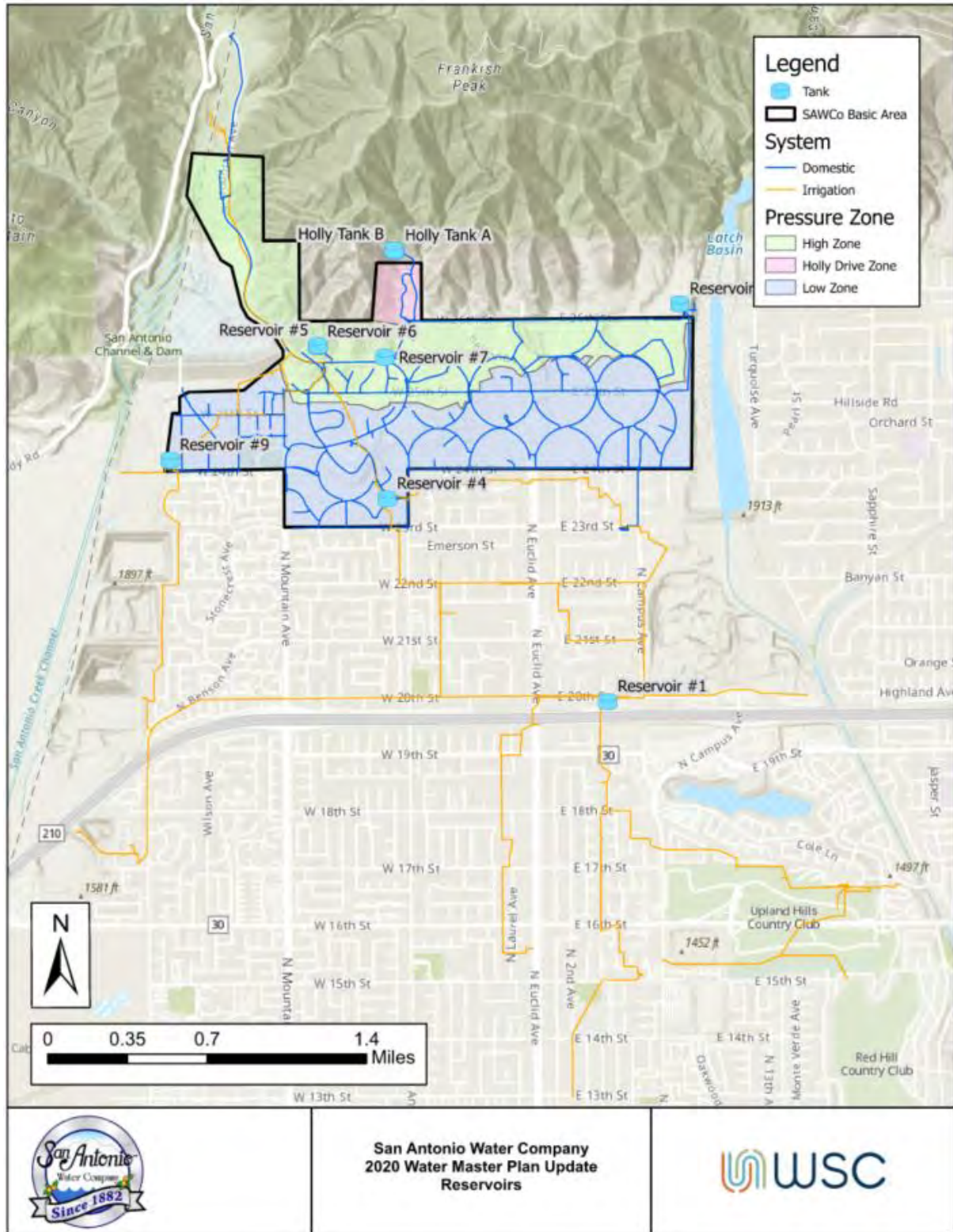


Figure 2-6. Reservoirs

2.1.4 Distribution and Transmission Mains

SAWCo's water distribution systems consist of approximately 50 miles of active distribution and transmission mains, which includes 28 miles in the domestic system and 22 miles in the irrigation system. Table 2-8 summarizes the length of pipe based on pipe diameter. Pipeline information was extracted from SAWCo's Geographical Information System (GIS) database, which includes the most up-to-date and accurate inventory of the SAWCo distribution system.

Table 2-8. Distribution and Transmission Main Summary

DIAMETER	DOMESTIC SYSTEM (FEET)	IRRIGATION SYSTEM (FEET)
2-inch	5,286	-
4-inch	13,516	570
6-inch	39,168	-
8-inch	28,720	11,271
10-inch	6,449	3,992
12-inch	43,265	9,393
14-inch	2,679	20,386
16-inch	1,680	36,467
18-inch	-	19,544
20-inch	-	6,203
22-inch	-	1,923
24-inch	1,523	7,893
30-inch	5,371	277
36-inch	1,580	84
TOTAL (FEET)	149,238	118,003
TOTAL (MILES)	28.3	22.3

2.1.5 Water Quality

SAWCo delivers high quality potable waters to its shareholders that meets all the Federal and State Drinking Water Standards. The irrigation system water is not subject to drinking water standards but is subject to salinity and nutrient water quality requirements set by the Santa Ana Regional Water Quality Control Board. Water utilities in California are required to provide an annual report to their customers that summarizes the water quality and explains important issues regarding their drinking water. Table 2-9 contains SAWCo's water quality reported in the 2021 Consumer Confidence Report (San Antonio Water Company, June 2022).

Table 2-9. 2021 Consumer Confidence Report

CONTAMINANT	UNIT	MAXIMUM CONTAMINANT LEVEL	AVERAGE DETECTED LEVEL
MICROBIAL			
Total Coliform Bacteria	% positive	0	0
Fecal Coliform & E. Coli	# positive	0	0
RADIONUCLIDE			
Gross Alpha Activity	pCi/L	15	2.75
Uranium	pCi/L	20	3.15
INORGANIC			
Fluoride	ppm	2	0.47
Lead	ppb	15	Non-Detect
Nitrate (NO ₃)	ppm	10	2.8
Vanadium	ppb	No Standard	1.65
ADDITIONAL PARAMETERS			
Bicarbonate	ppm CaCO ₃	No Standard	220
Calcium	ppm	No Standard	62.5
Chloride	ppb	500	8.75
Hardness (CaCO ₃)	ppm	No Standard	205
Magnesium	ppm	No Standard	11.45
Odor-Threshold	Units	No Standard	1.0
pH	Units	No Standard	7.75
Aggressive Index		No Standard	11.96
Iron	ppb	No Standard	0.13
Alkalinity	ppm	No Standard	185
Potassium	ppm	No Standard	1.15
Sodium	ppm	No Standard	10.95
Specific Conductance	microohms	1600	430
Sulfate	ppm	500	23.5
Total Dissolved Solids	ppm	1000	265
Turbidity	NTU	TT	0.495
Total Trihalomethanes (TTHM)	ppb	80	2.8
Halo acetic Acids five (HAA5)	ppb	60	1.1
Perchlorate	ppb	6	Non-Detect
1,2,3 TCP	ppb	0.005	Non-Detect

Units: ppm = parts per million, ppb = parts per billion

2.2 System Evaluation Criteria

This section presents the desired performance criteria for the water distribution system that will be used to analyze the system and generate recommendations for improvements.

Water system criteria were developed from California Waterworks Standards, SAWCo Standards and preferences, California Fire Code, and engineering judgment. The evaluation criteria for the water system have been organized into two categories: System Reliability (Table 2-10) and System Capacity (Table 2-11) and defined for the domestic distribution system and the irrigation distribution system. System reliability criteria is generally consistent between both distribution systems, but capacity criteria vary between the two systems because the domestic system includes capacity for fire flows, while the irrigation system does not.

Table 2-10. System Reliability Evaluation Criteria

PURPOSE	REGULATION OR REFERENCE	ENGINEERING AND PLANNING CRITERIA - DOMESTIC SYSTEM & IRRIGATION SYSTEM
Reliable Supply	California Waterworks Standards	Calculate reliable supply by determining system capacity with SAWCo's largest source out of service.
Source/ Production Capacity	California Waterworks Standards	System must be able to meet Maximum Day Demand (MDD) with source capacity only, considering the reliability requirements identified above. System must be able to meet four hours of Peak Hour Demand (PHD) with source capacity and storage capacity. Combined production capacity sufficient to refill emergency and fire storage in 48 hours with all sources operating.
Pump Station Capacity / Zone Reliability	California Waterworks Standards; Accepted Engineering Practices	If gravity storage is available, pump station capacity must be able to meet MDD within the zone with the largest pump out of service. If gravity storage is not available, pump station capacity must be able to meet MDD plus fire flow (FF) or PHD, whichever is greater, with the largest pump out of service.
Emergency Power	Recommended Standards for Water Works	Emergency power must be sufficient to meet system average day demands and preparedness for other emergencies.
Pump Efficiency	SAWCo Preference; Accepted Engineering Practices	If pump efficiency falls below 65%, it becomes a candidate for maintenance and/or replacement to increase efficiency.
Fire Hydrant spacing	Engineer's Judgment and SAWCo Preference	At intervals not more than 330 feet, with no hydrants at the end of cul-de-sacs. Dead-ends without a hydrant shall have a blow-off installed (Applies only to the domestic system).
Valving	Engineer's Judgment and SAWCo Preference	No shut down of greater than 10 services on domestic system. Irrigation system valving at all pipeline intersections and services.

Table 2-11. System Capacity Evaluation Criteria

PURPOSE	REGULATION OR REFERENCE	ENGINEERING AND PLANNING CRITERIA - DOMESTIC SYSTEM	ENGINEERING AND PLANNING CRITERIA - IRRIGATION SYSTEM
DISTRIBUTION SYSTEM			
System Pressure	California Waterworks Standards and SAWCo Preference	40 psi minimum and 120 psi maximum under normal conditions ⁽¹⁾ 150 psi during minimum hour demands 20 psi minimum residual at MDD plus FF	20 psi minimum and 120 psi maximum under normal conditions
Fire Flows	California Fire Code (Appendix B)	Residential – 1,500 gpm for two hours	N/A
Pipeline Velocities	Engineer's Judgment and SAWCo Preference	Less than or equal to 7 feet per second (fps) at MDD Less than 11 fps at FF plus MDD condition	Less than or equal to 7 feet per second (fps) at MDD
New Distribution Mains	Engineer's Judgment and SAWCo Preference	All new water mains must be 8-inch or greater	Size for new water mains will be based on system demands and velocity requirements
STORAGE			
Operational Storage	SAWCo Preference	30% of MDD for all zones with storage or 4 hours of PHD (whichever is larger)	30% of MDD
Fire Flow Storage	California Fire Code and County of San Bernardino Fire Prevention Office	Sufficient storage is required to meet fire flows	N/A
Emergency Storage	AWWA M19 Emergency Planning for Water Utilities and SAWCo Preference	24 hours at MDD	N/A

Notes:

Any service with pressure greater than 80 psi should have a shareholder owned pressure regulator after the meter.

3.0 Demand Projections

This section summarizes the historic, current, and projected water system demands. Based on the current system's population and projected growth rates, water demands are not anticipated to increase significantly through buildout, which is expected to occur in 2030.

IN THIS SECTION

- Current Demand
- Growth and Demand Projections
- Peak Demands

3.1 Current Demand

SAWCo provided metered water deliveries and production from 1991 through 2020 which were used to establish historical and current annual demand. Water consumption records include billed, metered water delivered to shareholders. Water production includes the total water measured entering the distribution systems from each supply source. Water demand is equal to the volume of water produced, which includes water consumption and non-revenue water (NRW). NRW includes water loss, either physically from leaking pipes, overflows at facilities, or as apparent losses resulting from meter inaccuracies. NRW varies significantly, and in some years, NRW was clearly influenced by meter inaccuracies. Domestic water, if not delivered to shareholders, is made available as additional supply to the irrigation system to avoid substantial water losses.

Figure 3-1 and Figure 3-2 illustrate the past demand within SAWCo's domestic and irrigation systems, respectively. The irrigation system demands include deliveries to customers and water SAWCo delivered to spreading basins for percolation.

Current demand was used as the baseline for future demand within SAWCo's system. Low demands in 2015-2016 are attributed to conservation during the most recent drought. Water use patterns in the domestic system have since recovered and are expected to remain flat in the future. In addition, majority of SAWCo's service area is built out with limited opportunity for growth. Anticipated growth is discussed later in this section.

Historically, irrigation demand has varied more than domestic demands. The variations in irrigation demand are likely dependent on the water year and amount of rainfall received within the region. Surface water deliveries to spreading basins are also highly dependent on rainfall and stream flows.

Over the last few years, SAWCo has focused on mitigating water losses. Based on historical data, it is clear that SAWCo experienced meter inaccuracies throughout the system. Investigation helped SAWCo locate areas where water losses occur. SAWCo identified substantial meter errors at a flow meter at the Basin 6 settling ponds. In early 2021, SAWCo fixed this meter, and since then, water losses have remained consistent. Based on data for January through April 2021, water losses have been recorded as 0.9% within the domestic system and 1% within the irrigation system. For future demand projections, the NRW is estimated as 1% of production.

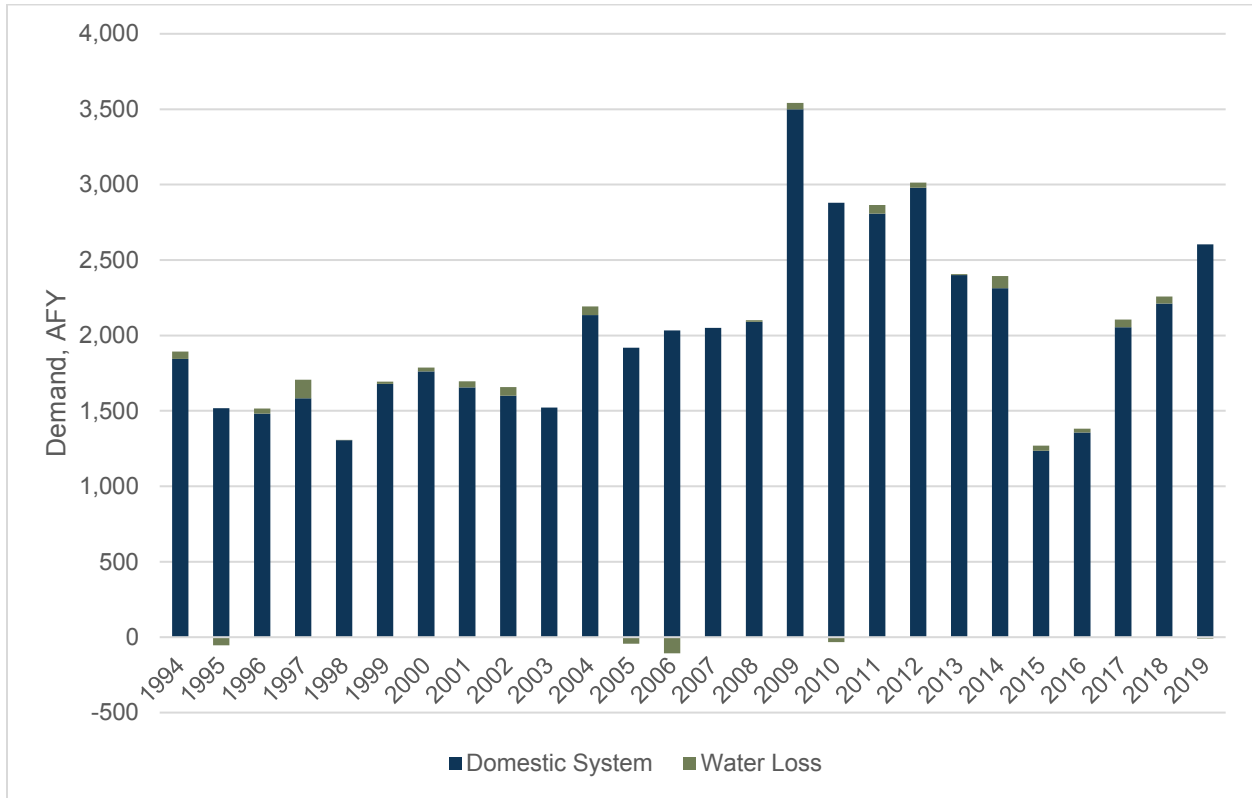


Figure 3-1. Historical Domestic System Demand

Negative values of water loss attributed to meter inaccuracies and have since been resolved.

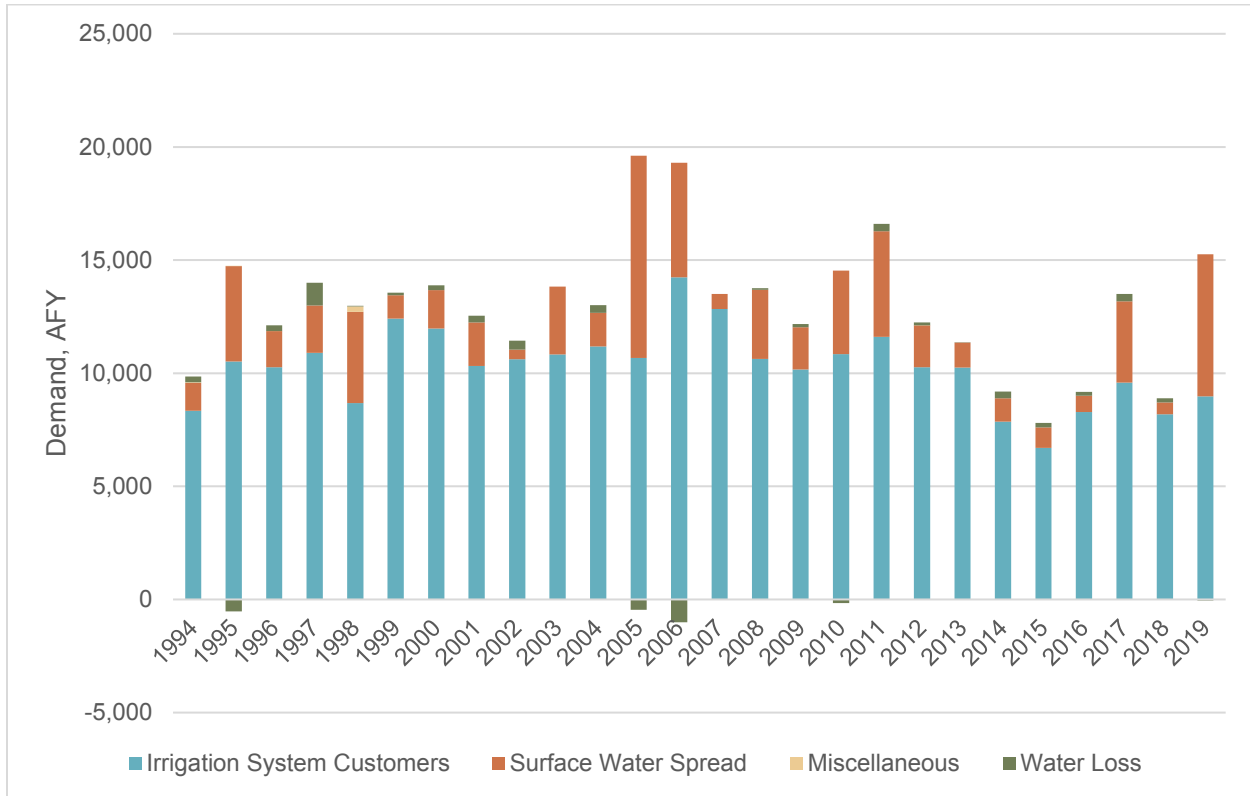


Figure 3-2. Historical Irrigation System Demand

Negative values of water loss attributed to meter inaccuracies and have since been resolved.

3.1.1 Assigning Demand to the Hydraulic Model

Spatially allocated demands were established based on historical annual water customer billing data for 2019 and production data from SAWCo’s records and GIS parcel data. The billing data provided also contained Assessor’s Parcel Numbers (APNs) for each customer and/or addresses which were used to identify the location of each demand. San Bernardino County parcel data was added as a shapefile and the centroid of each parcel was calculated using GIS tools and exported to Microsoft Excel. Using the APN field from SAWCo’s billing data, customer data was matched with San Bernardino County parcel data (parcel centroid x and y coordinates). With the customer consumption matched to parcel information, the domestic demands were loaded into the model using the Demand Allocation Manager with a closest pipe relationship. This relationship automatically identifies the closest pipe to each meter and distributes the meter’s demand to the junctions at either end of the pipe. The customer meter’s assigned junction was manually checked for errors, especially near zone boundaries, and corrected as needed.

Several irrigation customers receive deliveries at multiple locations. To determine the amount of demand at each location, SAWCo provided addresses for each meter. The addresses were matched to San Bernardino County parcel data to determine the APN and coordinates. Irrigation demands were also loaded using a closest pipe relationship. The customer meter's assigned junction was manually checked for errors, especially near zone boundaries, and corrected as needed.

Figure 3-3 shows the spatially allocated demands loaded in the hydraulic model.

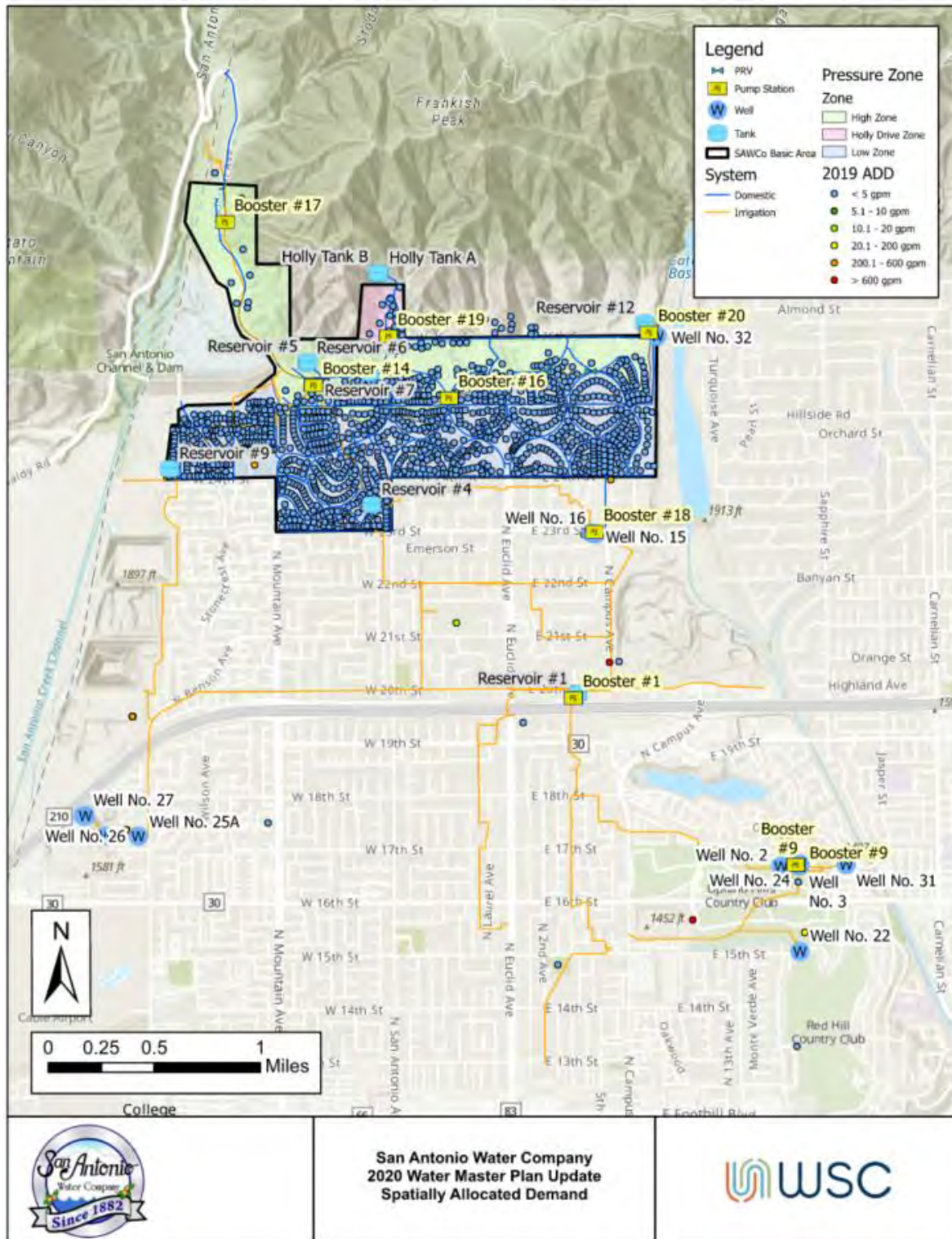


Figure 3-3. Spatially Allocated Demand within the Hydraulic Model

3.2 Growth and Demand Projections

Once current water demands were established and spatially allocated, additional growth and demands were assessed. SAWCo is expected to minimally increase in population and experience buildout by 2030. The majority of the San Antonio Heights is fully developed and any new developments are expected to occur along Holly Drive, in the San Antonio Heights area. These developments are anticipated to be single family residential and will require potable water.

To estimate future residential demand, the single-family residential water demand factor was calculated using 2019 consumption and parcel acreage. The parcels identified as future development within the Holly Drive Zone were developed in the 2017 WMP and are shown in Figure 3-4. No additional parcels for development have been identified since the 2017 WMP and are used in the WMP to estimate future demand.

The single-family residential demand factor was multiplied by the acreage of areas identified as possible development and added to the current demand to determine the total future demand for SAWCo's system. Table 3-1 presents the demand from future development and estimates that these new areas will add approximately 30 AFY of demand to SAWCo's domestic system. Future demands were added directly to the Holly Drive Zone within the model.

Table 3-1. Future Domestic Demand

AREA	ACRES	WATER DEMAND FACTOR (GPM/ACRE)	WATER DEMAND (GPM)	WATER DEMAND (AFY)
A ¹	33.8	1.036	17.53	10.9
B ¹	35.2	1.036	18.23	11.3
C	3.4	1.036	3.54	2.2
D	1.2	1.036	1.28	0.8
E	0.8	1.036	0.81	0.5
F	0.8	1.036	0.82	0.5
G ²	5.9	1.036	6.09	3.8
ADDITIONAL FUTURE DEMAND, AFY				29.9

Notes

¹If developed, parcel expected to be half developed. Half of total parcel acreage used to determine future demand.

²Half of area identified as future development is highly unlikely to be developed. Southern portion of Area G owned by San Bernardino County Flood Control. Dashed lines in Figure 3-4 delineate area owned by San Bernardino County Flood Control.

It is possible that SAWCo will experience a future decrease in irrigation demands. The Upland Hills Country Club has recently entered into agreement with the City of Upland to receive water, which will decrease deliveries from SAWCo. To remain conservative, this WMP assumes that SAWCo's irrigation demands will remain constant since the timing of irrigation conversion is unknown.

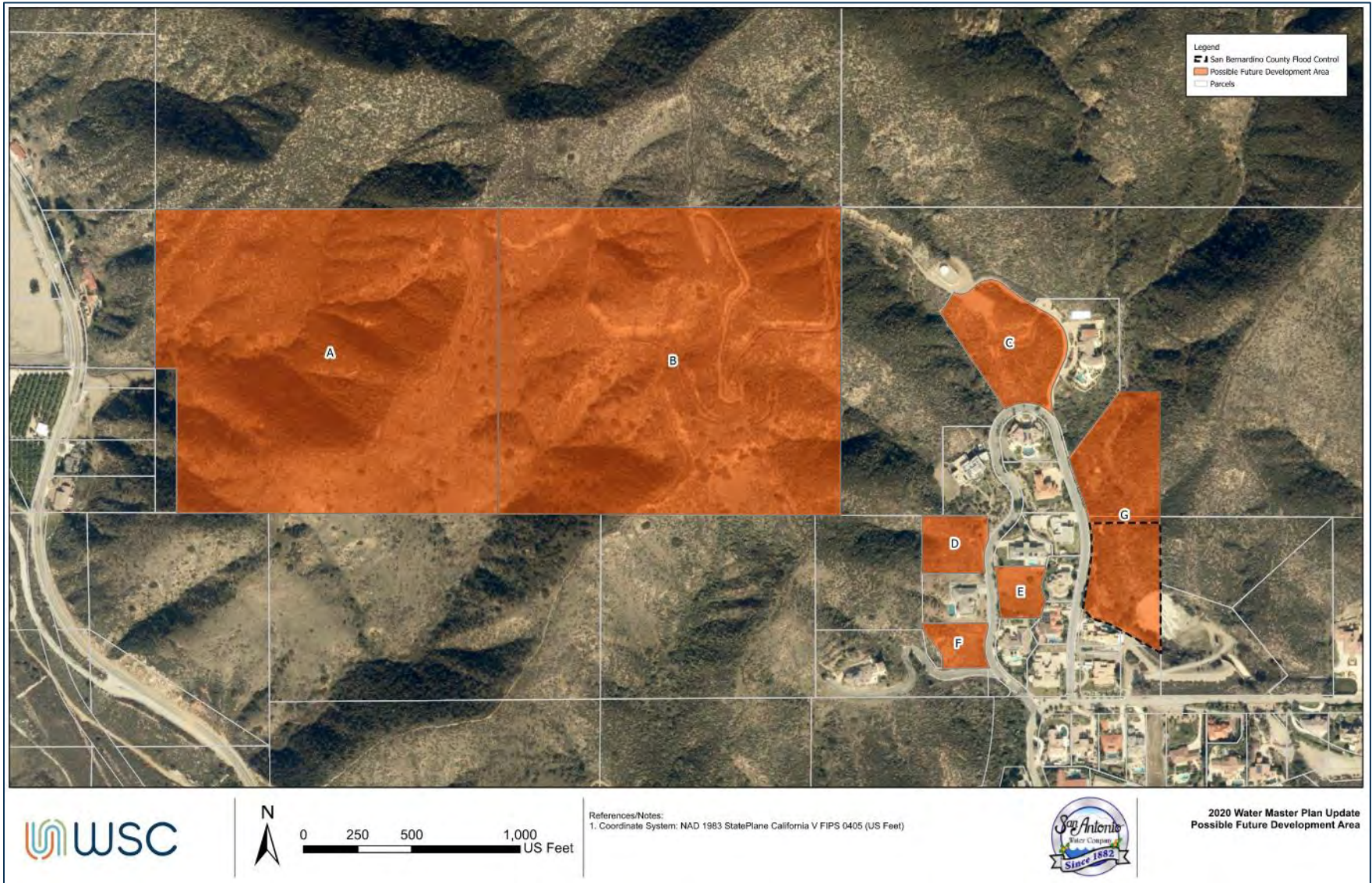


Figure 3-4. Possible Future Development

3.3 Peak Demands

Daily and hourly peak demand factors were developed to evaluate the system response under different demand conditions. The minimum and maximum day demands were determined by evaluating historic daily production data. Typically, the minimum day demand occurs in the cooler months from November through March, and the maximum day demand (MDD) occurs in June through August. Table 3-2 and Table 3-3 summarize the ADD, MDD, PHD, and the calculated peaking factors for the domestic and irrigation systems. SAWCo does not record hourly production data, so peaking factors were developed in accordance with the California Waterworks Standards. The MDD peaking factor is identified as 1.5 times the ADD and the Peak Hour Demand (PHD) factor is calculated as 1.5 times the MDD peaking factor. Based on the MDD peaking factor of 1.5, the PHD peaking factor calculates to 2.25 times the Average Day Demand (ADD). Minimum Day Demands (MinDD) were based on historical usage from 2017-2019 for the domestic system.

Table 3-2. Domestic Daily Demand Factors

DEMAND CONDITION	CURRENT (MGD)	BUILDOUT ¹ (MGD)	PEAKING FACTOR ²
Average Day Demand (ADD)	2.3	2.4	N/A
Maximum Day Demand (MDD)	3.5	3.6	1.5
Peak Hour Demand (PHD)	5.2	5.3	2.25
Minimum Day Demand (MinDD)	0.60	0.62	0.26

¹ Buildout is predicted to occur by 2030 with a projected population of 3,322 people.
² Peaking factors based on the California Waterworks Standards.

Table 3-3. Irrigation Daily Demand Factors

DEMAND CONDITION	CURRENT (MGD)	BUILDOUT ¹ (MGD)	PEAKING FACTOR ^{2, 3}
Average Day Demand (ADD)	8.1	8.1	N/A
Maximum Day Demand (MDD)	10.5	10.5	1.5
Peak Hour Demand (PHD)	14.2	14.2	2.25

¹ Irrigation demands are anticipated to remain the same or reduce over time. For conservative estimates, the irrigation demands are planned to remain constant.
² Peaking factors based on the California Waterworks Standards.
³ Peaking factors are applied to an ADD of 4.9 MGD. The remaining ADD of 3.2 MGD is provided to the City of Upland at Campus Ave. and 15th St. and remains constant in MDD and PHD conditions; therefore, the peaking factors were not applied to this portion of the irrigation demand. Details are provided in Section 5.

4.0 Production Analysis

Water is supplied to the various pressure zones through seven booster pump stations and stored within nine gravity reservoirs. This section evaluates the production capacity and storage volume against current and projected demands.

IN THIS SECTION

- Supply Production Analysis
- Booster Pump Station Analysis
- Storage Analysis

4.1 Supply Production Analysis

4.1.1 Domestic System

As previously described, SAWCo uses surface water and local groundwater sources to supply the domestic system that is conveyed through the San Antonio Tunnel and groundwater from three wells.

SAWCo’s supply reliability criteria are included in Section 2.0, Table 2-10. Table 4-1 summarizes the design and observed capacities by source and Table 4-2 provides the results of the domestic production analysis.

Table 4-1. Domestic Supply Sources Design, Observed, and Firm Capacity

SUPPLY SOURCE	ZONE SUPPLIED	TOTAL DESIGN CAPACITY (GPM) ¹	TOTAL OBSERVED CAPACITY (GPM) ²
Tunnel	Higher	Unlimited	1,350
Well 15	Lower	500	401
Well 16	Lower	1,000	989
Well 32	Lower Higher	340	287
Total		3,190+	3,027
Firm Capacity³		1,840	1,677

Notes:

¹ The total design capacity includes the capacity of all the supply sources. Total assumes 1,350 gpm from the tunnel (average tunnel production from 2000-2020).

² The observed capacity is from the most recent pump tests for each well and average yield from the tunnel. However, the tunnel supply can vary significantly.

³ The firm capacity is the total capacity with the largest supply source out of service.

Table 4-2. Domestic Supply Capacity vs. Demand

DESCRIPTION	SUPPLY CAPACITY (GPM)
Current Capacity (All Sources)	3,027
Current Firm Capacity	1,677
2019 ADD	1,602
2019 MDD	2,403
Buildout MDD	2,475
Supply Surplus/Deficit ¹	-726
SUPPLY MEETS DEMAND	NO

¹ Based on Existing Demand. Development within the domestic system is not certain to occur. SAWCo will monitor and address additional capacity needs should they occur.

To mitigate the supply deficit, SAWCo plans to construct a new well within the Cucamonga Basin. This well, known as Well 19, is estimated to provide approximately 1,490 gpm of additional supply to the domestic system, bringing the total firm capacity to 3,027 gpm. With this well in service, SAWCo should experience a supply surplus of approximately 624 gpm.

4.1.2 Irrigation System

The irrigation system is supplied from local groundwater sources through eight wells and by surface water from the San Antonio Creek and are summarized in Table 4-3. When the domestic system is at capacity, excess potable water from the Tunnel can be introduced by overflowing into the irrigation system at the Forebay (Booster #14).

Table 4-3. Irrigation Supply Sources Design, Observed, and Firm Capacity

SUPPLY SOURCE	TOTAL DESIGN CAPACITY (GPM) ¹	TOTAL OBSERVED CAPACITY (GPM) ²
Well 2	750	801
Well 3	1,000	1,164
Well 22	1,200	1,890
Well 24	2,100	2,627
Well 25A	600	301
Well 26	600	366
Well 27	1,000	515
Well 31	2,300	1,887
San Antonio Creek	Unlimited	2,738
Total	12,288+	12,289
Firm Capacity³	9,550	9,551

Notes:

¹ The total design capacity includes the capacity of all the supply sources. Total assumes 2,738 gpm from the San Antonio Creek (average creek production from 2000-2020).

² The observed capacity is from the most recent pump tests for each well and average yield from the tunnel. However, the creek supply can vary significantly.

³ The firm capacity is the total capacity with the largest supply source out of service.

Table 4-4. Irrigation Supply Capacity vs. Demand

DESCRIPTION	SUPPLY CAPACITY (GPM)
Current Capacity (All Sources)	12,289
Current Firm Capacity	9,551
2019 ADD	5,626
2019 MDD	7,319
Buildout MDD	7,319
Supply Surplus	2,232
SUPPLY MEETS DEMAND	YES

Based on the analysis conducted in Table 4-4, the irrigation system has sufficient production capacity to meet demands.

4.2 Booster Pump Station Analysis

An important supply requirement involves BPS capacity. If BPSs do not have adequate pumping capacity, issues supplying tanks and customers may arise. This section provides an analysis on existing and future booster pump station capacity.

4.2.1 Domestic Pump Stations

Criteria for evaluating BPSs is listed in Table 2-11 and include the capacity and emergency power requirements listed below:

- If gravity storage is available, pump station capacity must be able to meet MDD within the zone with the largest pump out of service.
- If gravity storage is not available, pump station capacity must be able to meet MDD plus FF or PHD, whichever is greater, with the largest pump out of service.
- Emergency power must be sufficient to meet system average day demands and preparedness for other emergencies.

SAWCo's domestic system contains gravity storage for all pressure zones; therefore, the domestic pump station analysis was based on the initial criteria pertaining to MDD with the largest pump out of service.

SAWCo is in the process of acquiring portable generators to ensure service in an emergency. SAWCo also contracts with a local contractor to provide emergency support such as debris clearing, emergency generators and repairs.

An evaluation of the BPSs within the domestic system is provided in Table 4-5 below.

Table 4-5. Domestic Booster Pump Station Analysis

Pump Station	Zone Served	Design Capacity (gpm)	Firm Capacity ¹ (gpm)	Zone Firm Capacity (gpm)	Current ADD (gpm)	Current MDD (gpm)	Required Capacity (gpm)	Surplus/Deficit Capacity (gpm)	Meets Supply Requirements
Booster #14 Forebay	High Zone	1,000	500						
Booster #16 Euclid	High Zone	700	350	1,850	153	228	228	1,622	YES
Booster #20 26 th Street	High Zone	2,000	1,000						
Booster #17 V-Screen	Canyon	106	53	53	2	4	4	49	YES
Booster #18 Station 18	Low Zone	1,500	0	0	1,437	2,156	2,156	-2,156	YES, although the BPS alone does not meet the required capacity, the southern portion of the Low Zone is fed directly by wells or is supplied from the High Zone.
Booster #19 Holly Drive	Holly Drive	900	450	450	10	16	16	434	YES
¹ Booster station firm capacity is based on the largest pump out of service.									

4.2.2 Irrigation Pump Stations

Similar to the domestic BPS analysis, the pump stations within the irrigation system were also analyzed. Currently, only one BPS serves the irrigation system. Majority of the irrigation system is supplied by wells or by surface water from the San Antonio Creek. Due to the magnitude of the irrigation system, it is not feasible nor realistic for the entire system to be supplied by the single pump station.

4.3 Storage Analysis

Storage capacity is important in water distribution systems to equalize fluctuations in hourly demands. Supply sources should be sized for peak hour demands (operational storage), provide water for firefighting (fire flow storage), and meet demands during an emergency, such as disruption of a major supply source (emergency storage). The storage criteria are listed in Section 2.0, Table 2-11, and include specific criteria for each of the three types of storage described.

Storage within the irrigation system is also analyzed. Irrigation water is not used for firefighting purposes, and therefore, is not evaluated in this analysis. Emergency storage is also not considered because in an emergency, it is highly likely that the domestic system would also be impaired and remain SAWCo's priority for restoration. It is anticipated that SAWCo's irrigation system will maintain the current level of demands or experience a reduction in demand in the future. Therefore, the irrigation system is evaluated based on current conditions only, as the most conservative approach.

4.3.1 Operational Storage

Operational storage is the volume of water needed to equalize supply and demand over the course of the day. Without operational storage, water supply facilities would need to be sized to meet instantaneous peak demands throughout the day. California Waterworks standards state a distribution system with 1,000 or more service connections shall be able to meet four hours of PHD with source capacity, storage capacity, and/or emergency source connections. As summarized in Table 2-11, SAWCo requires that operational storage meets 4 hours of PHD for each zone. Table 4-6 includes the operational storage requirements under current and buildout demands for the domestic system. Table 4-7 summarizes the current storage requirements for the irrigation system.

Table 4-6. Domestic Operational Storage Requirements

ZONE	CURRENT				BUILDOUT			
	ADD (GPM)	MDD (GPM)	PHD (GPM)	OPERATIONAL STORAGE (GALLONS)	ADD (GPM)	MDD (GPM)	PHD (GPM)	OPERATIONAL STORAGE (GALLONS)
Holly Drive Zone	10	16	23	5,638	58	87	132	31,718
High Zone	152	228	341	81,945	152	228	341	81,945
Low Zone	1,440	2,160	3,240	777,649	1,440	2,160	3,240	777,649
TOTAL	1,602	2,403	3,605	865,231	1,650	2,475	3,714	891,312

Operational storage is based on 4 hours of PHD only.

Table 4-7. Irrigation Operational Storage Requirements

ZONE	CURRENT			
	ADD (GPM)	MDD (GPM)	PHD (GPM)	OPERATIONAL STORAGE (GALLONS)
Irrigation	5,626	7,319	9,858	2,365,920

Operational storage is based on 4 hours of PHD.

4.3.2 Fire Flow Storage

The fire flow requirements are set by local fire officials and are determined by the California Building Code construction type and square footage of the fire area (California Fire Code). SAWCo’s fire flow requirements were set by the fire department based on development type and are outlined in Table 2-11. The fire flow must be met during MDD conditions, and the system must maintain a minimum residual pressure of 20 psi. When assessing the available fire flow in each zone, the tanks are modeled as half full and all supply sources are turned off. With the supply sources off, the storage reservoirs are required to hold the volume of water required for firefighting. Each distribution zone’s fire flow storage volume requirement is listed in Table 4-8.

Table 4-8. Domestic Fire Flow Storage Requirements

ZONE	FIRE FLOW REQUIREMENT (GPM)	HOURS	FIRE FLOW STORAGE (GALLONS)
Holly Drive Zone	1,500	2	180,000
High Zone	1,500	2	180,000
Low Zone	1,500	2	180,000
TOTAL STORAGE REQUIRED			540,000

4.3.3 Emergency Storage

According to the American Water Works Association (AWWA) Manual M19 Emergency Planning for Water Utilities, emergency storage is water that is available for use by water system customers in the event of a longer-term disruption of water supply. “Emergency storage provides water during events such as pipeline failures, equipment failures, power outages, pumping system failures, water treatment plant failures, raw water contamination, or natural disasters” (American Water Works Association, 2001). The quantity of emergency storage is determined by the agency based on the required water system dependability, risk acceptance, and water quality in storage reservoirs. Oversized reservoirs can potentially have a negative impact on stored water quality because of increased difficulty in maintaining the chlorine residual and a higher risk of exceeding disinfection byproduct limits. SAWCo requires emergency storage to meet 24 hours at MDD for its domestic system. Table 4-9 lists the emergency storage requirements by distribution zone under current and buildout demands within the domestic system.

SAWCo does not currently require emergency storage for its irrigation system. In the event of an emergency, it is highly likely that SAWCo’s domestic system would be severely interrupted in addition to the irrigation system. SAWCo will prioritize the domestic system prior to delivering irrigation water. Therefore, SAWCo does not have any emergency storage requirements for its irrigation system.

Table 4-9. Domestic Emergency Storage Requirements

ZONE	CURRENT		BUILDOUT	
	MDD (GPM)	EMERGENCY STORAGE (GALLONS)	MDD (GPM)	EMERGENCY STORAGE (GALLONS)
Holly Drive Zone	16	22,550	87	126,873
High Zone	228	327,780	228	327,780
Low Zone	2,160	3,110,594	2,160	3,110,594
TOTAL	2,403	3,460,925	2,475	3,565,248

Emergency storage is calculated as 24 hours of the MDD.

4.3.4 Total Storage Requirement

The total storage requirement is the sum of the operational, fire flow, and emergency storage. Table 4-10 summarizes the storage requirements per zone within the domestic system. The existing system storage in each zone is compared to the required storage for each zone and the results of the existing system storage analysis based on 2019 demands. Each pressure zone has sufficient storage.

Table 4-11 summarizes the storage requirements for the irrigation system. Currently, the irrigation system does not meet the operational storage needs identified in this analysis. There

is a minimal gap between the operational storage identified based on supplying 4 hours of PHD with existing available storage. Since the future of the irrigation system is expected to remain constant or decline in customers, it is highly likely that the current storage is sufficient to meet demands. It should be noted that irrigation customer demands are highly variable and may decrease in the future.

Table 4-10. Existing Domestic System Storage Analysis

ZONE	OPERATIONAL STORAGE, MG	FIRE FLOW STORAGE, MG	EMERGENCY STORAGE, MG	TOTAL REQUIRED STORAGE, MG	AVAILABLE EXISTING STORAGE, MG	STORAGE SURPLUS/DEFICIT, MG
Holly Drive Zone	0.01	0.18	0.02	0.21	0.24	0.03
High Zone	0.08	0.18	0.33	0.59	1.10	0.51
Low Zone	0.78	0.18	3.11	4.07	5.50	1.43
TOTAL	0.87	0.54	3.46	4.87	6.84	

¹ While these is currently a storage deficit in the Holly Drive Zone, SAWCo plans to replace the existing tank 0.06 MG tank with an additional 0.12 MG tank which will raise the total Holly Drive Zone storage to 0.24 MG to meet the existing storage needs.

Table 4-11. Existing Irrigation System Storage Analysis

ZONE	OPERATIONAL STORAGE, MG	TOTAL REQUIRED STORAGE, MG	AVAILABLE EXISTING STORAGE, MG	STORAGE SURPLUS/DEFICIT, MG
Irrigation	2.37	2.37	2.25	(0.12)

For future system analysis, the existing storage in each zone is compared with the required storage in each zone based on buildout demand for 2030. Anticipated development is expected to occur in the Holly Drive Zone only, adding approximately 30 AFY of additional demand. Table 4-12 presents the results of the future system storage analysis based on buildout demands. SAWCo will have sufficient storage for the High and Low Zones. However, Holly Drive may experience a deficit of 0.1 MG if buildout of the parcels identified within the Holly Drive zone would be developed. SAWCo will continue to monitor development and address future storage needs, should they occur, through the development process.

Table 4-12. Future Domestic System Storage Analysis

ZONE	OPERATIONAL STORAGE, MG	FIRE FLOW STORAGE, MG	EMERGENCY STORAGE, MG	TOTAL REQUIRED STORAGE, MG	AVAILABLE EXISTING STORAGE, MG	STORAGE SURPLUS/DEFICIT, MG
Holly Drive Zone	0.03	0.18	0.13	0.34	0.24	(0.10)
High Zone	0.08	0.18	0.33	0.59	1.10	0.51
Low Zone	0.78	0.18	3.11	4.07	5.50	1.43
TOTAL	0.89	0.54	3.57	5.00	6.84	

SAWCo's can store substantial amounts of water within its storage tanks. As shown in this analysis, majority of the required storage is due to fire flow or emergency storage needs. For discussion purposes, Table 4-13 illustrates the storage analysis if the total required storage was based on operational needs and the largest of fire flow and emergency storage needs. Using the modified total storage required, all pressure zones within SAWCo have adequate storage under future demands.

Table 4-13. Modified Future Domestic System Storage Analysis - Total Required Storage

ZONE	OPERATIONAL STORAGE, MG	FIRE FLOW STORAGE, MG	EMERGENCY STORAGE, MG	TOTAL REQUIRED STORAGE, MG ¹	AVAILABLE EXISTING STORAGE, MG	STORAGE SURPLUS/DEFICIT, MG
Holly Drive Zone	0.03	0.18	0.13	0.21	0.24	0.03
High Zone	0.08	0.18	0.33	0.41	1.10	0.69
Low Zone	0.78	0.18	3.11	3.89	5.50	1.61
TOTAL	0.89	0.54	3.57	4.51	6.84	

¹ Total storage required based on operational storage and largest of fire flow or emergency storage.

5.0 Hydraulic Model Development

This section summarizes the development of SAWCo's water distribution system hydraulic model and the model calibration results. For more detailed information on model development and calibration, see Appendix A - Hydraulic Model Development.

IN THIS SECTION

- Model Structure and Demands
- Model Calibration

5.1 Model Structure and Demands

The objective of model development is to create a calibrated, representative hydraulic model of the SAWCo distribution system. This model is used to simulate and predict the performance of the distribution system under a variety of demand and operational scenarios. The hydraulic model is also extremely useful for evaluating alternative configurations and capital project recommendations in order to provide the most valuable system configuration to meet SAWCo's needs.

SAWCo's complete GIS database was utilized to develop an all-pipes water model in InfoWater. Tools in InfoWater were used to evaluate and correct the connectivity of the system, so that it is representative of the actual water system.

Physical and operational data used in the model were extracted from multiple sources, including the GIS database, planning reports such as the 2017 Water Master Plan, as-built plans, and well hydraulic test results. Consumption data from 2019 was provided by SAWCo in Microsoft Excel format. Consumption was spatially allocated and scaled based on the total production for the same time period to account for non-revenue water. Demands were spatially loaded into the model based on APN or address so that demands throughout the model were reflective of reality.

Future domestic demand projections were developed from identified areas of future growth in the 2017 WMP, as described in Section 3.0. Irrigation demands are expected to remain constant throughout the planning horizon to allow for a conservative estimate of the future irrigation system. Irrigation demand supplied to the City of Upland at Campus Ave. and 15th St. were not scaled to MDD and PHD conditions. This demand (2,239 gpm), is supplied when the City of Upland contacts SAWCo to turn on wells in the southern portion of the system to fill their tanks east of Campus Ave. SAWCo fills these tanks at a constant rate and therefore the demand is not subject to MDD or PHD factors. The constant demand was added to the scaled MDD and PHD for the rest of the system to obtain a total demand under MDD and PHD scenarios. A summary of the modeled demands is provided in Table 5-1 and Table 5-2.

Table 5-1. Summary of Domestic Modeled Demands

	CURRENT			BUILDOUT			PEAKING FACTOR
	AFY	MGD	GPM	AFY	MGD	GPM	
Average Daily Demand (ADD)	2,579	2.3	1,602	2,628	2.4	1,632	N/A
Maximum Daily Demand (MDD)	3,869	3.5	2,403	3,941	3.6	2,448	1.5
Peak Hour Demand (PHD)	5,802	5.2	3,604	5,912	5.3	3,672	2.25

Buildout is predicted to occur by 2030 with a projected population of 3,322.

Table 5-2. Summary of Irrigation Modeled Demands

	CURRENT AND PROJECTED BUILDOUT			PEAKING FACTOR
	AFY	MGD	GPM	
Average Daily Demand (ADD)	9,058	8.1	5,626	N/A
Maximum Daily Demand (MDD)	11,784	10.5	7,319	1.5
Peak Hour Demand (PHD)	15,871	14.2	9,858	2.25

Irrigation demands are anticipated to remain the same or reduce over time. For conservative estimates, the irrigation demands are planned to remain constant.

Peaking factors are applied to an ADD of 3,386 gpm. The remaining ADD of 2,239 gpm is provided to the City of Upland at Campus Ave. and 15th St. and remains constant in MDD and PHD conditions; therefore, the peaking factors were not applied to this portion of the irrigation demand.

5.2 Model Calibration

To calibrate the steady-state model, existing demands were assigned to the model to correspond to the system demand at the time fire hydrant flow data were collected. The model was calibrated based on four hydrant tests across the distribution system. The model was refined by adjusting pipeline C-factors to better reflect the hydrant testing results. After model calibration, all modeled pressures were within 10 psi of observed system pressures. Appendix A - Hydraulic Model Development, provides additional details on model development and calibration.

6.0 Capacity Analysis

This section analyzes SAWCo's distribution system pressure, available fire flow, pipeline velocity, and fire hydrant and valve spacing. Areas that do not meet the pipeline capacity criteria and recommendations to improve the system are described in this section.

IN THIS SECTION

- Pressure Analysis
- Fire Flow Analysis
- Velocity Analysis
- Hydrant and Valve Spacing

6.1 Domestic System

6.1.1 Pressure Analysis

An important part of the water distribution system is the pressure supplied to shareholders. Pressures should be adequate to supply services, but not so high that appliances or pipelines are weakened and damaged. The pressure criteria used in this analysis is summarized below:

- 40 psi minimum and 120 psi maximum under normal conditions
- 150 psi during minimum hour demands
- 20 psi minimum residual at MDD plus FF

SAWCo's system pressures were evaluated under ADD, MDD, PHD, and minimum day demands (MinDD) for current and buildout demands. The pressure in the system depends on reservoir levels and the pressure supplied by pump stations. Because the pressure is dependent on these system conditions, two alternatives were used to evaluate system pressures. The first alternative simulates high pressures: reservoirs are set to 90% full, all wells operating, and a single booster pump at each pump station is turned on. The second alternative simulates low pressures: reservoirs are set to 50% full and all wells, pumps, and supply sources are turned off.

The difference in modeled pressures was minimal between all the demand scenarios under the same alternative with the same tank levels and pumps and well settings. The small pressure variance between the different demand scenarios is due to slight differences in system demands and small growth due to buildout. Table 6-1 summarizes the pressure ranges by zone estimated within the model.

Based on known system pressures, it is estimated that the model predicts pressures greater than reality by approximately 10 – 20 psi in some areas, while other areas are representative of current conditions. Based on discussions with operations staff, the actual estimated pressure range is also provided in Table 6-1.

The model calibrated well compared to fire flow tests conducted as part of this master plan effort but should continue to be inspected and modified as additional data points are collected to help fine-tune model outputs. It appears that the model is highly sensitive to elevation data and was constructed using data published by USGS. It is common for areas located with mountainous terrain to be sensitive to elevation data, which can impact modeled pressures. SAWCo may consider professionally surveying a few points within the distribution system, especially within the Low Zone, to help check model elevation and fine-tune areas where the model overestimates pressure.

Table 6-1. Average Pressure Ranges per Zone

ZONE	MODELED PRESSURE RANGE (PSI)	ESTIMATED PRESSURE RANGE (PSI)
Holly Drive Zone	62-165	60-145
High Zone	24-142	20-130
Low Zone	32-164	30-134

6.1.1.1 Holly Drive Zone

Pressures within the Holly Drive Zone range from 62 to 165 psi. All pressures meet the minimum pressure requirement of 40 psi. Customers are equipped with a pressure regulator per the Uniform Plumbing Code to mitigate excess pressures above 80 psi. Pressures are higher in the southern portion of the pressure zone near the Holly Drive BPS and are reduced as water flows north, due to the mountainous terrain. The model estimates the greatest pressure within the Holly Drive Zone to be 165 psi at the discharge of the Holly Drive BPS, while operations staff anticipate that actual pressure is closer to 145 psi at this location.

The SAWCo system also optimizes gravity by using booster pumps to feed the northern portion of the system, then allowing water to flow back down to the rest of the system.

6.1.1.2 High Zone

Pressures within the High Zone range from 24 to 142 psi. Pressures along the western portion of 26th Street, near Euclid Crescent W and the Holly Drive Zone, experience lower than ideal pressures, ranging from 20 to 37 psi. To mitigate these lower pressures and obtain full use of the newly constructed 0.1 MG tank within the Holly Drive Zone, recommended improvement project RZ-1 has been identified and is discussed in Section 7.1.

There are also several areas within the High Zone that experience pressures higher than 120 psi. Customers that experience pressures in excess of 80 psi are equipped with a pressure regulator to mitigate higher pressures. High pressure areas include:

- Dead-end of existing 4-inch main at San Antonio Crescent E and Euclid Ave (142 psi)
- Upstream of PRV at Prospect Ave (120 – 130 psi)
- Upstream of PRV at Euclid Crescent (128 - 140 psi)

6.1.1.3 Low Zone

Pressures within the Low Zone range from 32 to 164 psi. Pressures within the 30 to 40 psi range occur at the intersection of N Mountain Avenue and Mountain Drive. Despite being slightly below the minimum pressure during normal conditions, this area does not warrant any required upgrades because no deliveries are provided by this main.

The model estimates high pressure that exceeds the normal operating criteria of 120 psi in much of the southern portion of the Low Zone. Pressures are estimated to reach pressures up to 164 psi; however, SAWCo staff estimate that actual pressures reach only up to 140 psi. Pressures greater than 150 psi are estimated on the discharge side of Booster 18 and drop to 140 psi at 24th Street. Additional investigation should be completed throughout SAWCo's Low Zone and used to adjust the model moving forward.

SAWCo is aware of these higher than ideal pressures throughout the system and customers that experience pressures above 80 psi are equipped with a pressure regulator to mitigate impacts.

Figure 6-1 illustrates the pressure throughout the domestic system.

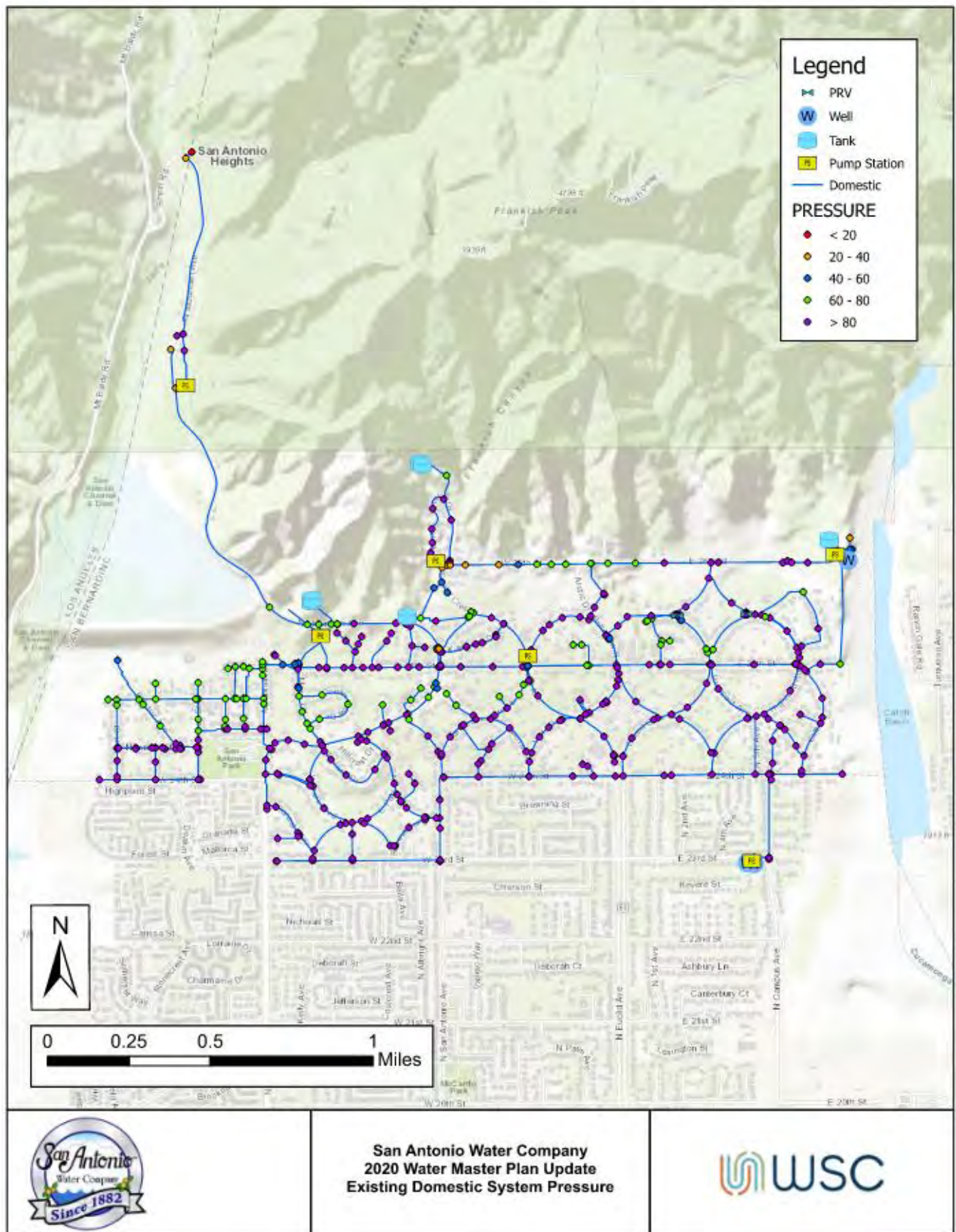


Figure 6-1. Domestic System Pressure Analysis

6.2 Fire Flow Analysis

An important function of a water distribution system is to provide adequate fire protection. Fire flow requirements are typically set using requirements set forth by the California Fire Code. As outlined in Table 2-11, SAWCo's domestic system serves only residential customers and is therefore subject to a fire flow requirement of 1,500 gpm, while maintaining system pressures above 20 psi.

The current available fire flow in the system is modeled using the calibrated hydraulic model. A fire flow analysis is run to determine the available fire flow that can be flowed from each hydrant within the domestic system while maintaining a minimum of 20 psi. For a conservative fire flow analysis, conditions are evaluated using MDD and reservoirs set to half full. Fire flow deficiencies under current demands are compared to buildout demands. The location of fire flow deficiencies under both current and buildout demands are similar.

Figure 6-2 displays the available fire flow throughout SAWCo's domestic system under the current MDD scenario. The available fire flow is highly dependent on the pipeline capacity in the system. Newer pipelines are typically 8-inch in diameter or greater and typically meet fire flow requirements. Fire flow pipeline improvement projects were identified based on fire flow needs, rather than other capacity constraints.

There are four hydrants that cannot currently provide 1,500 gpm of fire flow. Two deficient hydrants are located within the High Zone and two deficient hydrants are located within the Low Zone. Although these hydrants cannot individually meet the required 1,500 gpm, there are additional hydrants in the area that can supplement supply in a fire event to meet the fire flow requirements. Therefore, no fire flow specific projects are recommended at this time. The locations of these hydrants are shown in Figure 6-2.

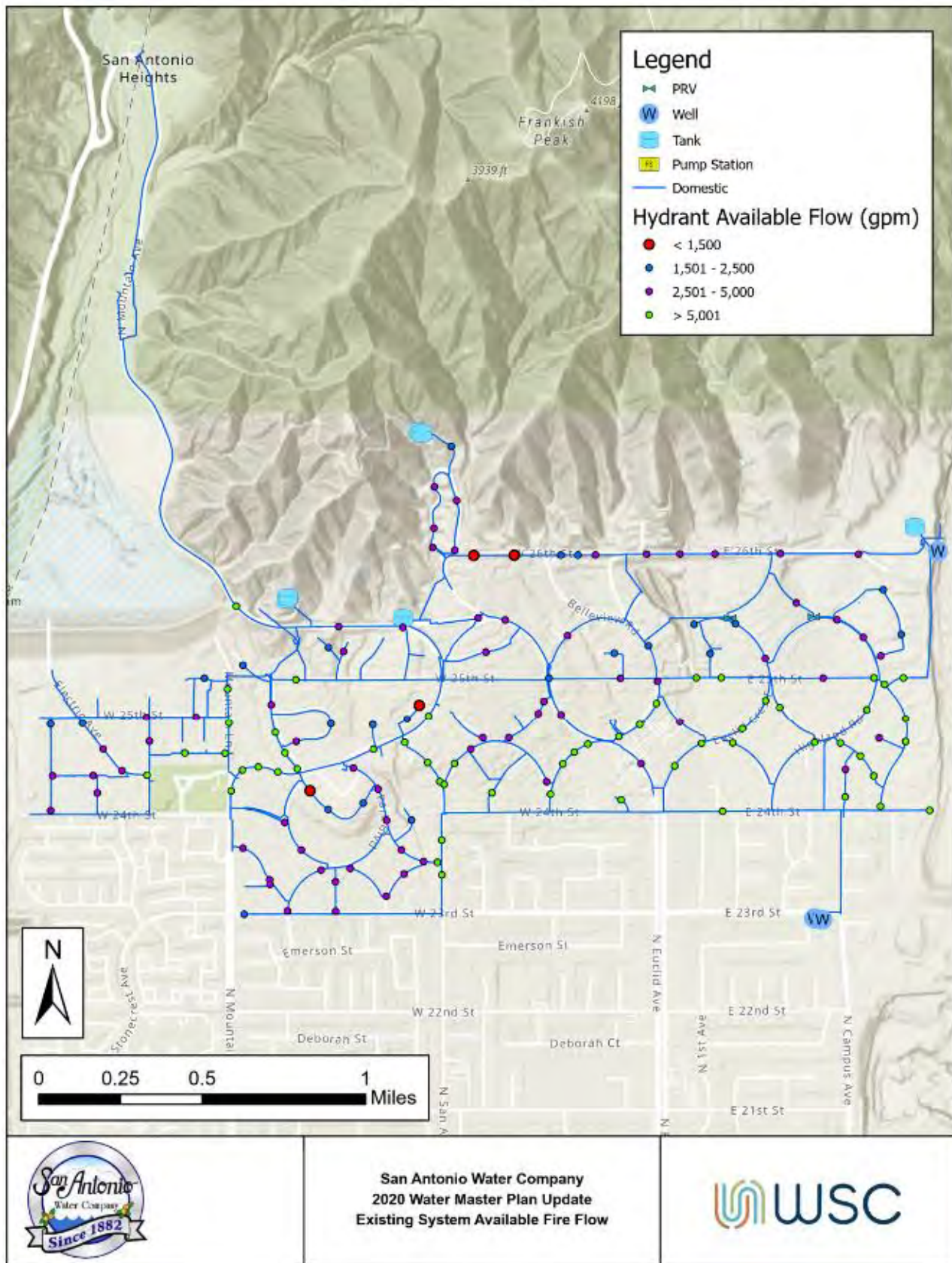


Figure 6-2. Existing Domestic System Available Fire Flow

Projects to improve fire flow were developed by upsizing small diameter pipelines that restrict fire flow then rerunning the model. Projects were iterated until the fire flow requirement was met while minimizing the costs of upgrade projects. Most of the recommended projects include upsizing existing 2-, 4-, and 6-inch pipelines that restrict the fire flow or constructing new mains for looping. In addition to fire flow calculation runs in the hydraulic model, the available fire flow was manually checked by applying large demands to multiple hydrants and observing the zone's pressure response. During a fire, it is likely that multiple hydrants will be used, and their combined flow rate should meet the fire flow requirements. A single hydrant with just under 1,500 gpm of available fire flow was considered adequate if the hydrant and an adjacent hydrant were modeled together providing 1,500 gpm while maintaining a 20-psi residual pressure.

One project is recommended to improve fire flow within the domestic system and meet the fire flow requirement at Ponte Vecchino Court. Discussions with SAWCo staff on the overall reliability of the system noted that one additional improvement could be completed to increase the reliability of the system. Staff recommend construction of an 8-inch pipeline within Hillcrest Drive for additional looping and fire protection within the domestic system.

An additional project, RZ-1, is included in this section. RZ-1 could potentially be a rezoning project to expand the Holly Drive zone while improving pressures and fire flow in W 26th Street. Details on Project RZ-1 are discussed in Section 7.1. Table 6-2 lists the recommended projects that are included in the final CIP.

Table 6-2. Recommended Improvement Projects

PROJECT NO.	PROJECT TYPE	ZONE	LOCATION	EXISTING SIZE AND MATERIAL	TOTAL NEW PIPE LENGTH (FT)	RECOMMENDED SIZE AND MATERIAL	RECOMMENDED PROJECT
FF-1	Pipeline Upgrade	Low Zone	Ponte Vecchino Ct	4-inch ductile	560	8-inch PVC	Replace existing 4-inch pipeline with 8-inch PVC when pipeline fails.
FF-2	Pipeline Construction	Low Zone	Hillcrest Drive	N/A	300	8-inch PVC	Improve system reliability and provide fire protection.
RZ-1	Expanded Holly Drive Zone	Holly Drive Zone/High Zone	Holly Dr and W 26 th St	6-inch ductile and new pipe	700	8-and 12-inch PVC	Discussed in Section 7.1. Improves pressure and fire flow in the High Zone along W 26 th St by moving 16 services in this area to the Holly Drive Zone. Includes construction of 50-feet of 12-inch pipe to connect the existing Holly Drive Zone to W 26 th St, upgrade 200-feet of existing 6-inch main to 8-inch main within Euclid Crescent and construct 500-feet of 8-inch main within Euclid Crescent to construct loop to provide adequate pressure on suction side of Holly BPS. A detailed feasibility study of such changes is recommended prior to implementation.

6.2.1 Velocity Analysis

In addition to evaluating the pressure and available fire flow in the system, the calibrated hydraulic model was used to evaluate the pipeline velocity across the distribution system. The pipeline velocities were evaluated based on the following criteria:

- Velocity shall be less than or equal to 7 feet per second (fps) at MDD
- Velocity shall be less than or equal to 11 fps at MDD plus fire flow condition

The velocity was evaluated under current and buildout MDD. Only one pipeline within the distribution system demonstrated a velocity that exceeded the 7 fps at MDD. This pipeline conveys supply from the Holly Pressure Zone tanks into the distribution system. Under ADD, MDD, and PHD conditions, this pipeline is estimated to experience nearly 8 fps.

The velocity was evaluated under buildout MDD plus fire flow conditions by manually adding the fire flow requirement to a hydrant, running the model, and evaluating pipeline velocity. This was performed at multiple locations across the distribution system, focusing on locations with numerous small-diameter pipes where high velocity is more likely to become an issue. The model predicts that velocity could exceed 11 fps during MDD plus fire flow conditions if the fire occurred in a location with a high density of 2, 4, and 6-inch pipelines. When these pipelines reach the end of their lifespan, they should be replaced by an 8-inch line or larger to reduced velocities under MDD plus FF conditions.

6.2.2 Hydrant and Valve Spacing

SAWCo has established criteria for hydrant and valve spacing. Hydrant spacing was analyzed in GIS by creating a 330-foot buffer around each fire hydrant and visually inspecting locations that were not within a hydrant's practical coverage. A 330-foot buffer was used to visually determine if the required hydrant spacing was met. New hydrants, each with a 330-foot buffer, were added to locations outside a hydrant's coverage until all locations were within 330 feet. For areas with minimal development, proposed hydrants were added near existing residences to ensure adequate protection in the event of a fire emergency. In addition, staff field verified hydrant locations along SAWCo's boundary, to ensure these areas had adequate coverage. It is recommended that SAWCo install 6 new hydrants to ensure adequate coverage throughout its service area. These hydrants are shown in Figure 6-3. Additional hydrants may be installed north of the V-Screen BPS for additional fire protection around Mountain Road. Prior to hydrant installation in this area, the existing 4-inch pipeline should be replaced with a larger diameter pipeline to provide adequate fire flow.

Within SAWCo's domestic system, valves should be spaced so that no shut down is greater than 10 services, which is approximately 550 feet. Based on a similar analysis using a 550-foot

buffer, no new valves were identified as part of this analysis. It was concluded that SAWCo's domestic system has an adequate number of valves in strategic locations.

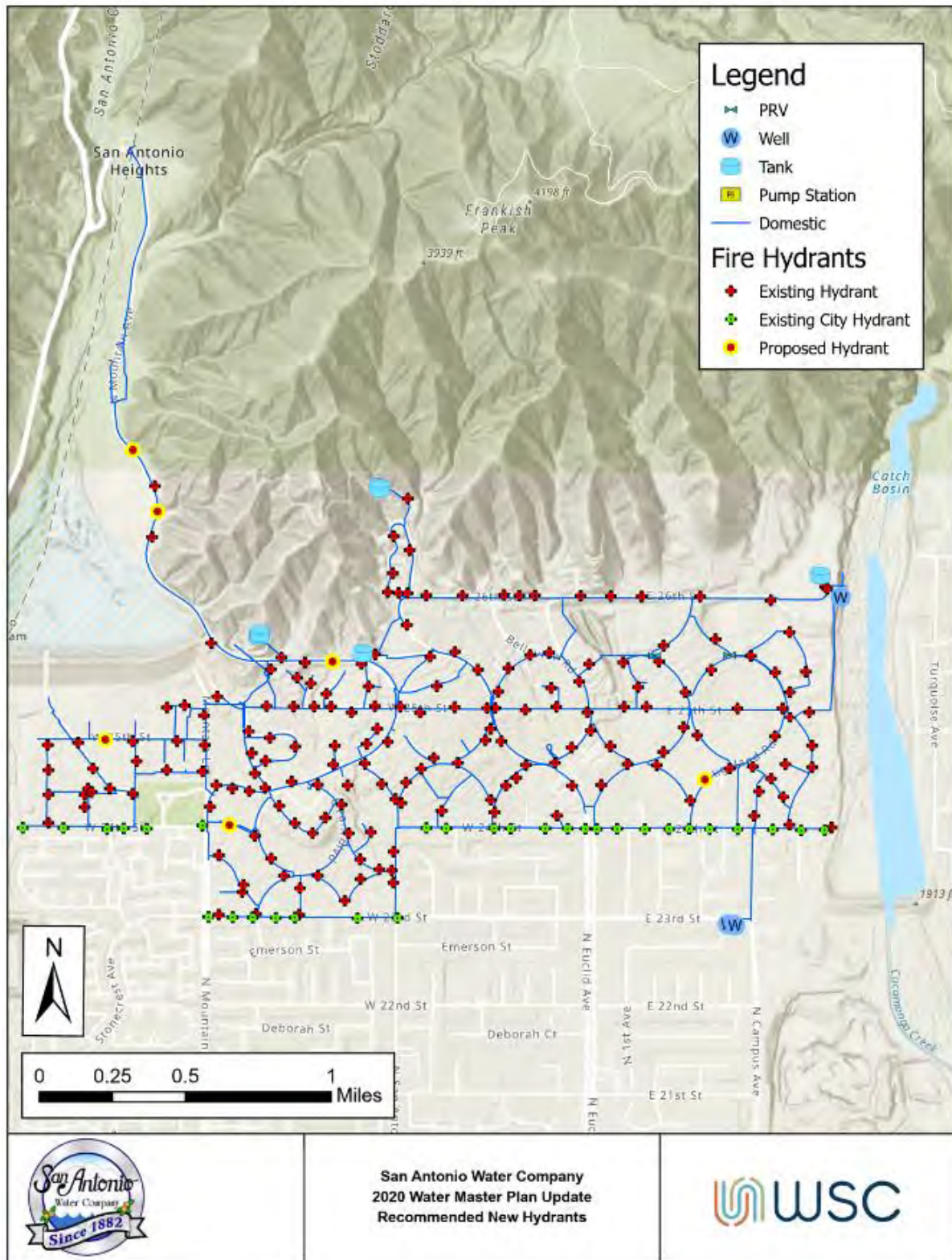


Figure 6-3. Recommended New Hydrants

6.3 Irrigation System

The irrigation system was evaluated to identify pressure, velocity, and valve spacing throughout the system.

6.3.1 Pressure Analysis

Similar to the domestic system, the irrigation system was analyzed under ADD, MDD, and PHD scenarios. SAWCo aims to operate the irrigation system within a 20 psi to 120 psi range during normal conditions.

The difference in modeled pressures was minimal between all the demand scenarios under the same alternative with the same tank levels and pumps and well settings. Demands for the City of Upland at Campus Ave. and 15th St. were modeled solely as average day demands in all scenarios. At this particular location, the City of Upland contacts SAWCo when the City of Upland needs to fill their tanks located to the west of Campus Ave. SAWCo provides water at a constant rate and is therefore not subject to MDD or PHD conditions. Average pressures within the irrigation system range from 15 psi to 163 psi and are shown in Figure 6-4.

Low pressure areas are located along the existing concrete line downstream of Reservoir 4 and east towards Campus Avenue and south of Reservoir 9 (less than 40 psi). Areas of high pressure (70-100 psi) are estimated along the mainline from the Forebay south to the Paloma Curve hydraulic break. Additional analysis on this main is being completed as a separate analysis from this WMP.

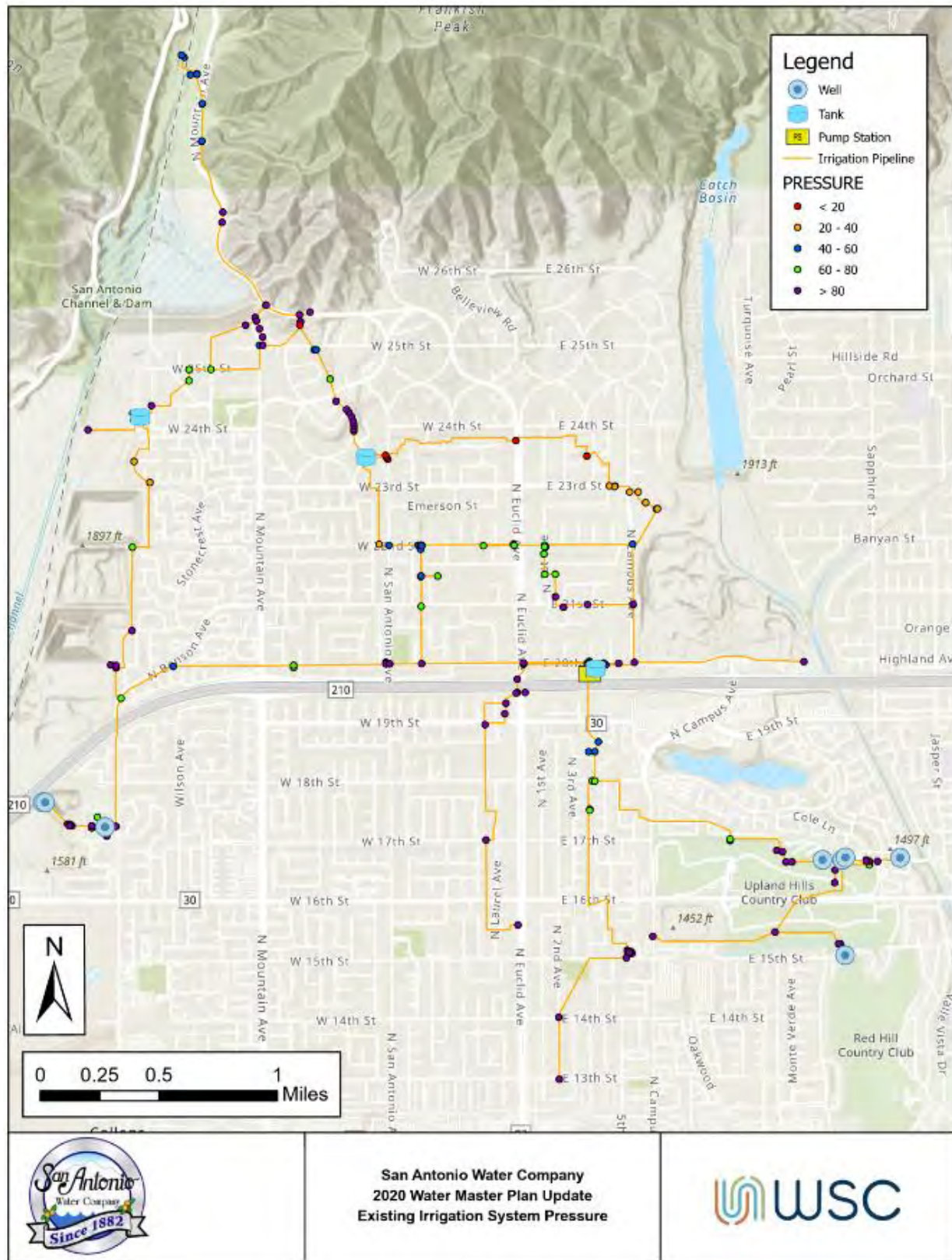


Figure 6-4. Irrigation System Pressure Analysis

6.3.2 Velocity Analysis

In addition to evaluating the pressure, the hydraulic model was used to evaluate the pipeline velocity across the distribution system. SAWCo evaluated pipeline velocities based on a maximum velocity of 7 fps. The velocity was evaluated under current conditions since it is anticipated that no growth will occur within the irrigation system, but rather, SAWCo may continue to see a decline in irrigation customers.

Overall, SAWCo's irrigation system typically operates at or below 7 fps except for the Forebay to Reservoir 4 mainline, which operates close to 11 fps (San Antonio Water Company, June 22, 2021). SAWCo had previously identified this pipeline for replacement within the right-of-way to improve access because it is currently within private property and residential backyards. When replaced, the pipeline should be upsized to reduce the velocity to 7 fps or less. SAWCo plans to evaluate this pipeline in more detail. Details on preliminary solutions for this area are discussed in Section 7.2.

In addition, there is an 8-inch pipeline that exhibits pressures between 7-11 fps at MDD and PHD conditions. This pipeline serves the City of Upland and Holliday Rock customers and was replaced in 2019 with PVC and therefore not recommended as a future replacement project at this time.

6.3.3 Valve Spacing

Valving on the irrigation system is typically installed at pipeline intersections and services. Based on inspection of existing valve locations and pipeline alignments, four (4) proposed valve locations were identified to better isolate pipelines, if required. The locations of existing and proposed valves for the irrigation system are shown in Figure 6-5.



Figure 6-5. Recommended Irrigation Valves

WATER MASTER PLAN

7.0 Operational Analysis

SAWCo operates its system in the most efficient manner possible and has identified several alternatives for consideration. Potential projects and anticipated impacts are discussed in this section.

IN THIS SECTION

- Rezoning
- Relocation
- Water Age Analysis
- Operational Improvement Projects

WSC met with SAWCo staff to discuss overall system operation and identify areas of improvement and concern. Overall, SAWCo's operational structure is in good shape. SAWCo is interested in exploring alternatives such as rezoning, pipeline relocation to improve access to infrastructure, and reinstating an out of operation booster pump station.

7.1 Rezoning

In 2021, SAWCo installed a new 120,000-gallon steel tank in the Holly Drive Zone. The existing 60,000-gallon tank is planned to be replaced with another 120,000-gallon tank in 2023, bringing the total storage in the Holly Drive Zone to 240,000 gallons. Currently, SAWCo experiences difficulty with turnover in the existing 60,000-gallon tank and is looking for solutions to increase reservoir turnover. Reservoir turnover will become even more difficult when the second 120,000-gallon tank is installed. One possible solution to increase reservoir turnover includes moving services along 26th Street that are part of the High Zone onto the Holly Drive Zone. This will increase the currently low pressures that can occur along 26th Street by moving them to the higher-pressure zone and assist in fire flow availability in this area.

Based on the model, SAWCo could reasonably serve 16 services from Holly Drive if several system modifications are made:

- Construct a 50-foot 12-inch main from Holly Drive to W 26th Street to connect High Zone services to the Holly Drive zone. Include a PRV with an estimated setting of 80 to mitigate high pressures along 26th Street.
- Construct 500-foot 8-inch main within Euclid Crescent W to create loop within system (connect existing 8- and 12-inch mains) and provide adequate pressure on the suction side of Holly Drive BPS.
- Close valve at the intersection of W 26th Street and Arctic Dr.
- Close valve at the intersection of W 26th Street and Holly Drive on the eastern side of the Holly Drive BPS suction main to isolate the suction and discharge areas of the Holly Drive BPS.
- Currently, services on 26th Street experience low pressure. Once rezoned to Holly Drive, pressure regulators will need to be installed.

With this new configuration, pressures are expected to increase from 23-66 psi to 92-134 psi within 26th Street and available fire flow will meet the minimum required flow in this area. However, SAWCo utilizes this area to convey water west from Reservoir 12 towards Reservoirs 5, 6, and 7. To ensure no severe disruptions to SAWCo operations occur as a result of rezoning, it is recommended that a more detailed rezoning feasibility analysis is completed prior to implementation.

To ensure adequate capacity is available, the Holly Drive BPS was analyzed with the addition of demands from the High Zone that would be served by the Holly Drive Zone. These services would add 11 gpm of demand to the Holly Drive Zone. Based on the analysis shown in Table 7-1, the Holly Drive BPS has sufficient capacity for additional demands as part of the RZ-1 project.

Table 7-1. Booster #19 Pump Station Analysis with RZ-1

PUMP STATION	ZONE SERVED	DESIGN CAPACITY (GPM)	BOOSTER STATION CAPACITY ¹ (GPM)	ZONE FIRM CAPACITY (GPM)	CURRENT ADD (GPM)	CURRENT MDD (GPM)	REQUIRED CAPACITY (GPM)	SURPLUS/DEFICIT CAPACITY (GPM)	MEETS SUPPLY REQUIREMENTS
Booster #19 Holly Drive	Holly Drive	900	450	450	21	32	32	418	YES

¹ Booster station capacity is based on the largest pump out of service.

7.2 Relocation

SAWCo is focused on improving accessibility to system assets. As part of this WMP, pipelines located within private property were identified and alternatives to improve access to SAWCo's assets were evaluated. Seven locations were identified in the irrigation system with poor access and are recommended to be relocated within the right-of-way. Table 7-2 describes these projects and Figure 7-1 identifies the locations of these projects within the irrigation system. SAWCo may not need to relocate all pipelines identified and should consider only pipelines critical to providing deliveries to active irrigators.

Table 7-2. Irrigation System Relocation Projects

PROJECT NO.	PROJECT TYPE	LOCATION & DESCRIPTION	EXISTING MATERIAL AND SIZE	PROPOSED PIPE LENGTH	RECOMMENDED SIZE AND MATERIAL
L-1	Pipeline Relocation	Replace existing pipeline from Forebay to Mountain Ln. Relocate existing pipeline from private property, tie-in at Canyon Dr, utilize Edison Easement to Mountain Ln.	22-inch Steel	620	24-inch PVC
L-2	Pipeline Relocation	Relocate 14-inch steel main from Reservoir 4 to Ravina Curve, W 23 rd St and San Antonio Ave to W 22 nd St.	14-inch Steel	1,300	14-inch PVC
L-3	Pipeline Relocation	Relocate pipeline to right-of-way in N San Antonio Ave and W 23 rd St.	16- and 24-inch Concrete	5,600	24-inch PVC
L-4	Pipeline Relocation	Cut and cap existing pipeline east of Well 15 and 16 site. Install replacement pipeline within Campus Ave.	24-inch PVC and Steel	1,200	24-inch PVC
L-5	Pipeline Relocation	Relocate pipeline from private property of residents on Vallejo Way and relocate to N San Antonio Ave and W 21 st St. Install new service.	8-, 10-, and 16-inch Concrete and Steel	3,700	12-inch PVC
L-6	Pipeline Relocation	Abandon existing pipeline in place and construct replacement in 1 st Ave to E 21 st St.	14- and 18-inch Steel	1,000	12-inch PVC
L-7	Pipeline Relocation	Cut and cap existing pipeline. Install replacement line in Euclid Ave.	8- and 14-inch Concrete	5,200	8-inch PVC
L-8	Pipeline Relocation	Cut and cap existing pipeline. Install replacement within 2 nd Ave.	12- and 16-inch Concrete and Steel	7,500	12-inch PVC



Figure 7-1. Recommended Irrigation Mains to be Relocated

7.3 Water Age Analysis

The model was used to evaluate water age throughout the system. Water age is not a direct measurement of water quality, but many water quality issues are correlated with higher water age. There is not a recognized standard for water age, but it is generally accepted that the lower the water age, the higher the water quality. Long detention times can lead to the loss of the disinfectant residual, microbial growth, formation of disinfection byproducts, taste and odor problems, and other water quality issues (Environmental Protection Agency, 2002). According to AWWA, it is usually more difficult for smaller distribution systems to maintain a low water age because of lower demands and a smaller service area with more dead-end mains compared to larger systems (Environmental Protection Agency, 2002). Currently, SAWCo experiences high water age in the existing Holly Drive Reservoir. SAWCo maintains high water quality in their system through annual pipe flushing and water quality monitoring.

7.4 Operational Improvement Projects

Table 7-3 includes the recommended CIP projects to improve facility operations. These projects are listed in order of priority and are included in the final CIP with corresponding Project IDs. This list does not include all recommended operational improvements, only those that should be included in the CIP for budgetary purposes. Operational improvements at wells are not listed here and have been combined with recommended well rehabilitation and replacement projects described in Section 8.

7.4.1 Reviving BPS #9

SAWCo does not currently use existing BPS #9 within the irrigation system and is interested in reviving this BPS so that all assets can be used. BPS #9 is located in the southeastern portion of the irrigation system and could be used to boost water from Wells 2, 3, 24, and 31 up towards Reservoir 1. It is anticipated that irrigation deliveries will decrease in the future. SAWCo may consider replacing BPS #9 to supplement the domestic system in the southern portion of the system. To achieve this, additional treatment options and mainlines will be required to meet drinking water requirements and distribute water north into the Low Zone. Additional analysis is required to further analyze the feasibility of reviving BPS #9 for domestic system use and will require an analysis of existing irrigation wells, water quality, and treatment options.

Table 7-3. Recommended Operational CIP Projects

PROJECT ID	PROJECT TYPE	RECOMMENDED OPERATIONAL CIP PROJECT
O-1	Operation and Maintenance	Annual pipeline replacement program for the domestic system.
O-2	Operation and Maintenance	Annual pipeline replacement program for the irrigation system.
O-3	Operation and Maintenance	Evaluate the condition of the existing pipeline that conveys San Antonio Creek Water to the City of Upland tee in Mountain Ave. The existing pipeline is very old, comprised of 20- and 24-inch concrete/steel, and should be rehabilitated to ensure collection of surface water continues and to reduce leaks. Consider conventional replacement methods or slip-lining.
O-4	Operational Improvement	Replace or upgrade production meters for both the domestic and irrigation systems.
O-5	Risk and Resiliency	Obtain two backup well generators for supply resiliency.
O-6	Booster Pump Station Improvement	BPS #9 Analysis for future use as an irrigation asset or repurposed for domestic system use. Analysis should include hydraulic evaluation, water quality and treatment.
O-7	Operation and Maintenance	Install two additional valves within the irrigation system to better isolate pipelines and assist operational and maintenance activities.

8.0 Rehabilitation and Replacement

SAWCo understands the importance of establishing a routine replacement program for aging assets so that they can be replaced proactively. Proactive management allows SAWCo to avoid accumulating a backlog of replacement needs that can lead to service interruptions and/or sudden and significant financial impacts.

IN THIS SECTION

- Pipeline Asset Management
- Tank Condition Assessment
- Well Condition Assessment
- Pump Station Condition Assessment

As part of this WMP, WSC has evaluated asset age and expected useful lifetimes to establish appropriate rehabilitation and replacement (R&R) needs for the distribution system pipelines, tanks, wells, and booster pump stations. This analysis does not include a visual physical condition assessment of above ground structures, but future visual assessments can be used to update and refine the R&R recommendations.

8.1 Pipeline Asset Management

SAWCo is faced with the challenge of maintaining approximately 58 miles of domestic and irrigation mains in a cost effective and proactive manner. This analysis compares the material and installation year of mains with the expected useful life to forecast future potential replacement needs and provides guidance on the magnitude of potential future replacement costs and timing.

The mains that comprise the distribution systems are of various materials, ranging in size from 2- to 36-inch diameter, and installed in different time periods. Figure 8-1 and Figure 8-2 display the percentage of each material within the domestic and irrigation distribution systems, respectively. As shown, the domestic system is comprised of primarily ductile iron and steel pipe. The irrigation system is comprised of predominantly steel pipe, followed by concrete, ductile iron, and PVC pipelines.

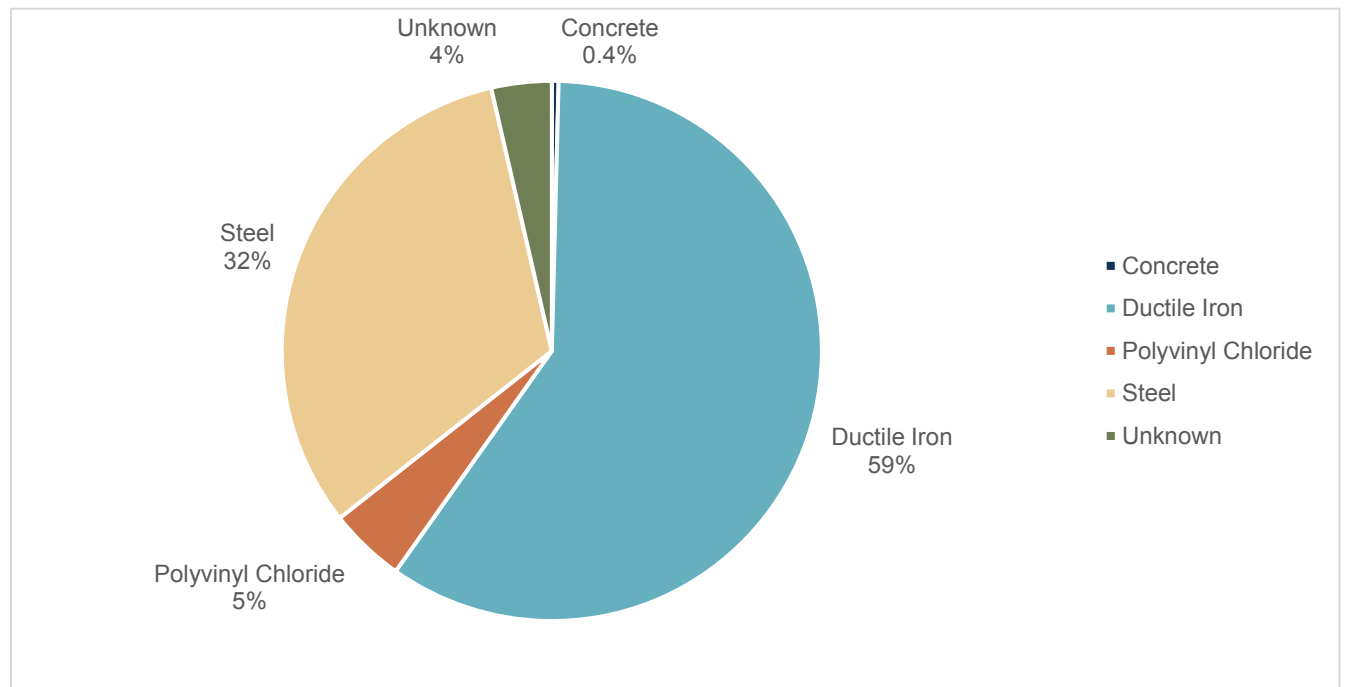


Figure 8-1. Percentage of Existing Domestic Pipe by Material

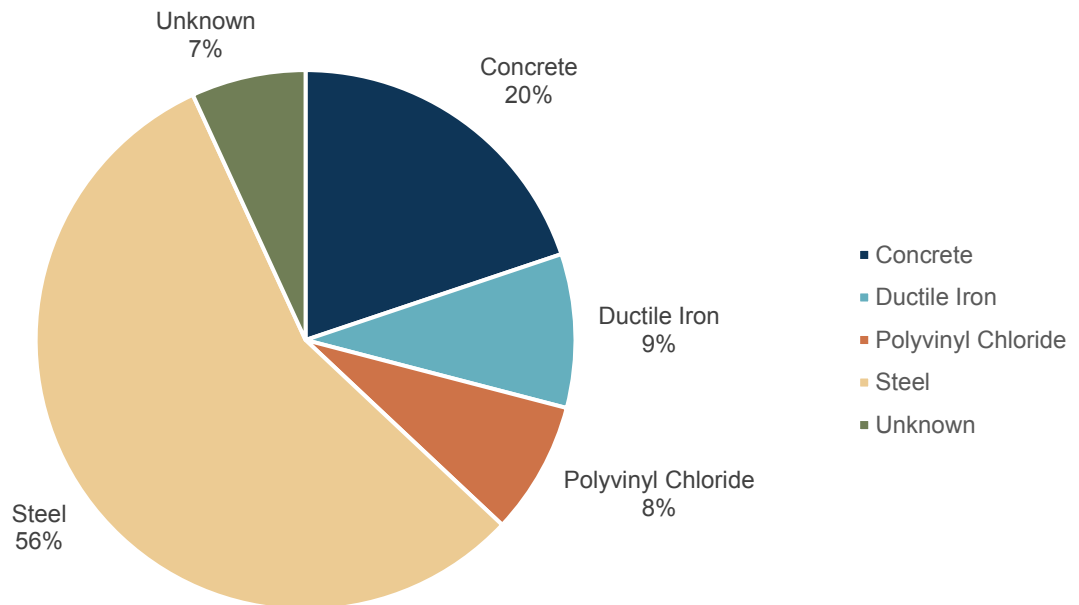


Figure 8-2. Percentage of Existing Irrigation Pipe by Material

Pipe installation data was provided by operations staff through marked up system maps and discussion. The installation year for each pipeline was added to the model to create a digital database of pipe ages. Pipeline end of useful life was estimated based on each pipeline’s installation year and expected lifetime based on pipeline material using AWWA and industry accepted published useful lifetimes values, listed in Table 8-1. Starting with the pipe installation year and adding the assumed useful service life, the expected replacement year for each pipeline was estimated.

Table 8-1. Pipeline Estimated Useful Life Based on Material

MATERIAL	ESTIMATED USEFUL LIFE (YEARS) ¹
Concrete	75
Ductile Iron	80
Polyvinyl Chloride	70
Steel	80
Unknown	75 ²

¹ Estimated useful life is adapted from Deb, Arun, Herz, Raimund, et al: “Quantifying Future Rehabilitation and Replacement Needs of Water Mains”; WRF 1998, and AWWA Buried No Longer: Confronting America’s Water Infrastructure Challenge Figure 5.

² Based on the average useful lifetime of known pipe materials, rounded to the nearest 5.

Figure 8-3 displays the estimated end of useful life by decade for the domestic system using the described methodology. As shown below, some pipelines are estimated to have already exceeded its useful lifetime beyond industry standards.

The cumulative expected end of useful life for all pipelines within the domestic system is shown in Figure 8-4. The analysis predicts that approximately 1,200 feet of pipelines that are not recommended for upgrades based on the capacity analysis have exceeded their useful life by 2020 or will exceed in the near future. These areas include E 25th St and Belleview Rd. These locations may be considered as priority replacements under SAWCo's annual maintenance program and should be evaluated in predesign to determine the condition and appropriate method of replacement, such as trenchless rehabilitation/slip-lining.

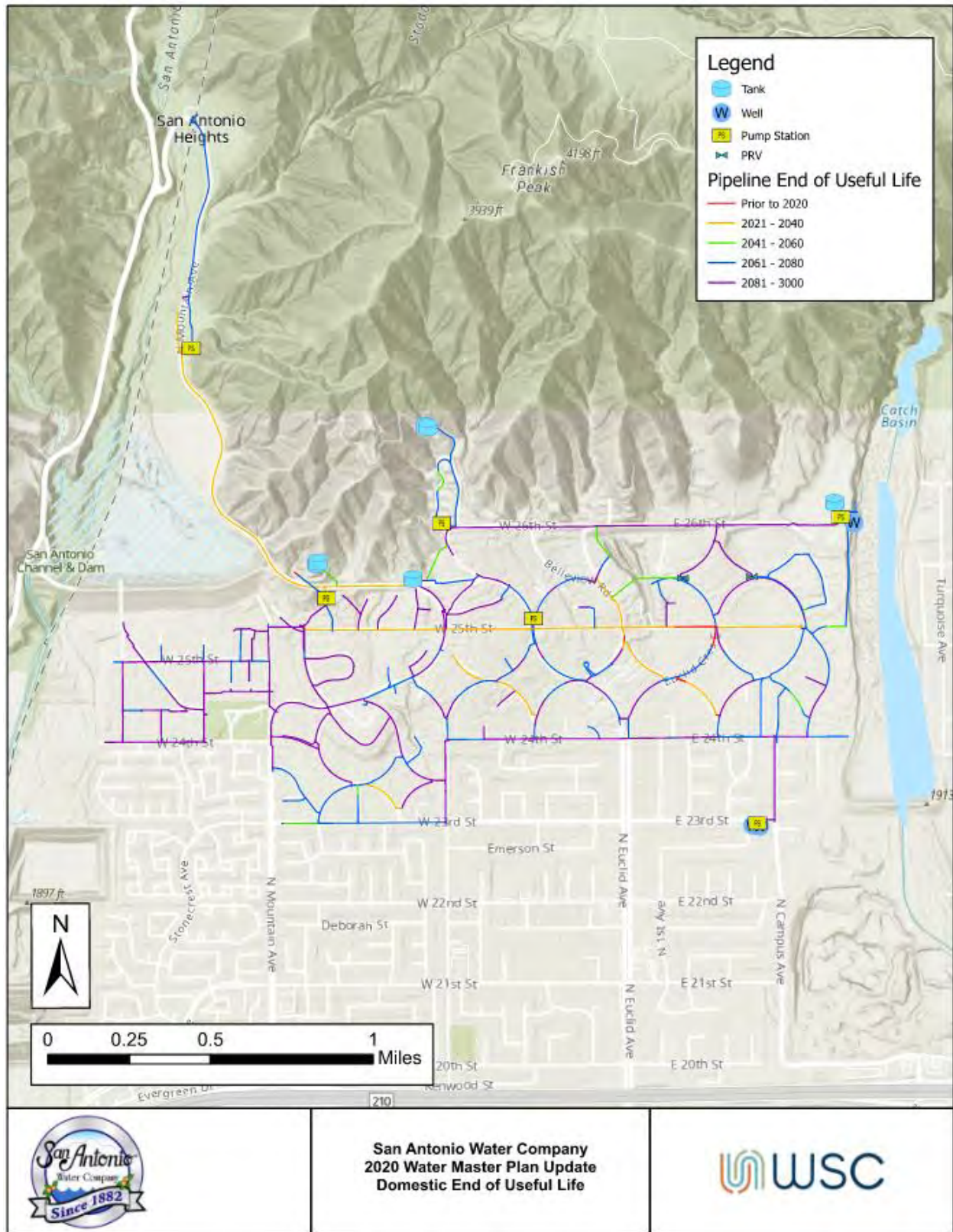


Figure 8-3. Domestic Pipeline End of Useful Life

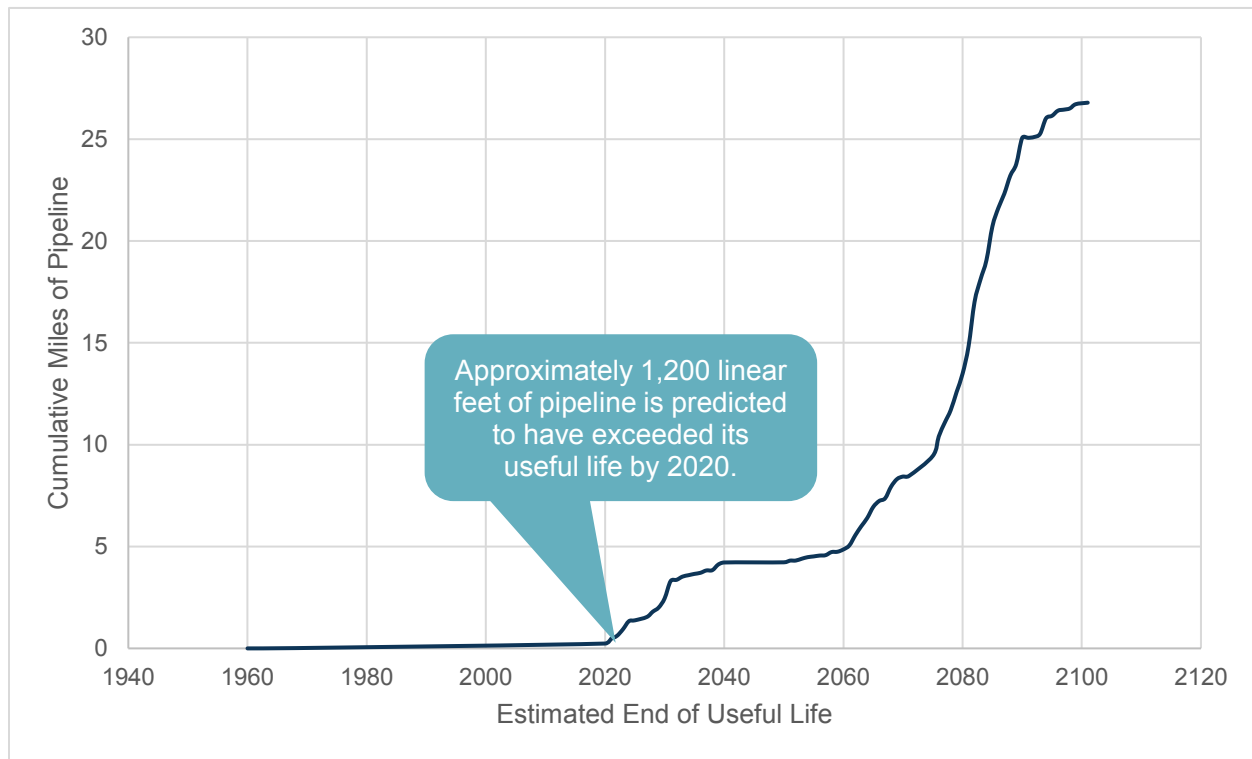


Figure 8-4. Estimated Cumulative Miles of Domestic Pipeline Failures

The majority of SAWCo’s irrigation system pipelines are estimated to be operating beyond their useful life. As mentioned throughout this WMP, the future of the irrigation system is uncertain. It is highly possible that the irrigation system will be used less. Many of SAWCo’s large irrigators no longer require large water purchases. It is anticipated that SAWCo’s irrigation system may be repurposed for domestic use or portions of the southern irrigation system may be sold to the City of Upland and repurposed for recycled water use or for surface water transport to recharge basins. Despite the uncertainty, this WMP identifies locations that may require rehabilitation or replacement. The expected end of useful life for each pipeline is shown in Figure 8-5 while the cumulative expected end of useful life for all pipelines within the irrigation system is shown in Figure 8-6. It is recommended that although pipelines have been identified as having exceeded their useful life, pipelines should be replaced as needed under SAWCo’s annual pipeline replacement program and to optimize system deliveries. Several key irrigation pipelines have been identified by SAWCo staff for improvements and are summarized in Table 8-2.



Figure 8-5. Irrigation Pipeline End of Useful Life

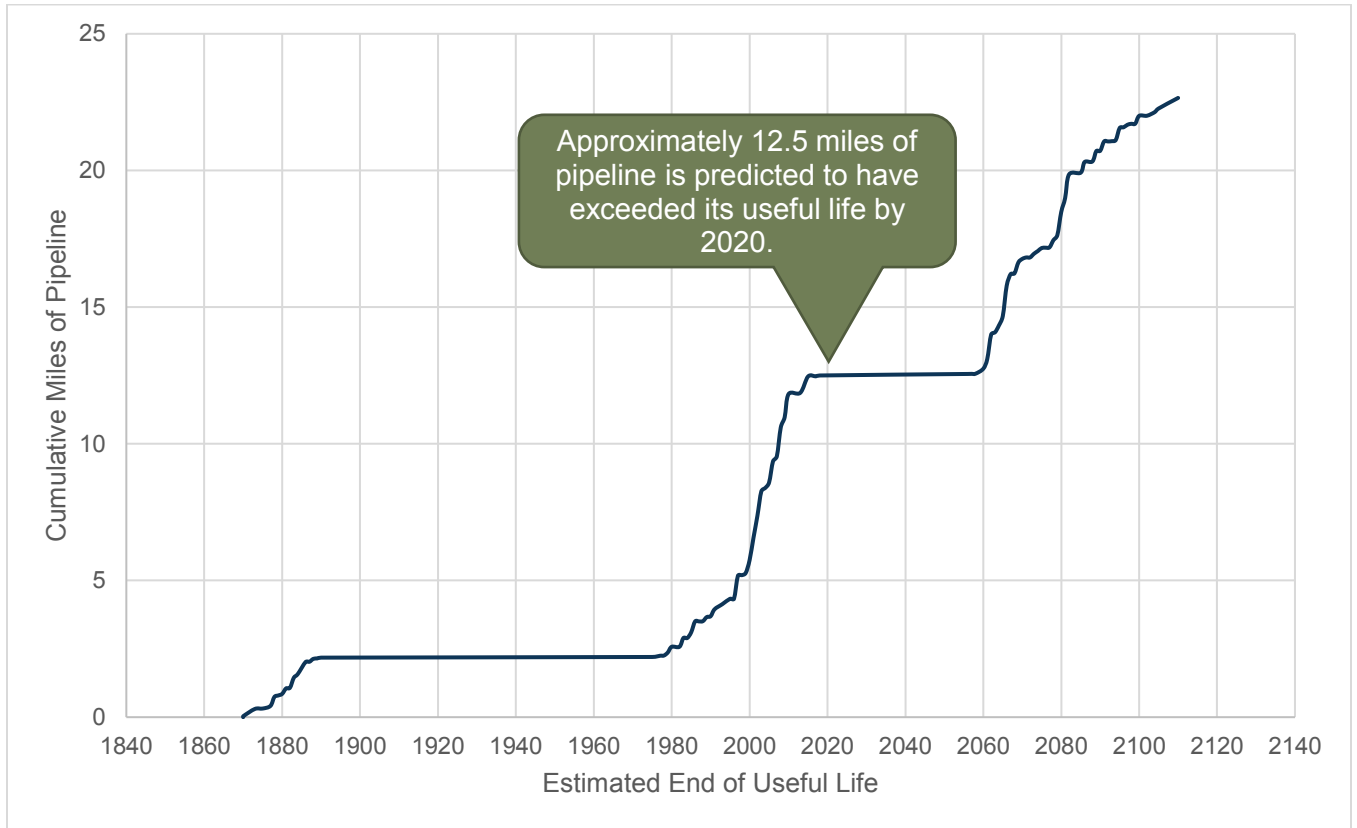


Figure 8-6. Estimated Cumulative Miles of Irrigation Pipeline Failures

Table 8-2. Irrigation Pipelines Identified for Rehabilitation & Replacement

NO.	LOCATION & DESCRIPTION	EXISTING MATERIAL AND SIZE	PROPOSED PIPE LENGTH	RECOMMENDED SIZE AND MATERIAL
1	Surface water mainline from Main Box to Forebay	20-inch concrete and 24-inch steel	1.5 miles	24-inch PVC
2	Replace booster line from I-210 freeway south to 17 th St. Consider future delivery capabilities to WFA.	14-inch steel	2,500 feet	14-inch PVC

Note: The areas identified above are areas noted with aging infrastructure and should be monitored and considered as a priority for main replacement. SAWCo should evaluate each location to determine the condition and appropriate method of replacement, such as trenchless rehabilitation/slip-lining. It is anticipated that such projects would be included under SAWCo's annual maintenance program.

This initial pipeline condition assessment is intended to inform SAWCo of potential asset liability that could arise in the future. This analysis is limited because it assumes that all pipes will fail at the end of their estimated useful lifetime. Many pipes will likely fail before their predicted end of useful lifetime, while some may exceed their end of useful life estimate. Based solely on pipeline ages, several areas have been identified as needed for replacement. SAWCo should continue to monitor conditions and select pipelines for replacement based on historical breaks, pipe conditions, and other information as available.

8.2 Tank Condition Assessment

The State Water Resources Control Board completed a sanitary survey of SAWCo's domestic tanks in 2015 and 2019. Overall, SAWCo's domestic tanks were in good condition at the time of the survey. It was noted that gaskets should be provided on the roof hatch at Reservoirs 6 and 12 and the exterior shell coating at Reservoir 7 was considered in poor condition. Despite these notes, no significant deficiencies were determined. It noted that all storage tanks should be professionally inspected and cleaned by contracted divers at least once every 3 to 5 years and that all domestic tanks were overdue for dive inspections and/or cleaning (Zuniga, January 27, 2020). SAWCo may consider inspecting the irrigation reservoirs as well.

8.3 Well Condition Assessment

Water wells require regular maintenance to ensure adequate water flow and continued drinking water safety. SAWCo has a robust well maintenance and rehabilitation plan to guarantee reliable supply for the distribution system. There are several categories of R&R work that apply to groundwater wells, described in Table 8-3. Costs for well R&R and replacement can vary significantly based on the well properties, it is most cost effective to perform regular well maintenance and R&R to prolong a well's lifetime opposed to well replacement.

Note, not all components of the wells were assessed, and the information presented below is to inform SAWCo of general well-R&R-type projects.

Table 8-3. Well Rehabilitation and Replacement Projects

WELL R&R TYPE	DESCRIPTION
Abandonment	When a well reaches the end of its useful life and/or SAWCo does not intend to continue use of the well, it must be abandoned in accordance with the California Well Standards, published as DWR Bulletin 74, to protect the groundwater and eliminate a physical hazard to humans and animals.
Well R&R	Over the life of a well, the screened portion of a well casing may become clogged and result in reduced production capacity and/or increased pumping drawdown. Well rehabilitation is intended to restore lost production capacity as well as lost water quality in some cases. Rehabilitation efforts consist of cleaning, inspecting, and rehabilitating the well as needed using a variety of chemical and/or mechanical methods.
Pump & Motor R&R	Pumps and motors wear over time and lose efficiency. To maintain them in efficient working order and prevent premature failure, routine maintenance includes removing the pump and motor to inspect, clean, and replace the pump, shaft, and column pipe as necessary, and rewind the motor and replace the bearing.
Electrical System R&R	The life and reliability of electrical equipment can be impacted by operating conditions such as exposure to moisture and chemicals, loading, temperature, vibration, and mechanical stress. Replacement of various components can be driven by technology changes or system efficiency and safety. The electrical components of the wells were not evaluated as part of this analysis.
Well Replacement	When a well must be completely replaced, a new well must be drilled and equipped. Well replacement is intended to replace an existing well and maintain supply capacity.

Note: Each facility should be assessed on a case-by-case basis to determine condition and assess appropriate costs required.

8.3.1 Rehabilitation and Replacement

SAWCo operates three wells within its domestic system and eight wells within its irrigation system. Well conditions were assessed using a scoring method based on well age, lost pumping capacity from the most recent pump tests completed in 2022, and pump efficiency. Weighting factors were applied to each criterion. Table 8-4 lists the well condition evaluation criteria, scoring, and weighting. The higher the score corresponds with a poorer well condition. The maximum score possible based on the weighted criteria is 18. All wells that received a weighted score of at least 70% of the maximum (a score of 12 or greater) are highlighted as candidates for R&R or replacement and are included in the CIP. Older wells should be considered for replacement rather than rehabilitation when other components begin failing (well casing, electrical components, etc.).

Table 8-5 through Table 8-8 list the well information and scoring based on the criteria described above. As an example of how each score is calculated, the score for Well 15’s age (98 years) corresponded to a score of 3. This was multiplied by the weighting factor (value of 2) to obtain a total score of 6 for Well 15 well age evaluation.

Table 8-4. Well Condition Scoring

	SCORE	0	1	2	3
CRITERIA	WEIGHTING FACTOR				
Well Age	2	< 10 Years	10 – 29 Years	30 – 49 Years	< 50 Years
Lost Capacity	3	No Trend	< 25%	25 – 50%	> 50%
Efficiency	1	N/A	> 75%	50 – 75%	< 50%

Table 8-5. Domestic Well Condition Assessment

WELL	AGE		LOST CAPACITY				EFFICIENCY
	DATE DRILLED	AGE IN 2022	DESIGN CAPACITY, GPM	2022 CAPACITY, GPM	LOST CAPACITY, GPM	LOST CAPACITY, %	
Well 15	1924	98	500	409	-91	-18%	57.2%
Well 16	1988	34	1,000	977	-23	-2%	70.1%
Well 32	1987	35	340	287	-53	-16%	57.2%

Table 8-6. Domestic Well Scoring based on Weighted Criteria

	WELL AGE	LOST CAPACITY	EFFICIENCY	TOTAL SCORE
Well 15	6	3	2	11
Well 16	4	0	2	6
Well 32	4	3	2	9

Table 8-7. Irrigation Well Condition Assessment

WELL	AGE		LOST CAPACITY				EFFICIENCY
	DATE DRILLED	AGE IN 2022	DESIGN CAPACITY, GPM	2022 CAPACITY, GPM	LOST CAPACITY, GPM	LOST CAPACITY, %	
Well 2	1924	98	750	798	+48	6%	63.9%
Well 3	1924	98	1,000	1,096	+96	10%	63.9%
Well 22	1931	91	1,200	1,829	+629	52%	63.9%
Well 24	1947	75	2,100	2,618	+518	25%	66.8%
Well 25A	1958	64	600	270	-330	-55%	51.0%
Well 26	1956	66	600	496	-104	-17%	57.0%
Well 27	2000	22	1,000	482	-518	-52%	63.4%
Well 31	1957	65	2,300	1,909	-391	-17%	63.8%

Table 8-8. Irrigation Well Scoring based on Weighted Criteria

	WELL AGE	LOST CAPACITY	EFFICIENCY	TOTAL SCORE
Well 2	6	0	2	8
Well 3	6	0	2	8
Well 22	6	9	2	17
Well 24	6	6	2	14
Well 25A	6	9	2	17
Well 26	6	3	2	11
Well 27	2	9	2	13
Well 31	6	3	2	11

Based on the total weighted scores, four wells have a score greater than 12 and should be prioritized for rehabilitation or potential replacement depending on their age. Table 8-9 lists the recommended R&R projects for each well. The Project ID corresponds to that listed in the final CIP.

This evaluation only considers a few factors to help SAWCo prioritize wells that will need further investigation and planning for well rehabilitation efforts. Each well should include a thorough well and site investigation before any rehabilitation efforts or pump/motor replacements. This

well R&R analysis should be periodically updated as additional information becomes available, including visual condition inspections, well component material and age, and length of time since the previous R&R work was completed for each well. Prior to rehabilitation of irrigation wells, SAWCo should evaluate which wells are most significant for the irrigation system and upgrade those first. Other irrigation wells may be considered for repurposing projects and switched to the domestic system in the future.

Table 8-9. Recommended Well R&R Projects

PROJECT ID	WELL	RECOMMENDED R&R PROJECT
WR&R-1	Well 19	Redrill Well 19 for domestic system reliability.
WR&R-2	Wells 22, 24, 25A, and 27	Conduct further evaluation of Wells 22, 24, 25A, and 27. Visually inspect and perform video inspection to determine the condition of each well. Develop well-specific rehabilitation and/or replacement plan.

8.4 Pump Station Condition Assessment

SAWCo operates six pump stations to fill the gravity reservoirs and supply the domestic system. The pump stations were not visibly inspected, but pump age and efficiency were used to evaluate the condition of each pump station. Industry accepted EUL for pump stations is 60 years and the EUL for pumps range from 10-20 years (Copeland, January 2008). SAWCo does not replace pumps based on a timed schedule but rather on the pump efficiency and motor tests, or at failure.

Any pump with efficiency below 60 percent is a candidate for pump and motor R&R. Table 8-10 lists the booster pump age and efficiencies, with the shaded cells indicating pumps that have exceeded their EUL or are operating at low efficiencies and are candidates for rehabilitation or replacement.

Table 8-10. Domestic Pump Station Condition Assessment

PUMP STATION	PUMP	DESIGN CAPACITY, GPM	2022 CAPACITY, GPM	LOST CAPACITY, GPM	PUMP INSTALLATION YEAR	PUMP AGE IN 2022	2022 PUMP EFFICIENCY
Booster #14 Forebay	Booster 1	500	505	+5	2013	9	53.4%
	Booster 2	500	512	+12	2013	9	51.3%
Booster #16 Euclid*	Booster 1	350	232	-118	2000	22	71.4%
	Booster 2	350	302	-48	2000	22	77.9%
Booster #18 Station 18*	Booster 2	1,500	953	-547	2004	18	70.9%
Booster #19 Holly Drive	Booster 1	450	283	-167	2018	4	64.9%
	Booster 2	450	299	-151	2018	4	66.8%
Booster #20 26 th Street	Booster 1	1,000	1,008	+8	2007	15	77.2%
	Booster 2	1,000	892	-108	2007	15	74.6%

Shaded cells represent pumps that are candidates for replacement.

SAWCo does not complete pump tests for Booster #17 due to the small size (5 HP motors). Upgrades at Booster #17 were completed in 2021 and is in good operating condition.

*Booster #16 last tested in 2014 and results shown here. Planned to be tested in summer 2022.

*Booster #18 last tested in 2018 and results shown here. Planned to be tested in summer 2022.

Based on the existing booster pump ages, two have exceeded their estimated useful lifetimes. The oldest pumps should be prioritized for replacement when the pump efficiency and motor tests indicate a performance decline. Because these pumps are currently operating at an efficiency greater than 60%, their replacement is not scheduled nor included in the recommended pump station R&R projects. In addition, Booster #16 has exceeded its estimated useful lifetime, but is minimally used by SAWCo and in decent operating condition.

Similarly, the operating pump station within the irrigation system was also evaluated and results are provided in Table 8-11.

Table 8-11. Irrigation Pump Station Condition Assessment

PUMP STATION	PUMP	DESIGN CAPACITY, GPM	2022 CAPACITY, GPM	LOST CAPACITY, GPM	PUMP INSTALLATION YEAR	PUMP AGE IN 2022	2022 PUMP EFFICIENCY
Booster #1 20 th Street	Booster 1	2,225	1,381	-844	2007	15	68.5%
	Booster 2	2,225	1,333	-892	2007	15	68.8%

9.0 Supply Risk and Resiliency Analysis

This section summarizes the findings and recommendations of the Supply Risk and Resiliency Analysis Technical Memorandum provided in Appendix B.

IN THIS SECTION

- Supply Risk and Resilience Analysis
- Recommendations

The Supply Risk and Resiliency Analysis TM analyses the existing supply sources, evaluates the top supply risks, and quantifies the impacts top risks could have on SAWCo's ability to continue to provide a reliable and high-quality water to its shareholders. The main findings and recommendations from the TM are summarized in this Section. The complete Supply Risk and Resiliency Analysis TM is provided in Appendix B.

9.1 Supply Risk and Resilience Analysis

The supply risk and resilience analysis process is shown in Figure 9-1. The main process steps and findings are described below.



Figure 9-1. Supply Risk and Resilience Analysis Process

9.1.1 Analysis Goals and Planning Basis

SAWCo has a diverse supply portfolio consisting of surface water supplies from San Antonio Creek and groundwater from three overlying groundwater basin areas and the San Antonio Tunnel. Because these supplies are typically very reliable in most years, SAWCo's goal is to maintain their current level of service and meet all projected demands in the future, under all supply risk scenarios. In situations where this may not be possible, demands can be managed through the use of mandatory conservation with the Water Shortage Contingency Plan (WSCP).

9.1.2 Supply Source Risks

A multitude of potential supply source risks and uncertainties were identified and scored on likeliness of occurrence and impact to SAWCo's water system if they were to occur. The top identified risks are described below:

- **Earthquake / Loss of San Antonio Tunnel.** The largest impact from an earthquake would be damage to critical infrastructure, including the collapse of the San Antonio Tunnel.
- **Climate Change.** Climate change is expected to result in more extreme droughts, shifting rainfall patterns, more intense rainfall and flooding, and higher variability from surface water supplies. Climate change is occurring and the best mitigation SAWCo can take is to plan and prepare for climate related changes that will impact its supplies.
- **Mega-drought.** A mega-drought is a drought lasting two decades or longer, which would impact SAWCo's particularly vulnerable surface supplies and result in reduced recharge of groundwater basins through surface spreading and natural precipitation.
- **Regional Power Outage.** A regional power outage is likely to occur and could impact SAWCo's ability to produce groundwater; other supplies are gravity fed into the system. SAWCo is proactively

acquiring portable generators that could be used to continue operation of the water system during a regional power outage.

- **Increased Energy Costs.** Increased energy costs are highly likely to occur. This would impact the cost to pump and distribute water within both systems. SAWCo's largest supply sources from the San Antonio Creek and Tunnel are gravity fed into the system and therefore would be less impacted by the increasing energy costs. High energy costs will significantly impact operation costs during dry years when less surface water is available and SAWCo will need to pump more groundwater.
- **Reduced Groundwater Rights.** Each of the groundwater basins that SAWCo overlies are adjudicated and SAWCo has defined groundwater rights in each basin. There is a low likelihood that SAWCo's pumping rights will be reduced significantly in the future.
- **Groundwater Contamination.** Groundwater contamination could impact SAWCo's groundwater production facilities; however, this is considered a lower impact because SAWCo pumps from three separate groundwater basins and it is unlikely that contamination would impact all wells simultaneously.
- **Wildfires / Surface Water Quality Degradation.** Wildfires in the watershed of the San Antonio Creek could increase sedimentation and reduce the creek's surface water quality. All this water serves the irrigation system, and most is supplied to the Upland Water Treatment Plant for treatment and supply to the City of Upland. Sedimentation water quality impacts could impact the treatment process.

9.1.3 Supply and Demand Projections

Future conditions were evaluated against multiple supply and demand projections based on identified risks. Each scenario was evaluated using one supply and one demand projection to determine if under specific supply and demand conditions, there would be a gap between available supply and anticipated demand. Multiple scenarios that reflected different demand and supply amounts were analyzed.

9.1.3.1 Demand Projections

The demand projection used in most scenarios is described in Section 3. **The baseline demand projection includes a total demand of about 13,237 AFY by 2040, comprised of the following:**

- The current domestic system demand (2,290 AFY based on the last 3-years average demand) plus 30 AFY for future development within the domestic system.
- The current average irrigation system demand (8,917 AFY based on the last 3-years average demand).
- And a minimum of 2,000 AFY for surface water spreading.
- A 5% increase to account for non-revenue water including water loss.

To be conservative and evaluate the risk of demand rebound, a second demand projection was developed for this analysis assuming demands in the domestic and irrigation system increase to 2012 levels. Based on historic demand, pre 2012-2016 drought demand was much higher than current

demands. During the drought, the demands dropped to the lowest ever due to conservation, and the current demand has recovered to about 85% of pre-drought levels.

The demand rebound projection includes a total demand of about 15,300 AFY by 2040, comprised of the following:

- The 2012 domestic system demand (3,000 AFY based on the last 3-years average demand) plus 30 AFY for future development within the domestic system.
- The 2012 irrigation system demand (10,270 AFY based on the last 3-years average demand).
- A minimum of 2,000 AFY for surface water spreading.
- A 5% increase to account for non-revenue water including water loss.

9.1.3.2 Supply Projections

A total of six supply projections were developed incorporating the top supply risks, shown in Figure 9-2 and described below:

- **Average Supplies:** This projection incorporates the average supply from the San Antonio Creek (about 4,000 AFY) and Tunnel (about 2,400 AFY), excluding outlying extreme wet and dry years. It also includes SAWCo's total groundwater rights from each basin, and assumes water is available for surface water spreading so 6,500 AFY is available from the Cucamonga Basin. The total volume available under this non-risk adjusted scenario is about 15,150 AFY.
- **Climate Change:** For the climate change supply projection, local climate change literature was reviewed to understand the impacts to SAWCo's supplies. Different climate change projections predict different impacts to rainfall, with some estimating more rainfall and other less rainfall in the future. Cal-Adapt Climate Projections for the Desert Region of San Bernardino County of which SAWCo overlies estimates a 2-to-4-inch decline in annual average rainfall by 2050 due to climate change (California Department of Public Health, 2017). However, all models predict shifting rainfall patterns with wetter winters and drier summers. Based on the various models two climate change projections were developed: (1) lower precipitation and (2) higher precipitation:
 - **Lower Precipitation:** the annual rainfall recorded at the San Bernardino San Antonio Heights Rain Gauge was plotted against the historic supplies from the San Antonio Creek and Tunnel to develop a trend between rainfall and supply volume from these sources. Using the plotted trends, a 4-inch annual average decline in rainfall corresponds with approximately a 20% decline in supply available from the San Antonio Creek and 10% decline in flow from the Tunnel. While Tunnel water is considered percolated groundwater, rainfall has a slight correlation with the supply from the Tunnel. For the climate change projections with lower future precipitation, the supply from the San Antonio Creek and Tunnel were decreased 20% and 10% from the average values respectively, corresponding with a new average of 3,200 AFY from the San Antonio Creek and 2,200 AFY from the Tunnel. Groundwater supplies are based on available rights and were not reduced based on climate change impacts. The total volume available under this climate change scenario is about 14,100 AFY.
 - **Higher Precipitation:** The higher precipitation scenario also assumes that the precipitation occurs over a shorter time period and is more intense. Generally, these more intense rainfall periods result in more runoff and less percolation in the groundwater. Because of this, the supply from the San Antonio Tunnel is still expected to be lower than the historic average and is assumed to be 90% of average (2,200 AFY) like the above climate change projection. The San Antonio Creek, however, is expected to have higher flows in the winter which could potentially be diverted to spreading basins and stored in the groundwater to be pumped later in

the summer. This projection assumes supply from the San Antonio Creek will increase 20% from average to about 4,850 AFY. However, the higher intensity rainfall and increased runoff could impact the water quality from the creek, which serves non-potable customers and the Upland Water Treatment Plant, and could impact the treatment plant operations. With no impact to groundwater, the total volume available under this climate change projection is 15,720 AFY.

- Reduced Groundwater Yield:** While SAWCo’s groundwater rights are defined through the adjudications of the groundwater basins, climate impacts and reduced outdoor water use due to aggressive State conservation efforts could impact the natural recharge of the basins. These impacts could result in future revisions and reductions to the rights of all pumpers in the groundwater basins. To understand the impact this could have on SAWCo, this projection incorporates a 10% reduction in all available groundwater supplies for a total available supply of about 14,300 AFY.
- Tunnel Collapse:** The San Antonio Tunnel is one of SAWCo’s main sources of water that is gravity supplied to the system and can be delivered directly to customers for potable uses with only disinfection for treatment. The projection assumes the San Antonio Tunnel is collapsed and no water is available from the Tunnel, reducing the average available supply from about 15,150 AFY to 13,900 AFY. While this projection includes all other supplies, the analysis considers the domestic and irrigation system separately, and without the Tunnel supply the domestic system loses its main supply source.
- Mega Drought:** To project the water supplies during a mega drought, the historic water available from the San Antonio Creek and Tunnel were reviewed and sorted based on average rainfall and yield. The average yield from the driest 30% of the years were used in this projection, which includes an average yield from the San Antonio Creek of about 1,780 AFY and 1,550 AFY from the Tunnel. With the groundwater rights unimpacted, the total supply is about 13,900 AFY if 2,000 AF of the San Antonio Canyon water were used for spreading, or more likely a total supply of 11,800 AFY with no water used for surface water spreading.

Overall, the future supplies are projected to range between 11,800 AFY to 15,720 AFY.

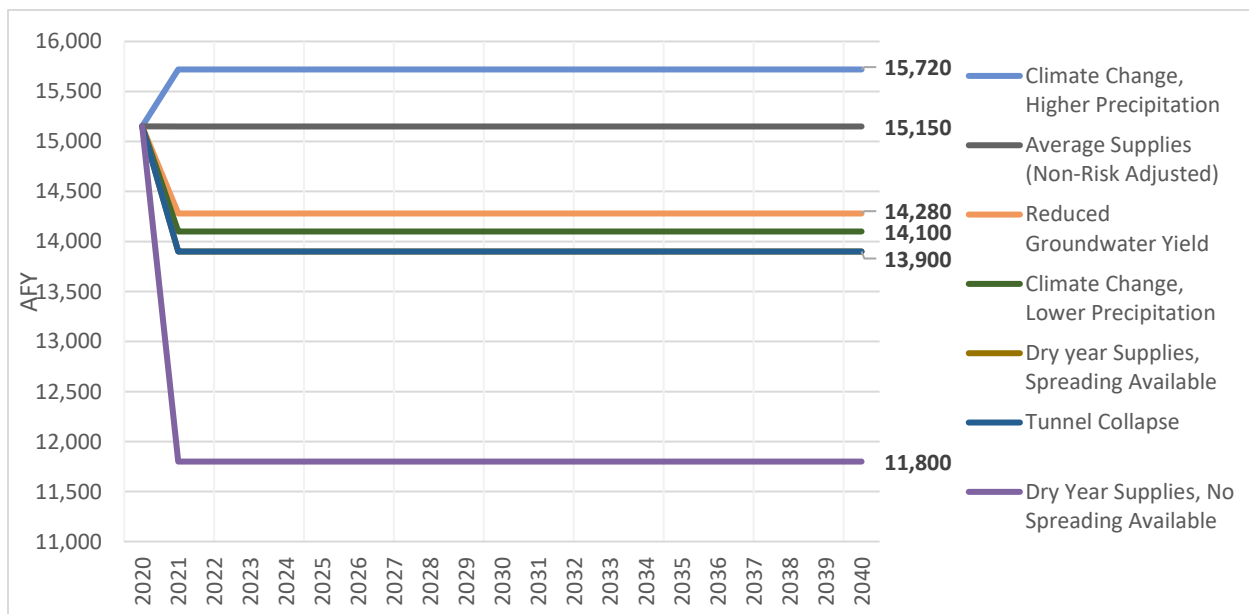


Figure 9-2. Average and Risk Adjusted Supply Projections

9.1.4 Gap Analysis

The supply projections were combined with a demand projection to create future scenarios. These scenarios were evaluated to find if there will be a supply shortage, or gap between projected supply and demands, under the scenario conditions. Table 9-1 lists the eight evaluated scenarios, including the results of the gap analysis. Appendix B includes more detail on how the gap analysis and surplus and shortfall values were developed.

As shown, scenarios 1A, 2, 3, and 6 do not have a supply shortfall, and any surplus San Antonio Canyon supply would be available for additional spreading each year. Scenario 1A represents current conditions, but may not be representative of the future.

Scenarios 1B, 4A, 4B, and 5 all project a supply deficit and will require conservation savings or potentially new and emergency supplies to meet all demands. Scenario 1B incorporate demands rebounding to pre-drought levels and shows that if this were to occur demands would likely exceed future supplies. While it is unlikely to rebound to pre-drought levels with new State mandated water use efficiency standards and urban water budgets expected in 2022, it is recommended SAWCo continues to promote conservation and implement future State water use efficiency standards and objectives to prevent demands increasing beyond supplies.

Scenario 4A and 4B incorporate dry year supplies to evaluate the impacts of a mega-drought against the baseline demand projection. Scenario 4A includes a 2,000 AFY demand for surface water spreading, which allows SAWCo to pump up to 6,500 AFY from the Cucamonga Basin. However, during an extended drought the supplies from the San Antonio Creek and Tunnel are most likely to be impacted, and there may not be available water from these sources to direct to spreading basin. Scenario 4B excludes the demand for surface water spreading and limits the supply from the Cucamonga Basin to 4,500 AFY. In both scenarios there is a supply shortfall compared to demands, and conservation savings of 14-15% are needed to close the gap.

Table 9-1. Scenario Gap Analysis

SCENARIO	DEMAND PROJECTION	SUPPLY PROJECTION	SUPPLY SURPLUS (+) OR SHORTFALL (-) AFY	IF SHORTFALL, HOW MUCH CONSERVATION IS NEEDED?
1A	Baseline Demand (Includes baseline domestic and irrigation demands plus a minimum 2,000 AFY for surface spreading)	Average Supplies: Total supply of 15,150 AFY	1,252	N/A
1B	Rebound Demands (Includes rebound/ increased to 2012 usage levels in the domestic and irrigation system, plus a minimum 2,000 AFY for surface spreading)	Average Supplies: Total supply of 15,150 AFY	-915	6%
2	Baseline Demand	Supplies with Climate Change resulting in lower precipitation: Total supply of 14,100 AFY	199	N/A
3	Baseline Demand	Supplies with Climate Change resulting in higher precipitation: Total supply of 15,720 AFY	1,816	N/A
4a	Baseline Demand	Mega Drought: Total supply of 13,900 AFY	-1,902	14%
4b	Baseline Demand, no surface water spreading	Mega Drought: Total supply of 11,900 AFY due to limited Cucamonga Basin Rights without surface water spreading	-1,802	15%
5	Baseline Demand	Tunnel Collapse: Total supply of 13,900 AFY	-1,191	9%
6	Baseline Demand	Reduced Groundwater Yield: Total supply of 14,280 AFY	386	N/A

Scenario 5 compares the baseline demand projection to supplies without the San Antonio Tunnel which could occur with a tunnel collapse due to a major earthquake or other natural disaster. In this scenario there is a supply deficit of over 1,000 AFY, which corresponds with a 9% demand reduction needed so demands do not exceed supplies.

In addition to the whole system evaluation presented above, the gap analysis considered limitation of supplies to serve the domestic and the irrigation system. When considering the operation of the two systems, all scenarios with a supply surplus (Scenario 1A, 2, 3, and 6) continue to have excess supply that can be used for additional surface water spreading.

Of the scenarios with a supply deficit, in Scenario 1B, 4A and 4B the required conservation can apply to either system. In these scenarios there are no supply or production limitations on providing the retail potable water demand to San Antonio Heights in the domestic system. A reduction in the share value, or volume of water each share is entitled, for wholesale customers based on the supply availability could be used to reduce demands to meet the available supply in these scenarios. Also, the model did not consider conjunctive use and any long-term storage of San Antonio Canyon water in the groundwater basins that could also be available to SAWCo when needed during dry years to reduce the conservation needed.

For Scenario 5, the domestic system has a much higher impact due to the loss of the tunnel than the irrigation system. Figure 9-3 below shows the supply break down for the domestic and irrigation system for Scenario 5. As shown, with the loss of the tunnel the domestic system will require more than 30% conservation to reduce demands to meet the available potable supplies while the irrigation system will only require minor reductions in demand. Alternatively, a new supply source or emergency supply could be used to augment the domestic system supply and reduce the amount of conservation required.

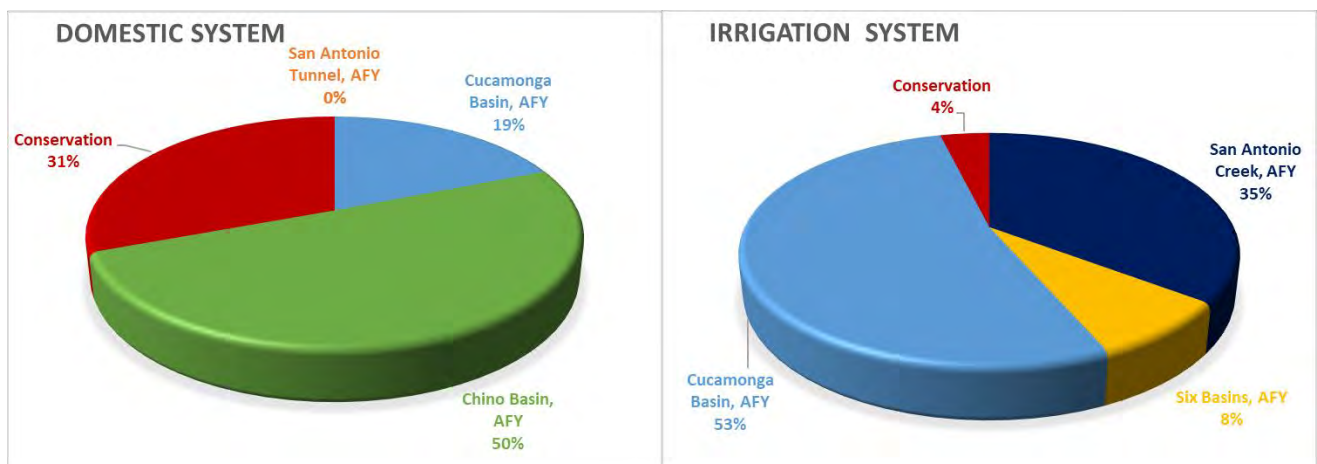


Figure 9-3. Scenario 5 Tunnel Collapse Supply Portfolio for the Domestic and Irrigation Systems

9.2 Recommendations

The gap analysis shows that under the future scenarios evaluated, SAWCo's well diversified supply portfolio is sufficient to meet projected demands in most scenarios and situations. However, it is important SAWCo maintains its current conjunctive use operation strategy, production facilities and infrastructure, and demand management measures. In addition to the active maintenance of its systems, new potential supplies are recommended for further investigation to serve the domestic system potable water in the event of the loss of the Tunnel supply.

Recommendations to maintain the current systems and supply portfolio:

- **Conjunctive use:** SAWCo currently diverts San Antonio Canyon Water in the winter during the rainy season for surface water spreading and recharge of groundwater basins. It is recommended to continue this practice to maximize the available San Antonio Canyon Water and store in the groundwater basins for longer term use. Building up groundwater storage through conjunctive use could help SAWCo meet demands and reduce or eliminate the need for the WSCP during extremely dry years.
- **Demand Management:** The analysis estimates that if demands rebound to pre-drought levels it could exceed the normal supplies available to each year. While this is unlikely and current lower water use levels are expected to continue, SAWCo should maintain its demand management measures to prevent water waste and a potential rebound to unsustainable demand levels.
- **Infrastructure Maintenance:**
 - **Tunnel Inspection and Maintenance:** The San Antonio Tunnel is a high volume and important gravity fed source of potable water for the domestic system. As shown in Scenario 5, if the San Antonio Tunnel collapsed there will be a significant supply shortage for the domestic system. Firstly, the San Antonio Tunnel should be inspected via CCTV and evaluated by a structural engineer. The inspection can provide an assessment of the current condition of the San Antonio Tunnel and provide recommendations for improvements to maintain the lifespan of the tunnel, such as lining the San Antonio Tunnel or other retrofit recommendations. If significant issues are found that would require major improvements, SAWCo can plan for these improvements now instead of responding to these issues after an emergency such as a tunnel failure or collapse.
 - **San Antonio Creek Diversion and Maintenance:** Similar to the San Antonio Tunnel, the San Antonio Creek is a high volume and important gravity fed supply source. Currently all the water from the San Antonio Creek is diverted at one location and conveyed into the irrigation system via a single clay pipeline that is nearing the end of its useful lifetime. The pipeline should be inspected and evaluated for relining. The evaluation should consider the ideal relining materials and method, impacts to the pipeline capacity, and cost evaluation with a comparison to replacing the pipeline through a traditional replacement method.
 - **Well Maintenance:** SAWCo's groundwater wells are also important production facilities and regular testing, maintenance and upkeep is imperative to maintaining production capacity. While the loss of a single well has a less impact than the loss of the tunnel or creek pipeline, regular well upkeep can maintain well production capacity and extend

the well's lifetime. It is also recommended to obtain one or more back-up generators that can be used to operate the wells during power outages and emergency situations. Well maintenance also includes groundwater monitoring efforts to ensure existing wells can continue to produce should groundwater levels drop due to other risks identified in this WMP.

Recommendations for new supply sources:

- **Construct Well 19:** As described in Section 4, SAWCo plans to construct a new well within the Cucamonga Basin to mitigate the production deficit in the domestic system. Future Well 19 is projected to provide approximately 1,490 gpm of additional supply to the domestic system, which will help maintain service levels in the domestic system if the tunnel collapsed or other supplies were unavailable.
- **Emergency Connection:** In the past SAWCo has purchased water from the City of Upland. Due to the potable supply limitations to the domestic systems, and vulnerability of the San Antonio Tunnel, a new emergency connection is recommended for the domestic system to provide potable water for SAWCo's domestic customers. One potential location may be a direct connection with the City of Upland downstream of their Water Treatment Plant where SAWCo purchases back water supplied to the City that has now been treated, or through an agreement with the City to treat additional water for SAWCo. It is likely that additional connections will be required to meet emergency demand, as the existing connections are limited to roughly 500 gpm. SAWCo has previously explored imported water connections from Metropolitan Water District or the neighboring Cucamonga Valley Water District. However, no ideal locations have yet been identified. A future interconnection would ideally be located in the domestic system along an existing main with adequate capacity. Additional discussion with potential partnering agencies and evaluation of interconnection locations is needed to determine the preferred intertie location. At this time, no ideal location has been identified.
- **Repurpose Irrigation System Wells for use in the Domestic System:** SAWCo has multiple wells that currently only serve the irrigation system. These wells could be repurposed to serve the domestic system when needed. If required, new wellhead treatment could be constructed to meet potable water quality standards, and existing or new infrastructure repurposed or constructed to convey more groundwater water to the domestic system. However, additional domestic pipelines will need to be constructed to convey water north to reach domestic customers, or existing irrigation lines would need to be isolated and repurposed. An alternative to repurposed irrigation assets is the construction of a new domestic well, Well 19.
- **1 MGD Water Treatment Plant:** Currently, water from the San Antonio Creek serves only the irrigation system and is the main supply source for the City of Upland's surface water treatment plant. A new SAWCo owned and operated 1 MGD water treatment plant, located near the Forebay, could allow SAWCo to treat the creek supply to drinking water levels and serve the domestic system. The WTP would reduce the current vulnerability in the domestic system and allow additional sources of supply to serve San Antonio Heights. A 1 MGD plant corresponds to 1,120 AFY if operating a full capacity year-round, which would supply about 95% of the supply and demand gap in the domestic system if the tunnel were out of service. Additionally, the treatment plant would be available to provide water to the City of Upland when their treatment plant is out of commission.

WATER MASTER PLAN

10.0 Recommended Capital Improvement Program

This section summarizes projects identified in this master plan and recommended capital projects, costs, and implantation schedule.

IN THIS SECTION

- Cost Estimating Basis and Assumptions
- Improvement Projects Summary
- Implementation

Projects to improve performance, reliability, and lifespan of the wholesale system infrastructure have been identified in the previous sections. This section summarizes those identified projects, provides project costs, and a recommended capital improvement plan for the next 20 years.

10.1 Cost Estimating Basis and Assumptions

The cost opinions (estimates) with the recommended projects in this CIP have been prepared in conformance with industry practices as planning-level cost opinions. These cost estimates have been developed using a combination of data from RS Means CostWorks® and recent bids, experience with similar projects, current and foreseeable regulatory requirements, and an understanding of necessary project components. As projects progress, the designs and associated costs could vary significantly from the project components identified in this CIP. Detailed cost estimates are included in Appendix C.

The recommended projects and these cost opinions are based on the following assumptions:

1. For projects where applicable cost data is available in RS Means CostWorks® (e.g. pipeline installation), cost data released in Quarter 3 of 2022, adjusted for San Bernardino, California is used.
2. For projects where RS Means CostWorks® data is not available, cost opinions are generally derived from bid prices from similar projects with adjustments for inflation, size, complexity, and location.
3. Cost opinions are in 2022 dollars. When budgeting for future years, an escalation factor of 3% was applied.
4. Cost opinions are “planning-level” and may not fully account for site-specific conditions that will affect the actual costs, such as soil conditions and utility conflicts.
5. Construction costs include a 20% contingency based on the subtotal. For planning projects, construction costs are not included in the total project cost.
6. Total project costs include a 25% project development cost to cover administrative, alternative analysis, planning, engineering, surveying, etc. costs.

10.2 Improvement Projects Summary

Table 10-1 provides a summary of projects identified within this WMP and includes the estimated cost for each project. Each project listed includes the project number listed in the CIP, improvement project name, estimated cost, and the report section where discussion of the project is provided.

Table 10-1. CIP Projects Summary

PROJECT	ESTIMATED COST	SECTION REFERENCE
REZONING	\$56,300	
RZ-1: Expanded Holly Drive Zone Feasibility Study	\$56,300	Section 7.1
FIRE FLOW	\$233,000	
FF-1: Ponte Vecchino Ct Pipeline	\$110,100	Section 6.2
FF-2: Hillcrest Drive Pipeline	\$39,600	Section 6.2
FF-2: Hydrant Installation	\$83,300	Section 6.2.2
REHABILITATION & REPLACEMENT	\$6,556,800	
R&R-1: Well 19	\$2,912,000	Section 4.1.1
R&R-2: Domestic Tank Inspections	\$61,800	Section 8.2
R&R-3: San Antonio Tunnel Inspection	\$524,200	Section 9.2
R&R-4: E 25 th St Main Replacement	\$110,200	Section 8.1
R&R-5: Belleview Rd Main Replacement	\$29,200	Section 8.1
R&R-6: Irrigation Wells 22, 24, 25A, and 27 Evaluation	\$110,000	Section 8.3.1
R&R-7: Main Box Surface Water Pipeline Replacement	\$2,426,900	Section 8.1
R&R-8: Benson Ave Irrigation Replacement	\$382,500	Section 8.1
OPERATION & MAINTENANCE	\$2,333,100	
O-1: Annual Domestic Pipeline Replacement	\$261,700	Section 7
O-2: Annual Irrigation Pipeline Replacement	\$174,700	Section 7
O-3: San Antonio Creek to Upland tee Irrigation Pipeline Evaluation	\$541,000	Section 7
O-4: Production Meter Upgrades/Replacement	\$436,000	Section 7
O-5: Backup Well Generators	\$687,500	Section 7
O-6: BPS #9 Analysis	\$62,500	Section 7.4.1
O-7: Irrigation Valves	\$69,700	Section 6.3.3

TOTAL ESTIMATED COST	\$9,079,200
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Note: Costs are provided in 2022 dollars. Total budget estimate for each project may span multiple years in the CIP.

10.3 Implementation

SAWCo has historically maintained a \$3.15 million budget for operation and maintenance. Based on the project’s specified in Table 10-1, it’s estimated that SAWCo could spend between \$800,000 up to \$2.5 million in a given year.

Table 10-2. 10-Year CIP

Project ID	System	Description	Pipe Length, feet	Diameter / Capacity	Project Total (2022 Dollars)	CIP Value in Future Year Dollars										
						2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032
						1	2	3	4	5	6	7	8	9	10	11+
Rezoning					\$56,300	\$0	\$0	\$0	\$61,521	\$0	\$0	\$0	\$0	\$0	\$0	\$0
RZ-1	Domestic	Perform a detailed feasibility study of potential rezoning at Holly Drive / High Zone to improve pressure, fire flow, and Holly Drive storage turnover / water quality.	N/A	N/A	\$56,300				\$61,521							
Fire Flow					\$233,000	\$0	\$0	\$88,373	\$43,272	\$0	\$0	\$0	\$0	\$0	\$143,656	\$0
FF-1	Domestic	Replace existing 4-inch pipeline with 8-inch PVC when pipeline fails within Ponte Vecchino Ct.	560	8-inch	\$110,100										\$143,656	
FF-2	Domestic	Install pipeline and associated appurtenances within Hillcrest Drive to improve system reliability and provide fire protection.	300	8-inch	\$39,600				\$43,272							
FF-3	Domestic	Install 6 hydrants to provide adequate fire hydrant coverage throughout the domestic system.	N/A	N/A	\$83,300			\$88,373								
Rehabilitation & Replacement					\$6,556,800	\$1,980,200	\$1,525,142	\$26,225	\$43,556	\$63,816	\$159,632	\$998,785	\$994,927	\$1,024,775	\$249,538	\$257,024
R&R-1	Domestic	Redrill Well 19 for domestic system reliability.	N/A	1,490 gpm	\$2,912,000	\$1,456,000	\$1,499,680									
R&R-2	Domestic	Professionally inspect and clean all domestic storage tanks with divers.	N/A	6.72 MG	\$61,800		\$25,462	\$26,225	\$13,506							

Project ID	System	Description	Pipe Length, feet	Diameter / Capacity	Project Total (2022 Dollars)	CIP Value in Future Year Dollars										
						2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032
						1	2	3	4	5	6	7	8	9	10	11+
R&R-3	Domestic	Inspect the San Antonio Tunnel via CCTV and evaluate results by a structural engineer.	5,100	6' x 6'	\$524,200	\$524,200										
R&R-4	Domestic	Rehabilitate or replace 600-feet of 8-inch main within E 25th St approaching Euclid Crescent E.	600	8-inch	\$110,200						\$127,752					
R&R-5	Domestic	Rehabilitate or replace 200-feet of 6-inch main within Belleview Rd.	200	6-inch	\$29,200					\$32,865						
R&R-6	Irrigation	Conduct study to further evaluate the conditions of Wells 22, 24, 25A, and 27. Visually inspect and perform video inspection to determine condition of each well. Develop well-specific rehabilitation and/or replacement plan.	N/A	N/A	\$110,000				\$30,050	\$30,951	\$31,880	\$32,836				
R&R-7	Irrigation	Rehabilitate or replace approximately 1.5 miles of 20-inch concrete and 24-inch steel surface water line from main box to Forebay.	7,920	24-inch	\$2,426,900							\$965,949	\$994,927	\$1,024,775		

Project ID	System	Description	Pipe Length, feet	Diameter / Capacity	Project Total (2022 Dollars)	CIP Value in Future Year Dollars											
						2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	
						1	2	3	4	5	6	7	8	9	10	11+	
R&R-8	Irrigation	Replace 2,500 feet of existing 14-inch steel booster line from I-210 freeway south to 17th St within Benson Ave with 14-inch PVC. Consider future delivery capabilities to WFA.	2,500	14-inch	\$382,500											\$249,538	\$257,024
Operation & Maintenance					\$2,233,100	\$436,400	\$449,492	\$1,125,244	\$715,081	\$1,178,520	\$904,408	\$521,084	\$536,717	\$552,818	\$569,403	\$586,485	
O-1	Domestic	Annual pipeline replacement program for domestic system. Replace approximately 2,300 feet of domestic mains per year.	2,300 / year	8-inch	\$261,700	\$261,700	\$269,551	\$277,638	\$285,967	\$294,546	\$303,382	\$312,483	\$321,858	\$331,514	\$341,459	\$351,703	
O-2	Irrigation	Annual pipeline replacement program for irrigation system. Replace approximately 1,200 feet of irrigation mains per year.	1,200 / year	12-inch	\$174,700	\$174,700	\$179,941	\$185,339	\$190,899	\$196,626	\$202,525	\$208,601	\$214,859	\$221,305	\$227,944	\$234,782	
O-3	Irrigation	Evaluate the condition of the existing pipeline that conveys San Antonio Creek Water to the City of Upland tee in Mountain Ave. The existing pipeline is very old, comprised of 20- and 24-inch concrete/steel, and should be rehabilitated to ensure collection of surface water continues and to reduce leaks. Consider conventional replacement methods or slip-lining.	6,000	24-inch	\$541,000					\$608,900							

Project ID	System	Description	Pipe Length, feet	Diameter / Capacity	Project Total (2022 Dollars)	CIP Value in Future Year Dollars										
						2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032
						1	2	3	4	5	6	7	8	9	10	11+
O-4	Domestic & Irrigation	Upgrade and replace production meters in both the domestic and irrigation systems.	N/A	N/A	\$436,000			\$231,276	\$238,214							
O-5	Domestic & Irrigation	Obtain one or more backup well generators for supply resiliency.	N/A	N/A	\$687,500			\$364,684			\$398,500					
O-6	Irrigation	BPS #9 Analysis for future use as an irrigation asset or repurposed for domestic system use. Analysis should include hydraulic evaluation, water quality and treatment.	N/A	N/A	\$62,500			\$66,306								
O-7	Irrigation	Install two additional valves within the irrigation system to better isolate pipelines and assist operational and maintenance activities.	N/A	N/A	\$69,700					\$78,448						
CIP Total					\$9,079,200	\$2,416,600	\$2,416,600	\$1,974,634	\$863,429	\$1,242,337	\$1,064,040	\$1,519,869	\$1,531,644	\$1,577,593	\$962,596	\$843,509

Note: Costs escalated at 3% per year.

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A

Appendix A Hydraulic Model Development



Hydraulic Model Development

San Antonio Water Company (SAWCo) has appointed Water Systems Consulting, Inc. (WSC) with the task of updating their Water Master Plan (WMP). Part of updating the WMP includes building and calibrating a new hydraulic model in Innovyze’s InfoWater® hydraulic modeling software based on SAWCo’s current system mapping. A calibrated hydraulic model is a valuable tool that SAWCo can use to evaluate the distribution system, determine system deficiencies, and predict the system response due to operational changes.

This technical memorandum (TM) describes how the model was built and calibrated, including assumptions made for missing or unknown data.

IN THIS SECTION

- Model Structure and Connectivity
- System Demands
- System Evaluation Criteria
- Model Calibration
- Extended Period Simulation

1.1. Model Structure and Connectivity

The first step in model development is to build the model structure, confirm the pipe and facility connectivity, and populate basic facility physical information. The model structure was built using SAWCo's Geographic Information System (GIS) database that contains a map of the distribution system's assets and information on the system's water mains, reservoirs, pump stations, wells, valves, meters, and other assets. The GIS data was carefully reviewed for pertinent information that would affect the system hydraulics and was prepared for transfer to the hydraulic model. Unique ID's that distinguished pipelines as domestic or irrigation (PD_XX versus PIR_XX) were created in GIS for the pipes and imported into the model. The unique Model ID links elements to the GIS database for seamless updates in both systems. Names for the reservoirs, wells, and PRVs were used as asset ID's.

The GIS Gateway Tool in Innowyze's InfoWater® software was used to easily transfer GIS data and attributes into the hydraulic model. Table 1 lists the water distribution system facilities and assets transferred into the hydraulic model from the GIS database as well as the relevant properties transferred for each asset.

Table 1. Attributes transferred into the Model from SAWCo's Geodatabase

InfoWater Facilities and Assets	Attributes Transferred from SAWCo's GIS Database	Notes
Pipe	Model ID	Unique Model IDs were created to distinguish domestic pipelines from irrigation pipelines. The pipelines were given unique numbers that were set as the Pipe ID in InfoWater by using the GIS Gateway Tool.
	Diameter	Pipe diameter.
	HWLDesc	The HWLDesc identified the zone the pipeline is located in (Upper, Lower, Holly Drive).
	HWL	The HWL identified the pipeline's head (2207, 2400, 2675, 2714). Pipelines are classified by the HWL in SAWCo's System Index Map.
	Material	Pipe material.
	Status	Only pipes with an active status were included in the model.
	ID	The ID attribute described pipeline work orders. This field was imported into the model for reference.
	System	The System attribute classified the pipelines as either domestic or irrigation and was used to quickly query the different systems in InfoWater.
Pump	Name	The pump station name was used as the pump ID. Additional pumps were manually added as needed to each pump station. Wells were imported as pumps and reservoirs added to simulate the head.
Reservoir (Well)	Name	The well name was used as the Reservoir ID. The wells were originally added to the model as pumps and the reservoirs were manually added and connected to each corresponding well pump.
	Install Year	Year well was installed.
	Status	Status of well (active/inactive).
	GW_Source	The groundwater basin that the well pumps from.
Tanks	Name	The reservoir name was used as the Tank ID.
	Install Year	Year tank was installed.

InfoWater Facilities and Assets	Attributes Transferred from SAWCo's GIS Database	Notes
	Material	Tank material.
	HWL	The HWL identified the pipeline's head (2207, 2400, 2675, 2714). Pipelines were classified by the HWL in SAWCo's System Index Map.
	Height	The height was used to populate the maximum level of the tank in InfoWater.
	Size	The capacity in million gallons of each tank.
Valves	Name	The valve name was used as the Valve ID.
	Comments	The comments field provided descriptions of the valve's location. The comments were imported as the InfoWater Description field.
	Status	Status of valve (active/inactive).
	Quantity	The number of valves at the PRV station.
	Sizes	The size of the valves located at the PRV station.

Once the GIS Gateway Tools was executed and the structure built, the system's connectivity needed to be confirmed. InfoWater® Network Review/Fix and Connectivity tools can use queries such as "nodes in close proximity", "pipe-split candidates", "orphaned nodes", "merge nodes", and more to review the connectivity and troubleshoot problems.

Disconnected nodes were added to the domain using the Facility and Domain manager to query selection sets. Then, the disconnected nodes were manually analyzed to determine which pipelines the nodes should be connected to. The Merge Nodes Tool was manually applied to a disconnected node and a node on a pipeline. The tool asks the user to identify which node to be dissolved and which node to classify as the destination to automatically adjust the pipeline alignment and fix connectivity, as shown in Figure 1. In general, the merge nodes process yielded accurate pipe connections and improved many of the connectivity issues from when the model was first built. The model was then manually reviewed a last time for other connectivity issues, with a focus at zone boundaries and tank and pump station connections.

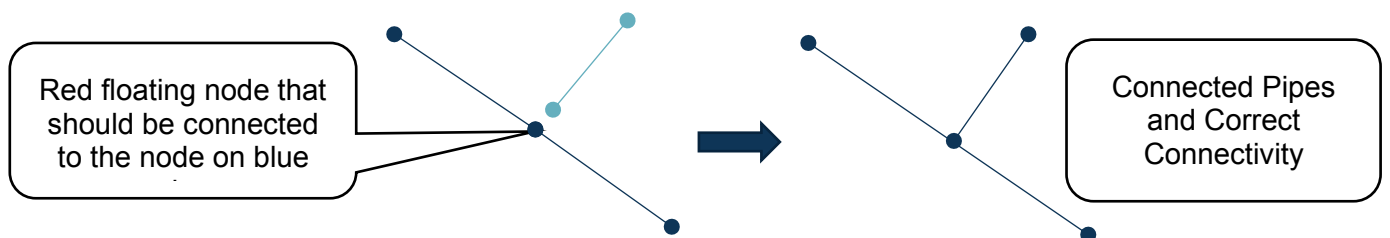


Figure 1. Merge Nodes tool was used to join pipes in the model and fix connectivity issues.

The last step in building the model structure is populating basic physical and operating information for the model and facilities. This information includes elevation data at the junctions and facilities, tank operating elevations, pump and well operating points or pump curves, and PRV settings. SAWCo's 2017 Water Master Plan, prepared by Civiltec Engineering, Inc., was the basis of much of the information in the water model as well as input from SAWCo. Table 2 lists the sources used to populate facilities.

Table 2. Source of Manually added Physical and Operating Data

Hydraulic Model Elements	Source
Pipe Connectivity	GIS Database, As-Builts, and input from SAWCo staff.
Pump Definitions	Pump Operating Points from 2017 pump and well tests, SCADA Set Points.
Tank Elevations and Dimensions	2017 Water Master Plan, input from SAWCo staff.
Elevation	USGS one (1) meter resolution digital elevation model files. These were downloaded as raster files and projected to the correct coordinate system in the model. Elevation data was extracted and converted to feet.
PRV Location and Direction	GIS Database and input from SAWCo staff.
Zone Boundary	GIS Database.

1.2. System Demands

To evaluate SAWCo’s water distribution system, the location and quantities of water demands must be known and modeled. Spatially allocated demands were established based on historical annual water customer consumption for 2019 and production data from SAWCo’s records and GIS parcel data. The 2019 water demand data included Assessor’s Parcel Numbers (APNs) for each customer and/or addresses which were associated with GIS parcel data to determine each customer’s location. Future demands, including buildout demands expected in 2035, were projected by applying a water demand factor from existing demands and parcel acreage to areas identified as future development in the 2017 WMP.

San Bernardino County parcel data was added as a shapefile and the centroid of each parcel was calculated using GIS tools and exported to Microsoft Excel. Customer billing data provided by SAWCo contained APN for each customer account. Using the APN field, customer data was matched with San Bernardino County parcel data (centroid x and y coordinates). With the customer consumption matched to parcel information, the domestic demands were loaded into the model using the Demand Allocation Manager with a closest pipe relationship. This relationship automatically identifies the closest pipe to each meter and distributes the meter’s demand to the junctions at either end of the pipe. The customer meter’s assigned junction was manually checked for errors, especially near zone boundaries, and corrected as needed.

Several irrigation customers receive deliveries at several locations. To determine the amount of demand at each location, SAWCo provided addresses for each meter. The addresses were matched to San Bernardino County parcel data to determine the APN and coordinates. Irrigation demands were also loaded using a closest pipe relationship. The customer meter’s assigned junction was manually checked for errors, especially near zone boundaries, and corrected as needed.

The minimum and maximum daily demands were determined by evaluating historic daily production data from 2009 through 2019. The minimum and maximum production months were used to determine average day demands and to determine appropriate peaking factors. However, SAWCo does not record hourly production data, so the peak hourly demand was calculated as 1.5 times the maximum daily demand per California Waterworks Standards. Table 3 and Table 4 summarize the modeled demands and peaking factors for the domestic and irrigation systems.

Table 3. Summary of Modeled Domestic Demands

System Demand	Current (MGD)	Current (gpm)	Buildout ¹ (MGD)	Buildout (gpm)	Peaking Factor
Average Daily Demand (ADD)	2.3	1,602	2.4	1,632	N/A
Maximum Daily Demand (MDD)	3.5	2,403	3.6	2,448	1.5
Peak Hourly Demand (PHD)	5.2	3,604	5.3	3,672	2.25

1. Buildout is predicted to occur by 2030 with a projected population of 3,322.

Table 4. Summary of Modeled Irrigation Demands

System Demand	Current (MGD)	Current (gpm)	Buildout ¹ (MGD)	Buildout (gpm)	Peaking Factor
Average Daily Demand (ADD)	8.1	5,626	8.1	5,626	N/A
Maximum Daily Demand (MDD)	12.2	8,439	12.2	8,439	1.5
Peak Hourly Demand (PHD)	18.2	12,659	18.2	12,659	2.25

1. Irrigation demands are anticipated to remain the same or reduce over time. For conservative estimates, the irrigation demands are planned to remain constant.

It is expected that future domestic demands will increase minimally. Areas identified as future development in the 2017 WMP were used to determine the total future demand SAWCo could expect to serve in the future and are shown in Figure 2. Portions of Areas A and B were identified as potential areas for development. Based on preliminary calculations completed in the 2017 WMP, approximately half of the total area for Areas A and B could be developed and as a result, half of the total area of those parcels were used to calculate future demands. It should be noted that half of Area G overlaps a parcel owned by San Bernardino County Flood Control, making it extremely unlikely to be developed. It is estimated that the total additional demand for future development will add 30 AFY of demand to SAWCo's domestic system.

It is possible that SAWCo will experience a decrease in irrigation demands. The City of Upland has recently entered into agreement with the Upland Hills Country Club (Country Club) to supply water. When the Country Club begins to receive water from Upland, it is expected that the demand required to be fulfilled by SAWCo will decrease. In 2019, the Country Club utilized 332 AF from SAWCo. It is also possible that as development occurs, the SAWCo irrigation system may be transferred to Upland and refurbished to supply potable demand within the City.

Table 5. Future Demand.

Area	Acres	Water Demand Factor (gpm/acre)	Water Demand (gpm)	Water Demand (AFY)
A ¹	33.8	1.036	17.53	10.9
B ¹	35.2	1.036	18.23	11.3
C	3.4	1.036	3.54	2.2
D	1.2	1.036	1.28	0.8
E	0.8	1.036	0.81	0.5
F	0.8	1.036	0.82	0.5
G ²	5.9	1.036	6.09	3.8
Additional Future Demand, AFY				29.9

Notes

1. If developed, parcel expected to be half developed. Half of total parcel acreage used to determine future demand.
2. Half of area identified as future development is highly unlikely to be developed. Southern portion of Area G owned by San Bernardino County Flood Control. Dashed lines in
3. **Figure 2** delineate area owned by San Bernardino County Flood Control.

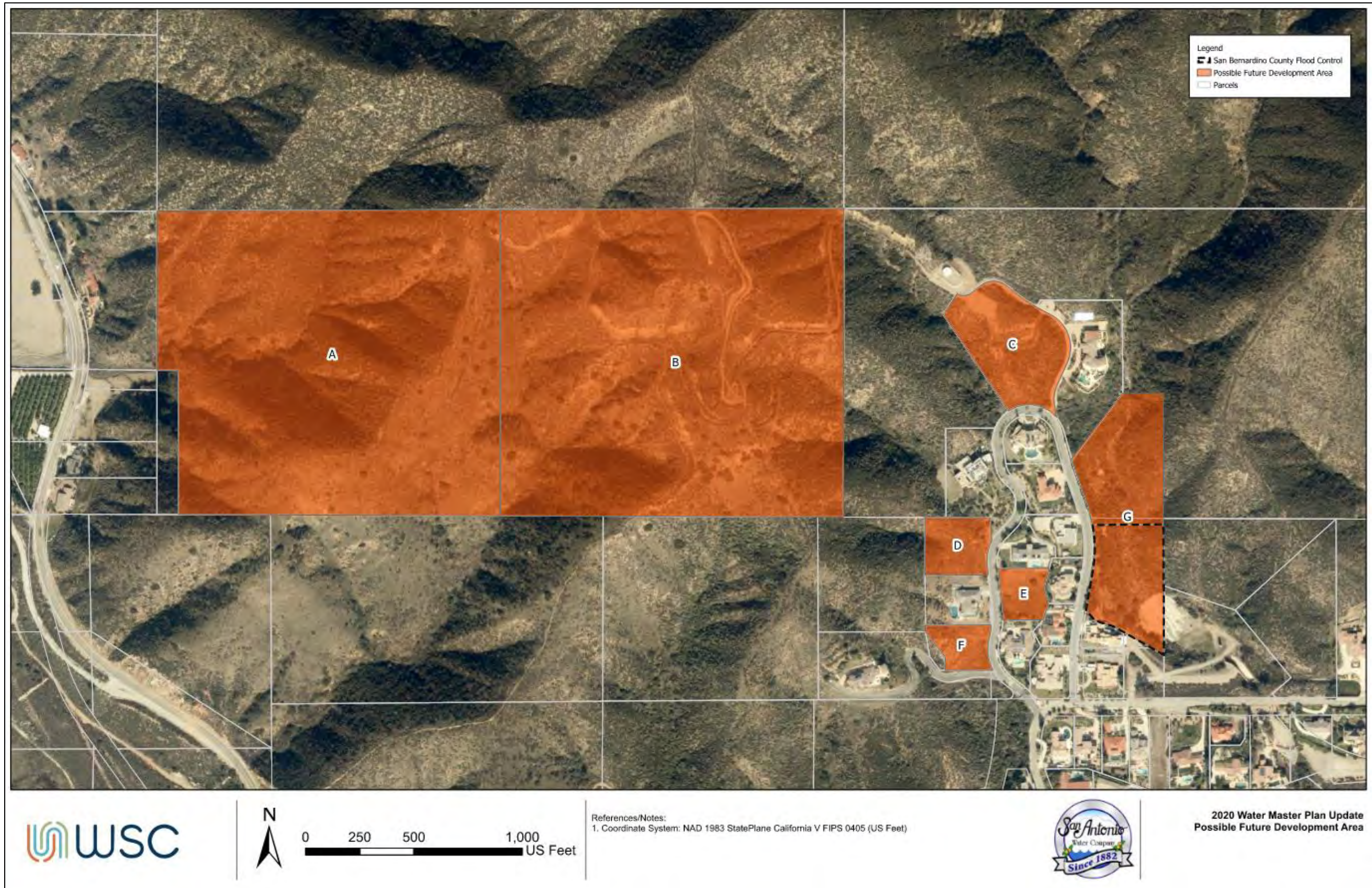


Figure 2. Areas identified as Possible for Future Development.

1.3. System Evaluation Criteria

This section presents the desired performance criteria for the water distribution system that will be used to analyze the system and generate recommendations for improvements.

Water system criteria were developed from California Waterworks Standards, SAWCo Standards and preferences, California Fire Code, and engineering judgment. The evaluation criteria for the water system have been organized into two categories: System Reliability (Table 6) and System Capacity (Table 7) and defined for the domestic distribution system and the irrigation distribution system. System reliability criteria is generally consistent between both distribution systems, but capacity criteria vary between the two systems because the domestic system includes capacity for fire flows, while the irrigation system does not.

Table 6. System Reliability Evaluation Criteria.

Purpose	Regulation or Reference	Engineering and Planning Criteria - Domestic System & Irrigation System
Reliable Supply	California Waterworks Standards	Calculate reliable supply by determining system capacity with SAWCO's largest source out of service.
Source/ Production Capacity	California Waterworks Standards	System must be able to meet MDD with source capacity only, considering the reliability requirements identified above. System must be able to meet four hours of PHD with source capacity and storage capacity. Combined production capacity sufficient to refill emergency and fire storage in 48 hours with all sources operating.
Pump Station Capacity / Zone Reliability	California Waterworks Standards; Accepted Engineering Practices	If gravity storage is available, pump station capacity must be able to meet MDD within the zone with the largest pump out of service. If gravity storage is not available, pump station capacity must be able to meet MDD plus fire flow or PHD, whichever is greater, with the largest pump out of service.
Emergency Power	Recommended Standards for Water Works ¹	Emergency power must be sufficient to meet system average day demands and preparedness for other emergencies.
Pump Efficiency	SAWCo Preference; Accepted Engineering Practices	If pump efficiency falls below 65%, it becomes a candidate for maintenance and/or replacement to increase efficiency.
Fire Hydrant spacing ¹	Engineer's Judgment	At intervals not more than 330 feet, with no hydrants at the end of cul-de-sacs. Dead-ends without a hydrant shall have a blow-off installed.
Valving	SAWCo Preference	No shut down of greater than 10 services on domestic system. Irrigation system valving at all pipeline intersections and services.

1. Fire Hydrant Spacing Criteria only applies to the domestic system.

Table 7. System Capacity Evaluation Criteria

Purpose	Regulation or Reference	Engineering and Planning Criteria - Domestic System	Engineering and Planning Criteria - Irrigation System
Distribution System			
System Pressure	California Waterworks Standards and SAWCo Preference	40 psi minimum and 120 psi maximum under normal conditions ⁽¹⁾ 150 psi during minimum hour demands 20 psi minimum residual at MDD plus fire flow (FF)	20 psi minimum and 120 psi maximum under normal conditions
Fire Flows	California Fire Code (Appendix B)	Residential – 1,500 gpm for two hours	N/A
Pipeline Velocities	Engineer’s Judgment and SAWCo Preference	Less than or equal to 7 feet per second (fps) at MDD Less than 11 fps at FF plus MDD condition	Less than or equal to 7 feet per second (fps) at MDD
New Distribution Mains	Engineer’s Judgment and SAWCo Preference	All new water mains must be 8-inch or greater	Size for new water mains will be based on system demands and velocity requirements
Storage			
Operational Storage	SAWCo Preference	30% of MDD for all zones with storage	30% of MDD for all zones with storage
Fire Flow Storage	California Fire Code and County of San Bernardino Fire Prevention Office	Sufficient storage is required to meet fire flows	N/A
Emergency Storage	AWWA M19 Emergency Planning for Water Utilities and SAWCo Preference	24 hours at MDD	24 hours at MDD
Note: Any service with pressure greater than 80 psi should have a shareholder owned pressure regulator after the meter.			

1.4. Model Calibration

After the model was developed and demands allocated, the model needed to be calibrated for accuracy. WSC and SAWCo Staff worked together to select five (5) fire hydrant flow tests throughout the water distribution system. The testing locations were selected based on pressure zone, pipe size, and number of available hydrants in the area. Once in the field, it was determined that flow test 4 (FH-4) is served by a PRV station, and thus all pressures in the area would be based on the PRV. As a result, the flow test at FH-4 was not performed. The SAWCo water distribution system is comprised of three pressure zones: the Holly Drive Zone, the Upper Zone, and the Lower Zone. To obtain fireflow readings that are most reflective of the entire system, each pressure zone was tested at a minimum of one time. Only one fireflow test was conducted for the Holly Drive and the Upper Zone. Two test locations were conducted in the Lower Zone.

On November 11, 2020, WSC and SAWCo staff performed the four selected hydrant flow tests, shown in Figure 3. The fire hydrant flow tests were performed by using at least two hydrants. One hydrant is open and the flowrate is measured with a pitot gage, and the pressure drop from a nearby hydrant, known as the witness hydrant, is measured with a pressure gage. The pressure taken when the hydrant is closed is known as the static pressure, and the pressure taken when the hydrant is open is the residual pressure. Two flow hydrants may also be used if the difference between the static and residual pressure is less than 10 psi. In addition to the static and residual pressure at the flow and witness hydrant, four data loggers were also placed on nearby hydrants to monitor system pressure during the fire hydrant flow test and provide additional calibration points. The static and residual pressure recorded at all hydrants were used to calibrate the model. The fire hydrant flow testing results compared to the calibrated model results are provided in Table 9.

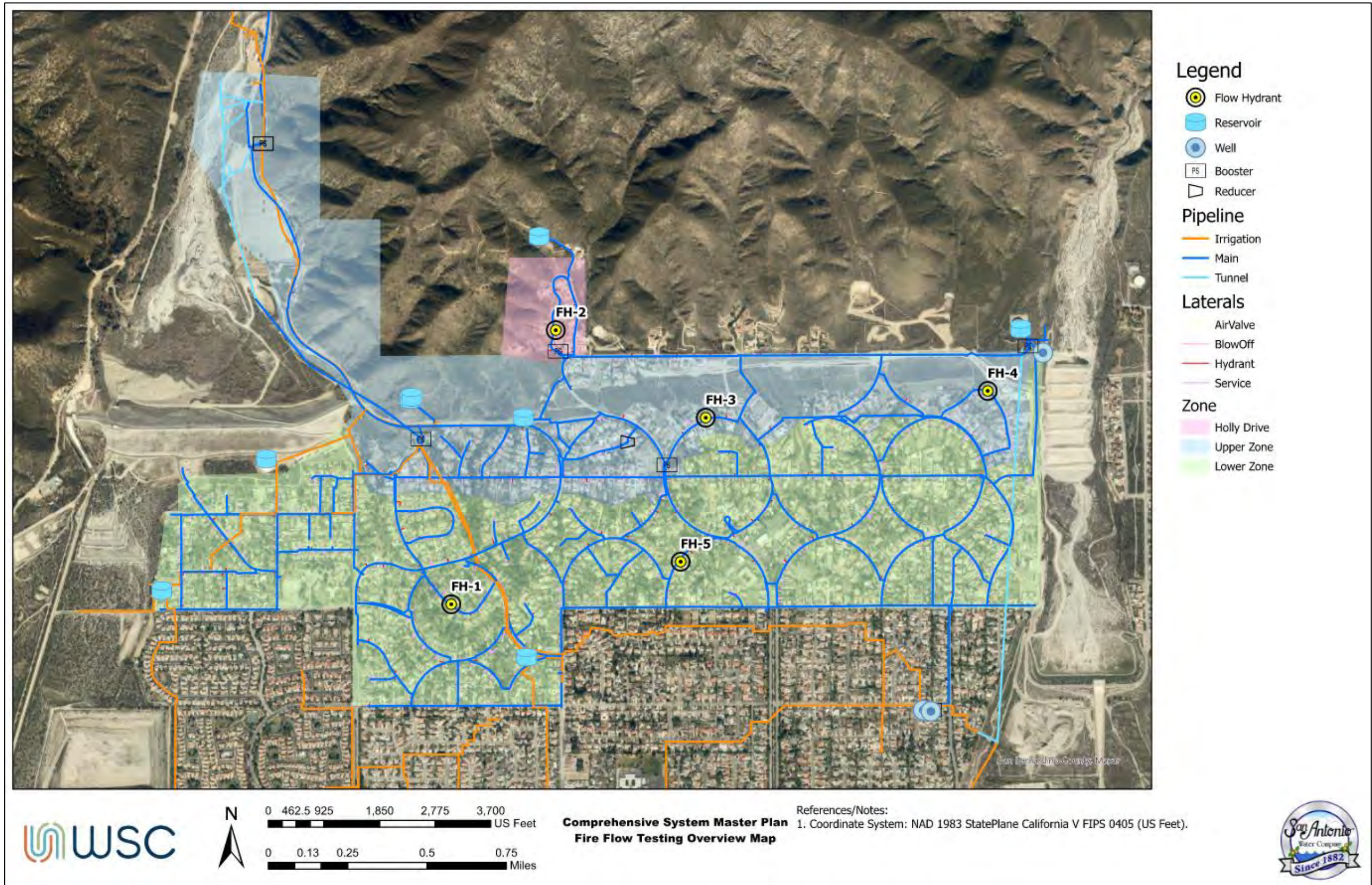


Figure 3. Location of Hydrant Flow Tests

To accurately calibrate the model with the hydrant flow testing data, the system conditions during testing are also required. These conditions, usually referred to as boundary conditions, include tank levels, pump and well status, and PRV settings. Average demands were loaded into the model, which is typical of a November weekday. The critical steady state boundary conditions for each hydrant flow test are shown in Table 8.

Table 8. Model Calibration Boundary Conditions

Hydrant Flow Test	Facility	Boundary Condition
1	Reservoir No. 7 Level	10.64 feet
	Reservoir No. 12 Level	28.49 feet
	Booster #20 Pump Station	All Pumps Off
	Well No. 15	Well Off
	Well No. 16	Well Off
	Well No. 32	Well Off
2	Holly Drive Reservoir Level	8.50 feet
	Booster #19 Pump Station	All Pumps Off
3	Reservoir No. 5 Level	25.0 feet
	Reservoir No. 6 Level	25.0 feet
	Booster #14 Pump Station	Pump 1 is turned on. Flowrate= 718 gpm
	Booster #16 Pump Station	All Pumps Off
	Booster #17 Pump Station	All Pumps Off
	Well No. 15	Well Off
	Well No. 16	Well Off
	Well No. 32	Well Off
4	<i>TEST NOT CONDUCTED – BASED ON PRV</i>	
5	Reservoir No. 7 Level	10.64 feet
	Reservoir No. 12 Level	28.49 feet
	Booster #18 Pump Station	Pump Off
	Booster #20 Pump Station	All Pumps Off
	Well No. 15	Well Off
	Well No. 16	Well Off
	Well No. 32	Well Off

Four new scenarios were developed in the model, one static and one dynamic scenario for each fire flow test. Each scenario was loaded with the allocated ADD and the boundary conditions recorded for each test. The flowing and witness hydrants were identified in the model, and the flowrate measured during the test was applied to the flowing hydrant in the model. The model was run under both static and dynamic conditions, and the modeled pressures were compared to the observed field data. Once results were tabulated, the model was adjusted to reflect observed pressures, including:

- Adjusted elevations based on Google Earth. The model assigns elevation to nodes by linearly interpolating between the 1-meter USGS contours. Due to variable sloping land in the foothills to the north of SAWCo's system, there is a potential for error in the assigned elevations. It is expected that some locations in the model will have slightly different pressures than observed in the system due to elevation inaccuracies.

- Lastly, the pipe C-factors were adjusted to reflect residual pressures for all the fire flow tests. During model construction, the default C-factor of 100 was assigned. This seemed appropriate as many of the distribution pipelines within SAWCo's system are relatively old. Initial model runs indicated that the model predicted greater headloss than observed in the field; thus, all C-factors within the model were raised to 130. Nearly 56% of the pipe within SAWCo's distribution system is composed of AC and PVC pipe. These pipe materials can stay relatively smooth over time and indicate that the greater C-factor should be used.

A batch run was completed again, and the adjustments continued as an iterative process. The target for attaining convergence was a maximum difference between modeled and observed pressures of ± 5 psi. After multiple iterative runs and adjustments, the modeled results are all within the target convergence compared to the observed results. Table 9 includes the observed and modeled results.

Table 9. November 2020 Hydrant Flow Testing Results Compared to Modeled Pressures

Test	Location	Fire Flow ID	Hydrant Model ID	Measured Flow (gpm)	Observed Pressures			Modeled Pressures			Difference between Observed and Modeled Pressures (Goal is within ± 5 psi)		
					Static Pressure (psi)	Residual Pressure (psi)	Pressure Drop (psi)	Static Pressure (psi)	Residual Pressure (psi)	Pressure Drop (psi)	Δ Static Pressure (psi)	Δ Residual Pressure (psi)	Δ of the Pressure Drop (psi)
1	Terrace Drive	FH-1	J288	1400									
		WH-1	J1064		78.5	72	6.5 ¹	77.74	70.9	6.84	0.76	1.1	-0.34
		DL-1			71.5			73.5					
		DL-2			128			123.8					
		DL-3			82.7			82.7					
2	Holly Drive	FH-2	J1116	1190									
		WH-2	J1532		94	64	30	94.63	43.6	51.03	-0.63	20.4	-21.03
		DL-1			150	83.2	66.8	151.4	93	58.4	-1.4	-9.8	8.4
		DL-2			58.7			54.3	27.4	26.9	4.4		
		DL-3			103	53.3	49.7	102.5	53.6	48.9	0.5	-0.3	0.8
3	San Antonio Crescent East	FH-3	J1536	1550									
		WH-3	J1534		108	98	10	113.9	106.9	7	-5.9	-8.9	3
		DL-1			82			81.4					
		DL-2			113			119					
		DL-3			114			122					
5	Vista Dr	FH-5	J1538	1465									
		WH-5	J1540		100	94	6	103	97.1	5.9	-3	-3.1	0.1
		DL-1	J1574		95	93	2	98	93.5	4.5	-3	-0.5	-2.5
		DL-2	J1572		109.6			113	109.9	3.1	-3.4		
		DL-3	J1576		109	105	4	113.2	108.6	4.6	-4.2	-3.6	-0.6

¹ Field testing aims to obtain a minimum of **10 psi** pressure drop to be considered an accurate test; however, the model simulated similar results to field testing and was therefore assumed to be an accurate calibration point.

Figure 4 includes a graphical representation between the modeled and observed pressures at the flowing hydrant as well as the residual hydrant and other data logger locations.

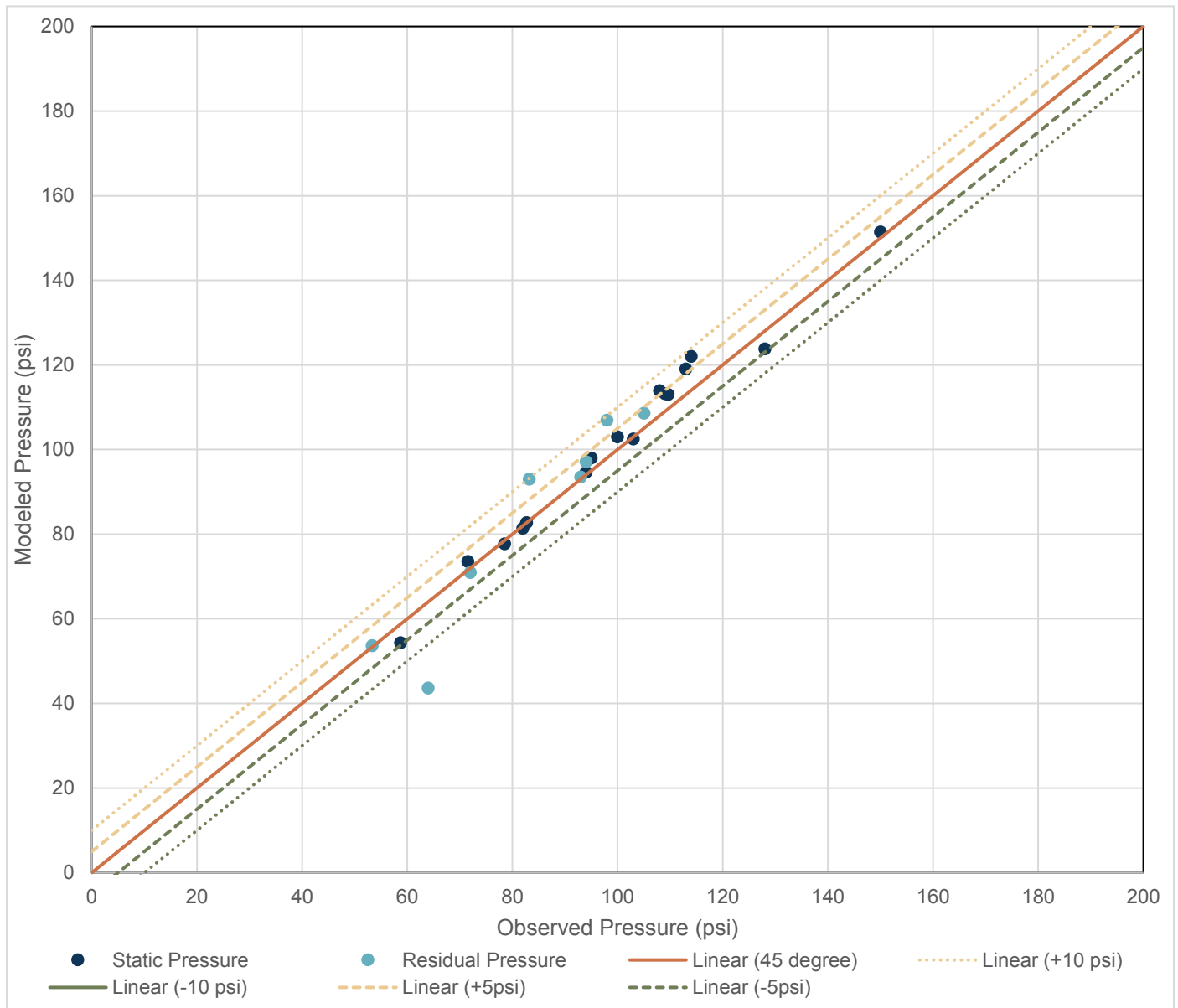


Figure 4. Linear Regression Relationship between Observed and Modeled Pressures for both Static and Residual Pressure Data from Fire Flow Test Simulations.

As mentioned, a good hydraulic model will have a maximum difference between modeled and observed pressures of ± 5 psi (indicated on the graph as the purple and blue lines). Based on overall model results, it's possible that meter reading error was obtained during FH-2 at the witness hydrant. If desired, it is recommended that this test is completed again, but not required, as the rest of the data points collected fall within the ± 5 psi desired range.

Once the model was calibrated it was determined to be effectively used for its intended purposed for the Water Master Plan Update and provide accurate steady state system simulations.

1.5. Extended Period Simulation

SAWCo provided the distribution system controls including pump on and off set points that were inputted into the hydraulic model. SCADA records from November 11 through November 15, 2020, were used to calibrate the extended period simulation (EPS) and refine the controls until the modeled tank levels matched the observed tank levels for the domestic system.

Currently there are no United States standards for criteria to determine the accuracy or validity for EPS models of water distribution systems¹, although Bentley Systems, Inc provides guidelines for calibration which have been published by the American Water Works Association (AWWA). Based on SAWCo's intended use of the hydraulic model, the following measures were chosen as an appropriate benchmark for the EPS calibration of the hydraulic model:

- Simulated tank level fluctuations shall be within three to six feet of observed tank levels;
- Simulated tank level fluctuations should follow a similar filling and emptying pattern as observed in the field.

Controls were added to pumps and wells in the model to simulate the controls used in the actual distribution system to maintain tank levels and adequate pressures and supply. The initial controls added to the model were taken directly from the controls in the SCADA system. The booster pump stations are controlled by tank level, and are shown in Table 7. Table 8 includes the well controls. Additionally, Reservoirs 5 and 6 are located at the same site and were modeled as a single reservoir (shown as Reservoir 6) for simplicity. This modified Reservoir 6 was enlarged to account for the volume of both tanks.

Once the EPS simulation was established, calibration was performed by adjusting control set points and diurnal demands until the simulated tank levels matched observed tank levels within 3-6 feet to observed tank levels.

Table 10. Pump Controls

Pump	Station Name	Action	Condition
Booster 14 – Pump 1	Forebay	Turn ON	If Reservoir 6 is below 20 feet
		Turn OFF	If Reservoir 6 is above 30 feet
Booster 14 – Pump 2	Forebay	Turn ON	If Reservoir 6 is below 18 feet
		Turn OFF	If Reservoir 6 is above 22 feet
Booster 18 – Pump 2	Station 18	Turn ON	If Reservoir 12 is below 10 feet
		Turn OFF	If Reservoir 12 is above 33 feet
Booster 19 – Pump 1	Holly Drive	Turn ON	If Reservoir 14 is below 6.5 feet
		Turn OFF	If Reservoir 14 is above 9.25 feet
Booster 19 – Pump 2	Holly Drive	Turn ON	If Reservoir 14 is below 6.5 feet
		Turn OFF	If Reservoir 14 is above 9.25 feet
Booster 20 – Pump 1	26 th Street	Turn ON	If Reservoir 6 is below 20 feet
		Turn OFF	If Reservoir 6 is above 25 feet
Booster 20 – Pump 2	26 th Street	Turn ON	If Reservoir 6 is below 8 feet
		Turn OFF	If Reservoir 6 is above 30 feet

¹ Source: *Advanced Water Distribution Modeling and Management*. 1st ed. Waterbury, CT: Haestad, 2003. Print.

Table 11. Domestic Well Controls

Well	Action	Condition
Well 15	Turn ON	If Reservoir 12 is below 10 feet
	Turn OFF	If Reservoir 12 is above 28 feet
Well 16	Turn ON	If Reservoir 12 is below 32 feet
	Turn OFF	If Reservoir 12 is above 33 feet
Well 32	Turn ON	If Reservoir 12 is below 19 feet
	Turn OFF	If Reservoir 12 is above 29 feet

Table 12. Irrigation Well Controls

Well	Action	Condition
Well 2	Turn ON	If Reservoir 1 is below 6 feet
	Turn OFF	If Reservoir 1 is above 7 feet
Well 3	Turn ON	If Reservoir 1 is below 7 feet
	Turn OFF	If Reservoir 1 is above 8 feet
Well 24	Turn ON	If Reservoir 1 is below 7 feet
	Turn OFF	If Reservoir 1 is above 8 feet
Well 25A	Turn ON	If Reservoir 9 is below 13 feet
	Turn OFF	If Reservoir 9 is above 15 feet
Well 26	Turn ON	If Reservoir 9 is below 13.5 feet
	Turn OFF	If Reservoir 9 is above 15.5 feet
Well 27	Turn ON	If Reservoir 9 is below 14 feet
	Turn OFF	If Reservoir 9 is above 15.9 feet
Well 31	Turn ON	If Reservoir 1 is below 5.5 feet
	Turn OFF	If Reservoir 1 is above 7 feet

The EPS scenario is more complex than the steady state model and requires more precise data and extensive calibration to produce an accurate model. Once the EPS scenario was calibrated to match the SCADA data it was considered adequate for the purposes of this Water Master Plan Update. Figure 5 includes a comparison of observed tank levels and the modeled tank levels for an average demand day. It should be noted that the EPS scenario is most accurate only for the 24 hours they are calibrated to. Everyday demands patterns can fluctuate, operators can make different decisions, and the system changes over time. The EPS scenario should occasionally be recalibrated to guarantee the model accurately reflects the systems operations. As mentioned, Reservoirs 5 and 6 were combined, depicted as Reservoir 6 calculated below, to account for both tanks at a single site and simplify modeling efforts.

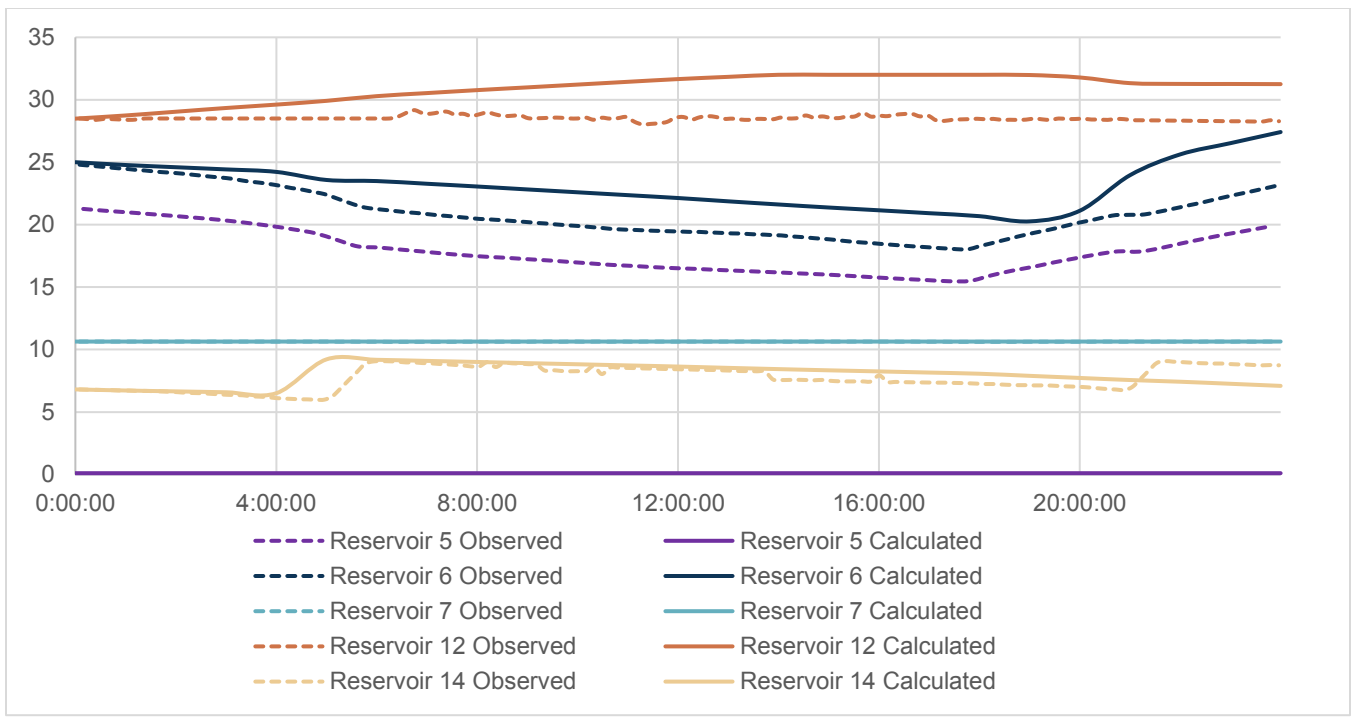


Figure 5. Average Demand Day EPS Comparison of Observed and Modeled Tank Levels

B

Appendix B Supply Risk and Resiliency
Analysis Technical
Memorandum



Technical Memorandum

Date: 1/7/2022

To: Brian Lee
San Antonio Water Company

Prepared by: Heather Freed, PE, Patricia Olivas, EIT

Reviewed by: Kirsten Plonka, PE

Project: 2020 Comprehensive System Water Master Plan and Asset Management Plan

SUBJECT: SUPPLY RISK AND RESILIENCY ANALYSIS

The San Antonio Water Company (SAWCo) is a private non-profit mutual water company that produces and distributes water to its shareholders, which includes San Antonio Heights and nearby cities. SAWCo currently receives all its water supply from local sources including the San Antonio Creek, groundwater from the San Antonio Tunnel, and three groundwater basins: Chino Basin, Cucamonga Basin, and Six Basin. Surface water from San Antonio Creek are pre-1914 water rights, and annual water availability is influenced by rainfall. The San Antonio Tunnel is a deep rock tunnel 100 feet below ground surface that collects naturally percolated groundwater. The three groundwater basins are each adjudicated, and SAWCo’s water rights are defined by the various legal Judgements in place to protect and manage each basin. SAWCo also participates in groundwater recharge operations that enhance groundwater supply.

As part of SAWCo’s Water Master Plan update, the existing supply sources were analyzed, the top risks to their supplies were evaluated, and the impacts these risks would have on SAWCo’s ability to continue to provide a reliable and high-quality water to its shareholders quantified. **Figure 1** shows the main components of the analysis. This technical memorandum presents the supply risk and resiliency analysis and results and provides recommendations to strengthen the resiliency of SAWCo’s supply sources.



Figure 1. Supply Risk and Resilience Analysis Process

1 Background and Planning Basis

SAWCo has a diverse water supply portfolio that serves two separate distribution systems: the domestic system and the irrigation system. The domestic system serves potable retail water to San Antonio Heights. The irrigation system serves non-potable retail water for irrigation or industrial needs, as well as wholesale to nearby cities that provide treatment before delivering to customers. Water in the domestic system is able to supply the irrigation system if needed, but not the other way due to the differing water quality in the two systems. The various supply sources, SAWCo's rights, and the distribution system they serve are described below:

- SAWCo has rights for up to 13,864 AFY of surface water from **San Antonio Creek**. However, the actual volume received depends on minimum stream flowrates and can vary significantly based on rainfall. SAWCo's supply from the San Antonio Creek since 1999 ranged from a low of 1,181 AF in 2018 to a high of 9,072 AF in 2005. The average volume from San Antonio Creek during years with average rainfall years is 4,042 AFY. All the water from the San Antonio Creek gravity flows into SAWCo's irrigation system and most is fed directly into the City of Upland's water treatment plant for treatment and subsequent distribution by the City of Upland.
- SAWCo also has rights to all the volume of water in the **San Antonio Tunnel**, which is a deep rock tunnel located 100 feet below ground surface and is supported by redwood beams and solid rock. Groundwater naturally percolates into the tunnel and can vary year to year based on rainfall and snowpack. SAWCo can also divert water from the San Antonio Creek spreading grounds north of the San Antonio Tunnel, where it is percolates into the tunnel and is conveyed via gravity to SAWCo's Forebay Tank and is predominately used in the domestic system but can also overflow into a separate tank for use in the irrigation system. The Tunnel has produced an average supply of 2,178 AF, based on data from 2000 through 2020. Tunnel yields have ranged from 727 AF in 2015 and up to 3,192 AF, as experienced in 2005.
- SAWCo has rights to 6,500 AFY from the **Cucamonga Basin** as long as it spreads 2,000 AFY of water in the basin from the San Antonio Canyon via the creek or tunnel. If the annual spreading is less than 2,000 AFY, the water rights also diminish to a minimum amount of 4,500 AFY. However, if the spreading exceeds 2,000 AFY, SAWCo can credit 95% of the excess up to a maximum of 8,500 AFY production. SAWCo operates six wells in the Cucamonga Basin, of which only one pumps into the domestic system and the others supply the irrigation system. Based on the production capacity of Well 32, up to 463 AFY is available for the domestic system and the remainder supplies the irrigation system.
- SAWCo has rights to 1,232 AFY from the **Chino Basin**. It produces this water through two wells that both supply the domestic system. If SAWCo produces less than its production rights the unused volume carryovers to the following year.
- SAWCo has rights to 932 AFY from the **Six Basin**. It produces this water through three wells that all supply the irrigation system. If SAWCo produces less than its production rights, 25% of the unused volume carryovers for the following year. SAWCo also has a Storage and Recovery Agreement with the Six Basin Watermaster where they can spread San Antonio Canyon water and store it in the basin for dry years and pump over their rights.

This analysis evaluates SAWCo's supply sources against future demand projections and anticipated risks and uncertainties that could impact future supplies for a 20-year period from 2020 to 2040. SAWCo desires to maintain their resilient supply portfolio and meet 100 percent of projected demands under future risk scenarios.

However, in some circumstances supply shortages can be mitigated through SAWCo's Water Shortage Contingency Plan (WSCP) if needed. The analysis considers both supply rights and production or distribution limitations in the two systems. The recommendations from this analysis include both maintaining existing supplies and production facilities and exploring alternative supply projects to expand the resilience of SAWCo's water portfolio for future conditions.

2 Demand Projections

Demands are projected separately for the domestic system, irrigation system, and water used at groundwater spreading basins served by the irrigation system based on a historical review of water usage and expected future growth. SAWCo determines the water for each share and shareholder annually based on the available water supplies. Because of this, the shareholders have a fixed water allocation from SAWCo that can decrease in drought periods when less supplies are available. However, SAWCo needs to plan for any demand growth within San Antonio Heights, where it provides 100 percent of the potable demand. This area includes the entire domestic system. While San Antonio Heights is mostly built out, there is some land available for development. As described in the 2021 Water Master Plan, the potential growth is expected to contribute 30 acre-feet per year (AFY) of new demand within the next 10 years. The normal year demand projections, which do not consider economic, or drought impacts to water use, are described below.

Domestic System Projections

Two domestic system demands projections were developed for this analysis. Both incorporate the projected 30 AFY growth by 2030, but use different baselines for the projection:

1. **Baseline Projection:** Assumes future water use will continue at similar rates of existing water use, based on the average water use from the last 3-year, plus 30 AFY of new demands due to Holly Drive buildout by 2030. This projection assumes domestic demands will increase to 2,320 AFY by 2030 and continue at this rate through the 2040 planning period.
2. **Demand Rebound:** Assumes future water use will rebound to pre-drought water use patterns by 2030 based on 2012 water use levels, plus 30 AFY new demands due to Holly Drive buildout. This projection assumes domestic demands will increase to 3,031 AFY by 2030 and continue at this rate through the 2040 planning period.

While it is unlikely demand patterns will return to 2012 levels, especially as California plans to release new water use objective goals in 2022 as part of the 2018 Conservation as a California Way of Life legislation, the demand rebound projection was incorporated in the analysis for prudent planning.

Irrigation System Projections

The irrigation system serves water to the surrounding entities and cities that have shares, including the City of Upland, Ontario, and Monte Vista Water District, as wells are non-potable water for irrigation, industrial, and agricultural applications. The demand on the irrigation system is expected to decline in the future as some irrigation demands may be served by recycled water provided by the surrounding cities in the future, however the timing is unknown. For this analysis, two irrigation system demand projection were considered matching the two domestic system projections:

1. **Baseline Projection:** Assumes the current water use based on the last 3-year average usage will remain constant through the planning period. This projection includes approximately 8,920 AFY of water demand for the irrigation system. However, this demand can fluctuate significantly with rainfall and available water supplies.
2. **Demand Rebound:** This projection corresponds with the domestic system demand rebound projection and is based on 2012 irrigation demands. This projection includes an irrigation system demand of 10,270 AFY. While it is unlikely that demands will rebound, this is considered for conservative supply planning.

Spreading Basin Projections

Additionally, SAWCo diverts San Antonio Canyon water from the creek or tunnel to spreading basins that help replenish the groundwater basins and is served via the irrigation system. In order to fully maximize their Cucamonga Basin groundwater rights, SAWCo must spread 2,000 AFY. For this analysis the 2,000 AFY spreading was included as a minimum water use for most scenarios. In years when there is excess San Antonio Canyon water available SAWCo will spread more and store water for dry periods when less San Antonio Canyon water is available. In normal years SAWCo is projected to have over 3,000 AFY of available surface water for spreading, however, this could increase in especially wet years and decline in dry years.

Water Losses

Water losses are also incorporated into the total demand projections. In the last five years losses represented on average 2% of the total water use. However, metering inaccuracies are expected to have contributed to the low water loss estimate because negative losses have been measured. Regular meter calibration and replacement of older meters is included as in SAWCo's capital improvement plan (CIP) to improve metering accuracies. For conservative demand projections, water losses are assumed to be 5% of the total water use in the future.

Figure 2 shows the historic and projected baseline and rebound demands for the domestic and irrigation system and for surface water spreading. As shown, all the projected demands are relatively flat because these are normal projections not influenced by economic or hydrologic conditions. The real demand will vary year to year similar to the historic demand based on many factors including annual rainfall and available surface supplies, particularly in the volume used for surface water spreading and the irrigation system demand. As shown from 2012-2016 during the most recent drought period, the total demand declined to its lowest of just over 9,000 AFY, with the most significant declines in the irrigation system and the volume of water used for surface water spreading.

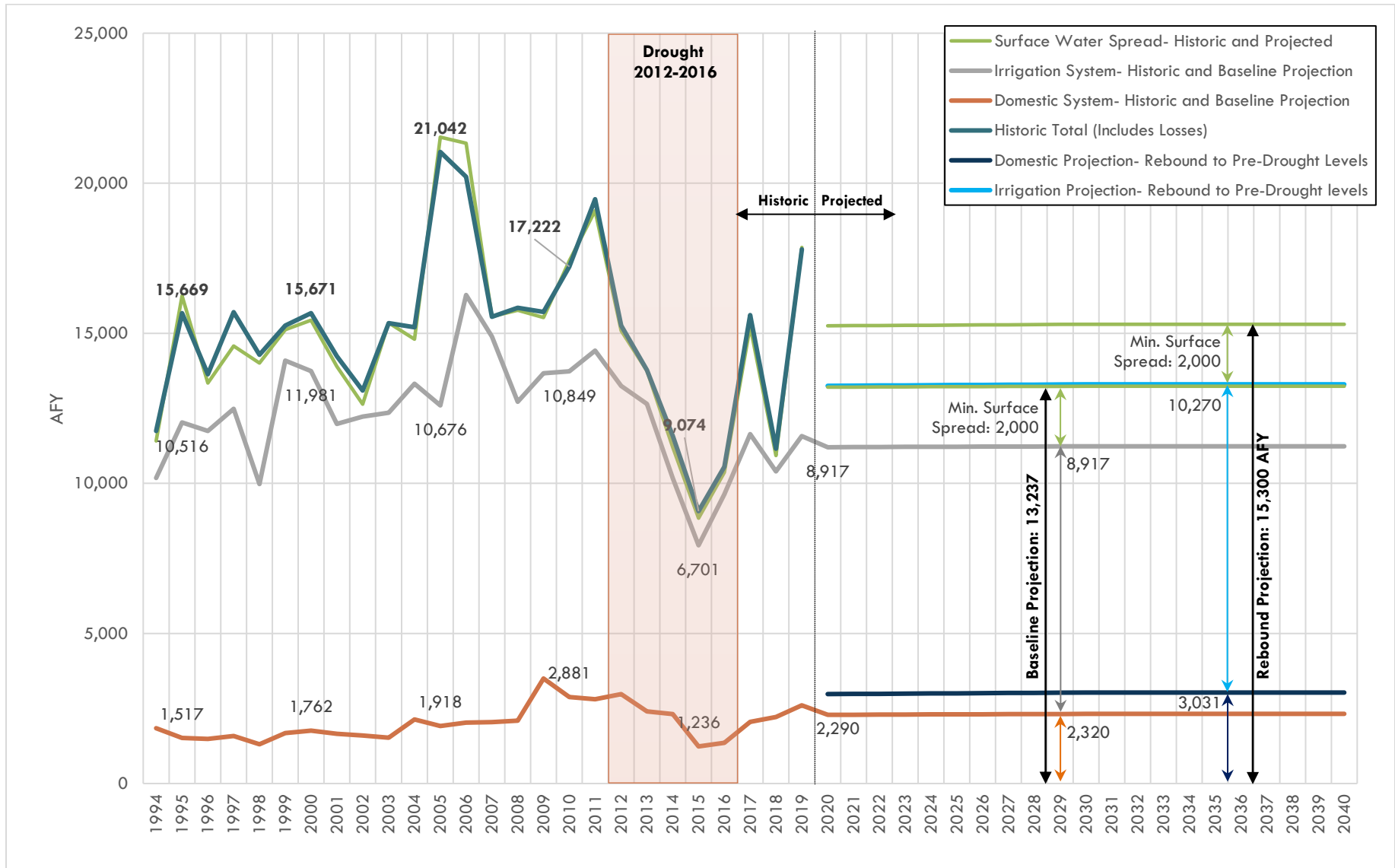


Figure 2. Historic and Projected Demand

3 Tops Risks

A multitude of potential risks and uncertainties that could impact SAWCo's existing supplies were identified and ranked based on likelihood of occurrence and impact to SAWCo's water systems if they were to occur. The identified risks and uncertainties include:

- **Climate Change.** Climate change is expected to result in more extreme droughts, shifting rainfall patterns, more intense rainfall and flooding, and higher variability from surface water supplies. Climate change is occurring and the best mitigation SAWCo can take is to plan and prepare for climate related changes that will impact its supplies.
- **Earthquake.** The largest impact from an earthquake would be damage to critical infrastructure, including the collapse of the San Antonio Tunnel.
- **Mega-drought.** A mega-drought is a drought lasting two decades or longer, which would impact SAWCo's particularly vulnerable surface supplies and result in reduced recharge of groundwater basins through surface spreading and natural precipitation.
- **Regional Power Outage.** A regional power outage is likely to occur and could impact SAWCo's ability to produce groundwater; other supplies are gravity fed into the system. SAWCo is proactively acquiring portable generators that could be used to continue operation of the water system during a regional power outage.
- **Increased Energy Costs.** Increased energy costs are highly likely to occur. This would impact the cost to pump and distribute water within the systems. SAWCo's largest supply sources from the San Antonio Creek and Tunnel are gravity fed into the system and would be less impacted by the increasing energy costs. High energy costs will most significantly impact operation costs during dry years when less surface water is available and SAWCo will need to pump more groundwater.
- **Groundwater Contamination.** Groundwater contamination could impact SAWCo's groundwater production facilities; however this is considered a lower impact because SAWCo pumps from three separate groundwater basins and it is unlikely that contamination would impact all wells simultaneously.
- **Reduced Groundwater Rights.** Each of the groundwater basins that SAWCo overlies are adjudicated and SAWCo has defined groundwater rights in each basin. There is a low likelihood that SAWCo's pumping rights will be reduced significantly in the future.
- **Wildfires.** Wildfires in the watershed of the San Antonio Creek could increase sedimentation and reduce the creek's surface water quality. All this water serves the irrigation system, and most is supplied to the Upland Water Treatment Plant for treatment and supply to the City of Upland. Sedimentation water quality impacts could impact the treatment process.

The likelihood of occurrence and impact to SAWCO's ability to provide reliable water supply was evaluated for each identified risk. The risks and uncertainties were scored based on both metrics, with the top risks identified as the loss of the San Antonio Tunnel by an earthquake, climate change, and a mega-drought. The risks and uncertainties are shown in **Figure 3** based on their likelihood and impact. The top risks and uncertainties were used to develop future supply and demand scenarios, as described in the next section.

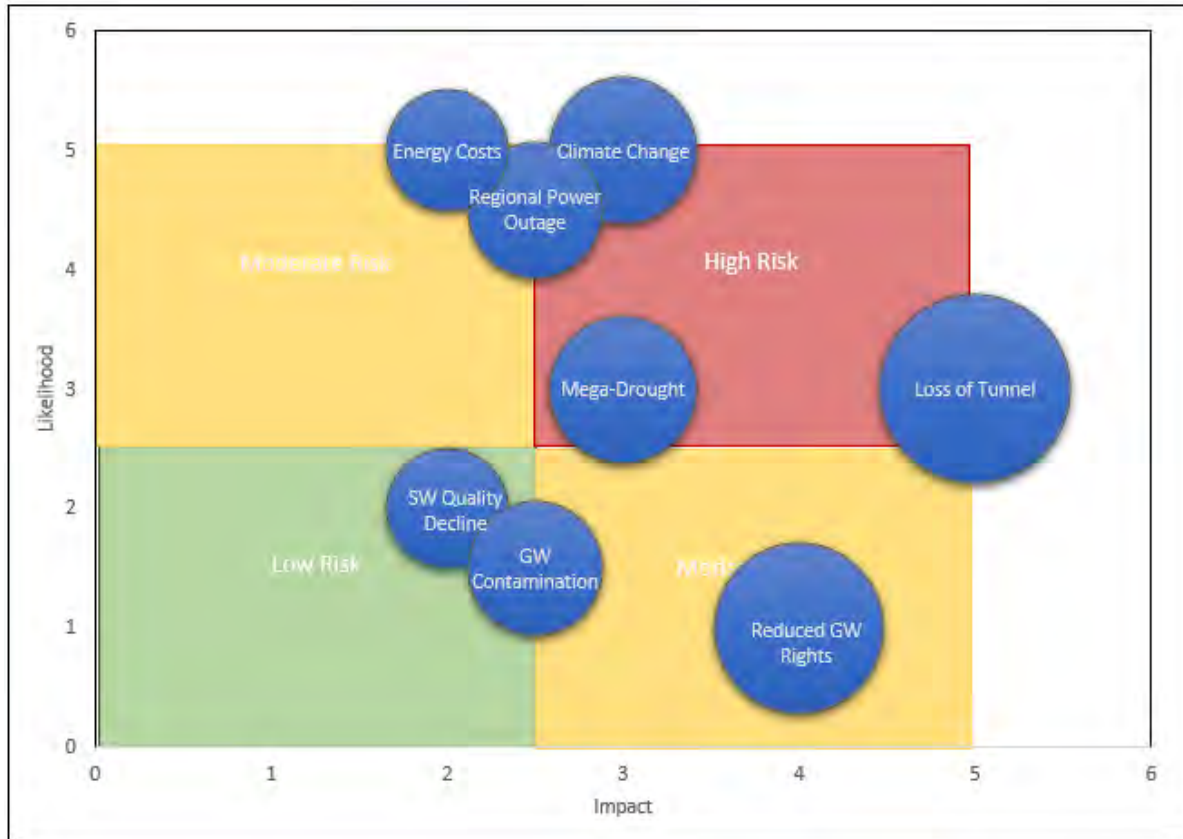


Figure 3. SAWCO Top Risks and Uncertainties

4 Supply Projections and Alternatives

Supply alternatives were developed to understand the impacts the top risks and uncertainties on SAWCo’s supply projections. The overall supplies are compared to the demand projections presented in Section 2 to understand SAWCo’s risks to provide reliable and high-quality water in the future.

The historic supply volumes and demands since 1994 are shown in **Figure 4**, along with the projected range in supplies incorporating risks. Generally, SAWCo prefers to use all their San Antonio Creek and Tunnel supplies first, as these are gravity fed into the system, and then pump from the Cucamonga Basin, Chino Basin, and then the Six Basin. As shown matching the historic demands, the supplies vary significantly year to year, and reach a peak of greater than 21,000 AF in 2005 and a low of close to 9,000 AF in 2015. The supply from the San Antonio Creek has the largest variability and is highly dependent on rainfall. Secondly, the supply from the Cucamonga Basin also has a high variability because the amount pumped is dependent on the San Antonio Creek water available for spreading. In wet years more can be spread and more can be pumped from the Cucamonga Basin. In a dry year, such as 2015, there was almost no water available for spreading and the volume SAWCo could pump from the Cucamonga Basin was limited to 4,500 AFY. The figure shows the projected range in supplies when incorporating risks and when water is and is not available for surface water spreading. Due to SAWCo’s diverse supply portfolio, supplies are anticipated to range between about 11,800 AFY on the low end to 15,720 AFY when considering the identified risks.

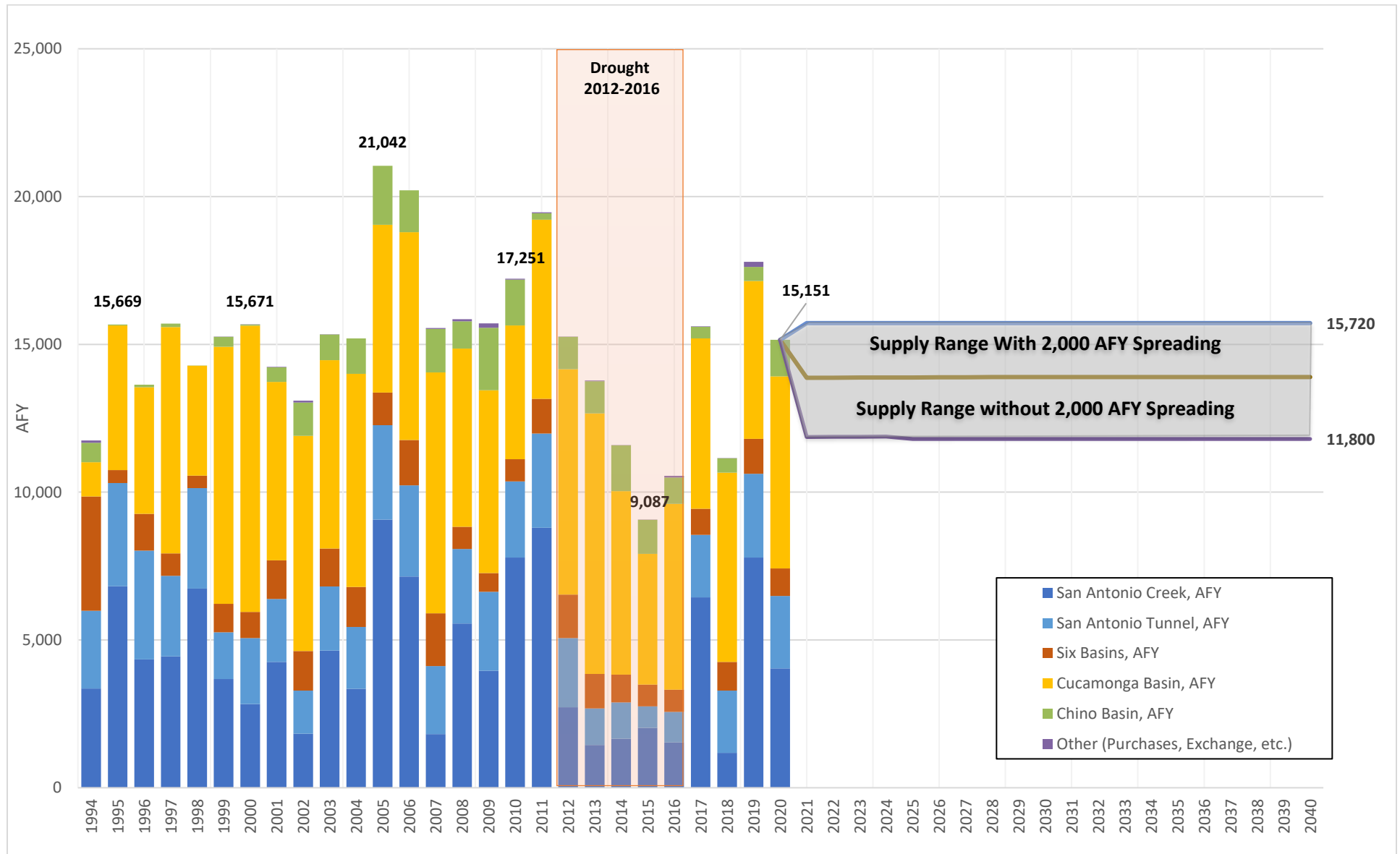


Figure 4. Historic Supplies and Demands

Each supply projection is shown in

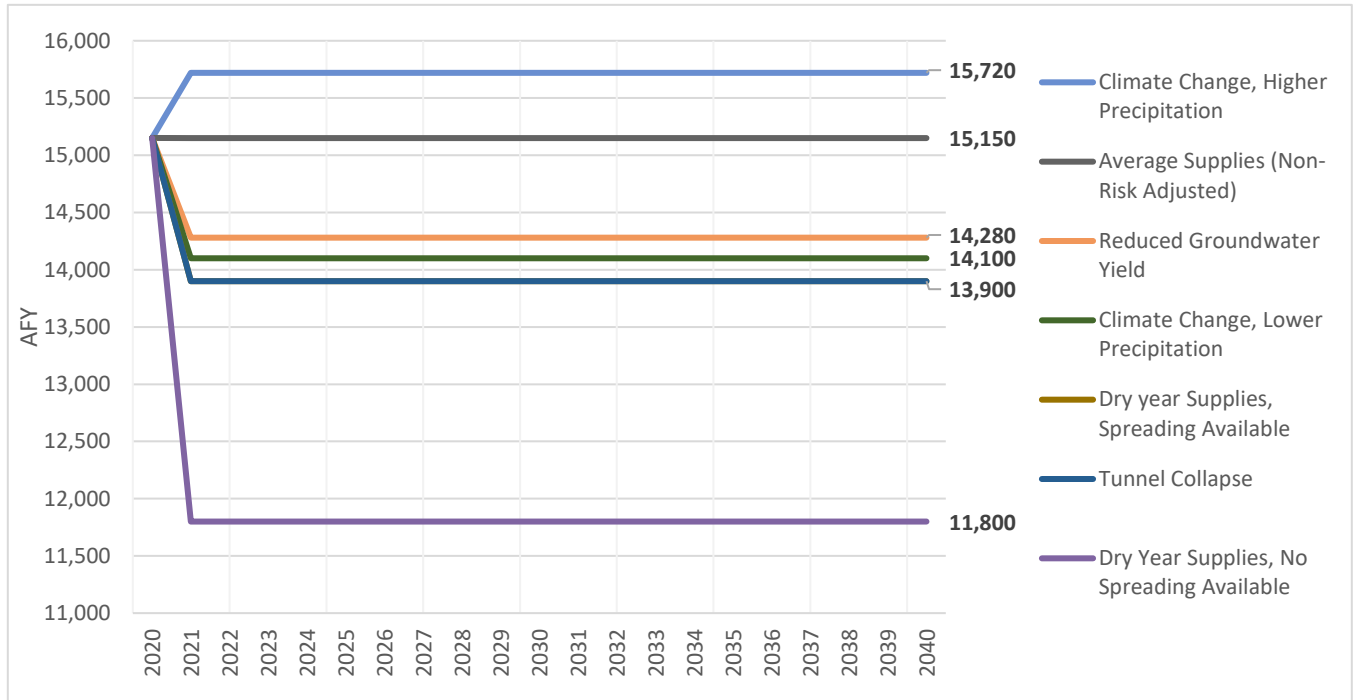


Figure 5 and incorporates different assumptions about how the risks will impact supply availability:

- **Average Supplies:** This projection incorporates the average supply from the San Antonio Creek (about 4,000 AFY) and Tunnel (about 2,400 AFY), excluding outlying extreme wet and dry years. It also includes SAWCo’s total groundwater rights from each basin, and assumes water is available for surface water spreading so that 6,500 AFY is available from the Cucamonga Basin. The total volume available under this non-risk adjusted scenario is about 15,150 AFY.
- **Climate Change:** For the climate change supply projection, local climate change literature was reviewed to understand the impacts to SAWCo’s supplies. Different climate change projections predict different impacts to rainfall, with some estimating more rainfall and other less rainfall in the future. Cal-Adapt Climate Projections for the Desert Region of San Bernardino County of which SAWCo overlies estimates a 2-to-4-inch decline in annual average rainfall by 2050 due to climate change (California Department of Public Health, 2017). However, all models predict shifting rainfall patterns with wetter winters and drier summers. Based on the various models two climate change projections were developed: (1) lower precipitation and (2) higher precipitation:
 - **Lower Precipitation:** the annual rainfall recorded at the San Bernardino San Antonio Heights Rain Gauge was plotted against the historic supplies from the San Antonio Creek and Tunnel to develop a trend between rainfall and supply volume from these sources. Using the plotted trends, a 4-inch annual average decline in rainfall corresponds with approximately a 20% decline in supply available from the San Antonio Creek and 10% decline in flow from the Tunnel. While Tunnel water is considered percolated groundwater, rainfall has a slight correlation with the supply from the Tunnel. For the climate change projections with lower future precipitation, the supply from the San Antonio Creek and Tunnel were decreased 20% and 10% from the average values respectively, corresponding with a new average of 3,200 AFY from the San Antonio Creek

and 2,200 AFY from the Tunnel. Groundwater supplies are based on available rights and were not reduced based on climate change impacts. The total volume available under this climate change scenario is about 14,100 AFY.

- **Higher Precipitation:** The higher precipitation scenario also assumes that the precipitation occurs over a shorter time period and is more intense. Generally, these more intense rainfall periods result in more runoff and less percolation in the groundwater. Because of this, the supply from the San Antonio Tunnel is still expected to be lower than the historic average and is assumed to be 90% of average (2,200 AFY) like the above climate change projection. The San Antonio Creek, however, is expected to have higher flows in the winter which could potentially be diverted to spreading basins and stored in the groundwater to be pumped later in the summer. This projection assumes supply from the San Antonio Creek will increase 20% from average to about 4,850 AFY. However, the higher intensity rainfall and increased runoff could impact the water quality from the creek, which serves non-potable customers and the Upland Water Treatment Plant and could impact the treatment plant operations. With no impact to groundwater, the total volume available under this climate change projection is 15,720 AFY.
- **Reduced Groundwater Yield:** While SAWCo's groundwater rights are defined through the adjudications of the groundwater basins, climate impacts and reduced outdoor water use due to aggressive State conservation efforts could impact the natural recharge of the basins. These impacts could result in future revisions and reductions to the rights of all pumpers in the groundwater basins. To understand the impact this could have on SAWCo, this projection incorporates a 10% reduction in all available groundwater supplies for a total available supply of about 14,300 AFY.
- **Tunnel Collapse:** The San Antonio Tunnel is one of SAWCo's main sources of water that is gravity supplied to the system and can be delivered directly to customers for potable uses with only disinfection for treatment. The projection assumes the San Antonio Tunnel is collapsed and no water is available from the Tunnel, reducing the average available supply from about 15,150 AFY to 13,900 AFY. While this projection includes all other supplies, the analysis considers the domestic and irrigation system separately, and without the Tunnel supply the domestic system loses its main supply source.
- **Mega Drought:** To project the water supplies during a mega drought, the historic water available from the San Antonio Creek and Tunnel were reviewed and sorted based on average rainfall and yield. The average yield from the driest 30% of the years were used in this projection, which includes an average yield from the San Antonio Creek of about 1,780 AFY and 1,550 AFY from the Tunnel. With the groundwater rights unimpacted, the total supply is about 13,900 AFY if 2,000 AF of the San Antonio Canyon water were used for spreading, or more likely a total supply of 11,800 AFY with no water used for surface water spreading.

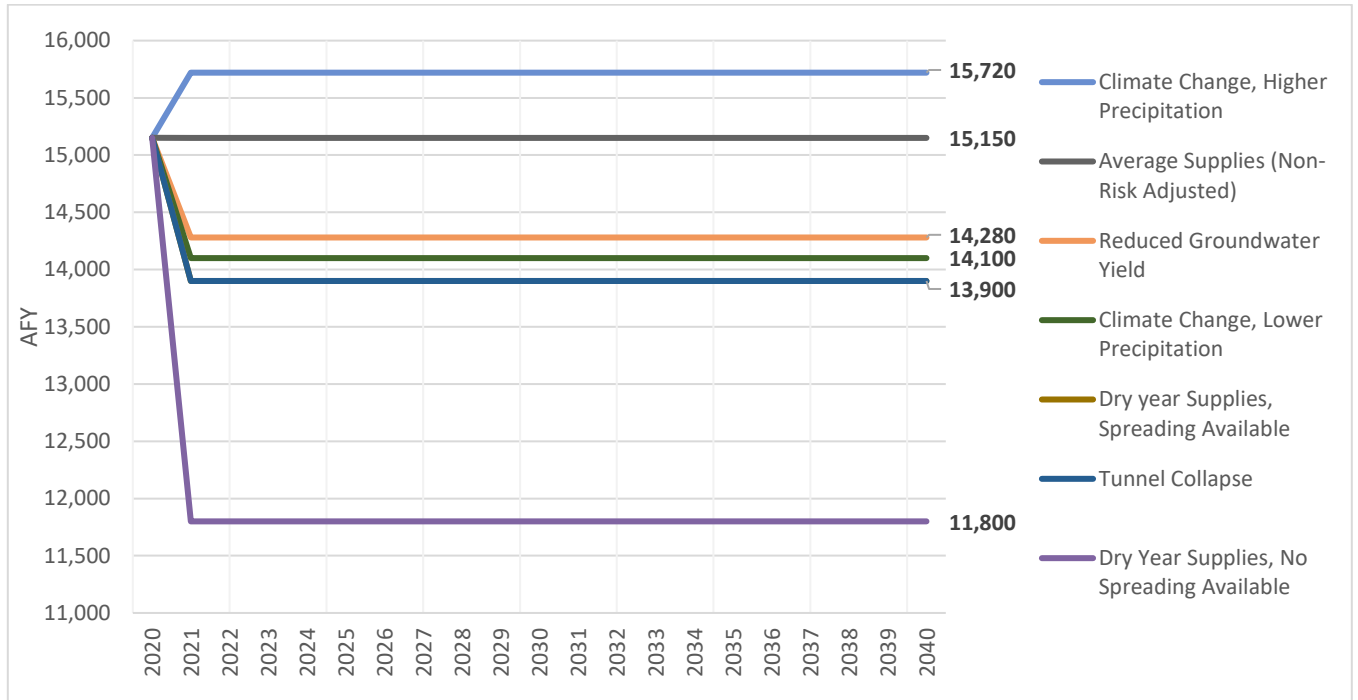


Figure 5. Risk Adjusted Supply Projections

5 Gap Analysis

Each of the described supply projection scenarios (Section 3) were compared to the demand projections (Section 2) to determine and quantify if there will be a gap between projected supply and demands for each scenario. As mentioned, SAWCo’s goal is to meet 100 percent of the projected demands under the various risk scenarios, however this may not always be possible under every scenario. Some scenarios may result in the demands exceeding the supply, and the shortage can be mitigated through the enactment of the WSCP. SAWCo is presently updating their WSCP to comply with requirements of the California Water Code and the WSCP will list ways SAWCo can reduce demands through water use restrictions or augment existing supplies to eliminate the supply gap. Additional projects to reduce the risk and augment supplies are recommended in the last section of this TM.

A total of eight scenarios (six supply scenarios, two of which are run under two different demand scenarios) were evaluated, described in **Table 1** below.

Table 1. Supply and Demand Scenarios Evaluated

Scenario	Demand Projection	Supply Projection
1A	Baseline Demand (Includes baseline domestic and irrigation demands plus a minimum 2,000 AFY for surface spreading)	Average Supplies: Total supply of 15,150 AFY
1B	Rebound Demands (Includes rebound/ increased to 2012 usage levels in the domestic and irrigation system, plus a minimum 2,000 AFY for surface spreading)	Average Supplies: Total supply of 15,150 AFY
2	Baseline Demand	Supplies with Climate Change resulting in lower precipitation: Total supply of 14,100 AFY
3	Baseline Demand	Supplies with Climate Change resulting in higher precipitation: Total supply of 15,720 AFY
4a	Baseline Demand	Mega Drought: Total supply of 13,900 AFY
4b	Baseline Demand, no surface water spreading	Mega Drought: Total supply of 11,900 AFY due to limited Cucamonga Basin Rights without surface water spreading
5	Baseline Demand	Tunnel Collapse: Total supply of 13,900 AFY
6	Baseline Demand	Reduced Groundwater Yield: Total supply of 14,280 AFY

A simple Excel-Based model was developed to analyze the volume of each supply that would be used to meet the demands in the domestic and irrigation systems, and how much San Antonio Canyon water would be available for surface spreading for each scenario through the 2040 planning period. The model does not incorporate all the complexities of the water systems or inputs SAWCo considers when managing supply sources to meet demands but focuses on high-level annual planning and is useful to identify scenarios when demand may exceed supply so SAWCo can proactively plan to avoid or mitigate the situation.

Table 2 below lists the results from the gap analysis for each scenario listed in **Table 1**. For scenarios with surplus water available, additional water could be diverted for surface water spreading to help replenish and store in the groundwater basin. For scenarios where the demand exceeds the supply, conservation savings was assumed to make up the supply gap.

As shown, scenarios 1A, 2, 3, and 6 do not have a supply shortfall, and any surplus San Antonio Canyon water would be available for additional spreading each year. Scenario 1A does not have any adjusted supply or demand risks and is most representative of near-term conditions but may not represent long term conditions. Scenarios 2 and 3 are the two climate change scenarios, and both indicate that climate change impacts, while likely to occur, may not significantly impact SAWCo's ability to continue providing water to their shareholders. Scenario 6 incorporates a slight reduction in SAWCo's groundwater availability and shows even with the assumed reduction SAWCo can meet projected demands.

Scenarios 1B, 4A, 4B, and 5 all project a supply deficit and will require conservation savings or potentially new and emergency supplies to meet all demands. Scenario 1B does not incorporate supply risks but does incorporate demands rebounding to pre-drought levels. If this were to occur, demands are anticipated to exceed supplies, which could be mitigated through continued conservation and demand management measures or through the WSCP if needed. However, demands are unlikely to rebound to pre-drought levels with new State mandated water use efficiency standards and urban water budgets expected in 2022 that will drive down demand in the years following the standards adoption. It is recommended SAWCo continues to promote conservation and implement future State water use efficiency standards and objectives to prevent demands increasing beyond supplies.

Scenario 4A and 4B incorporate dry year supplies to evaluate the impacts of a mega-drought against the baseline demand projection. Scenario 4A includes a 2,000 AFY demand for surface water spreading, which allows SAWCo to pump up to 6,500 AFY from the Cucamonga Basin. However, during an extended drought the supplies from the San Antonio Creek and Tunnel are most likely to be impacted, and there may not be available water from these sources to direct to spreading basin. Scenario 4B excludes the demand for surface water spreading and limits the supply from the Cucamonga Basin to 4,500 AFY. In both scenarios there is a supply shortfall compared to demands, and conservation savings of 14-15% are needed to close the gap.

Scenario 5 compares the baseline demand projection to supplies without the San Antonio Tunnel which could occur with a tunnel collapse due to a major earthquake or other natural disaster. In this scenario there is a supply deficit of over 1,000 AFY, which corresponds with a 9% demand reduction needed so demands do not exceed supplies.



Table 2. Scenario Gap Analysis

<i>Scenario</i>	1A	1B	2	3	4A	4B	5	6
Demand Projection	Baseline	Rebound	Baseline	Baseline	Baseline	Baseline, No Spreading	Baseline	Baseline
Supply Projection	Average	Average	Climate Change-less Rainfall	Climate Change-more Rainfall	Mega Drought	Mega Drought	Tunnel Collapse	Reduced Groundwater
Annual Supplies								
San Antonio Creek, AFY	4,042	4,042	3,233	4,850	1,777	1,777	4,042	4,042
Tunnel, AFY	2,443	2,443	2,199	2,199	1,554	1,554	0	2,443
Cucamonga Basin, AFY	6,500	6,500	6,500	6,500	6,500	4,500	6,500	5,850
Chino Basin, AFY	1,234	1,234	1,234	1,234	1,234	1,234	1,234	1,111
Six Basins, AFY	932	932	932	932	932	932	932	839
Total Supply, AFY	15,151	15,151	14,098	15,715	11,997	9,997	12,708	14,285
Annual Demands								
Domestic, AFY	2,320	3,031	2,320	2,320	2,320	2,320	2,320	2,320
Irrigation, AFY	8,917	10,270	8,917	8,917	8,917	8,917	8,917	8,917
Spreading Basins, AFY (Minimum Demand)	2,000	2,000	2,000	2,000	2,000	0	2,000	2,000
Losses, AFY	662	765	662	662	662	562	662	662
Total Demand, AFY	13,899	16,066	13,899	13,899	13,899	11,799	13,899	13,899
Retail & Wholesale Demand, AFY	11,899	14,066	11,899	11,899	11,899	11,799	11,899	11,899
Gap Analysis								
Supply Surplus/ Shortfall, AFY	1,252	-915	199	1,816	-1,902	-1,802	-1,191	386
Conservation Savings through WSCP, AFY	0	915	0	0	1,902	1,802	1,191	0
WSCP Demand Reduction Needed	N/A	6%	N/A	N/A	14%	15%	9%	N/A

In addition to the whole system evaluation presented above, the gap analysis considered limitation of supplies to serve the domestic and the irrigation system. The domestic system serves high quality potable water to San Antonio Heights using groundwater from the Cucamonga Basin and Chino Basin, plus high-quality water from the San Antonio Tunnel. The irrigation receives additional water from the Cucamonga Basin, Six Basin, and San Antonio Creek, plus it can receive water from the domestic system for wholesale and agricultural non-potable deliveries and surface water spreading. The irrigation system cannot be used to serve the domestic system because of the difference in water quality needs.

When considering the operation of the two systems, all scenarios presented in Table 2 with a supply surplus (Scenario 1A, 2, 3, and 6) continue to have excess supply that can be used for additional surface water spreading.

Of the scenarios with a supply deficit, in Scenario 1B, 4A and 4B the required conservation can apply to either system. In these scenarios there are no supply or production limitations on providing the retail potable water demand to San Antonio Heights in the domestic system. A reduction in the share value, or volume of water each share is entitled, for wholesale customers based on the supply availability could be used to reduce demands to meet the available supply in these scenarios. Also, the model did not consider conjunctive use and any long-term storage of San Antonio Canyon water in the groundwater basins that could also be available to SAWCo when needed during dry years to reduce the conservation needed.

For Scenario 5, the domestic system has a much higher impact due to the loss of the tunnel than the irrigation system. **Figure 6** below shows the supply break down for the domestic and irrigation system for Scenario 5. As shown, with the loss of the tunnel the domestic system will require more than 30% conservation to reduce demands to meet the available potable supplies while the irrigation system will only require minor reductions in demand. Alternatively, a new supply source or emergency supply could be used to augment the domestic system supply and reduce the amount of conservation required.

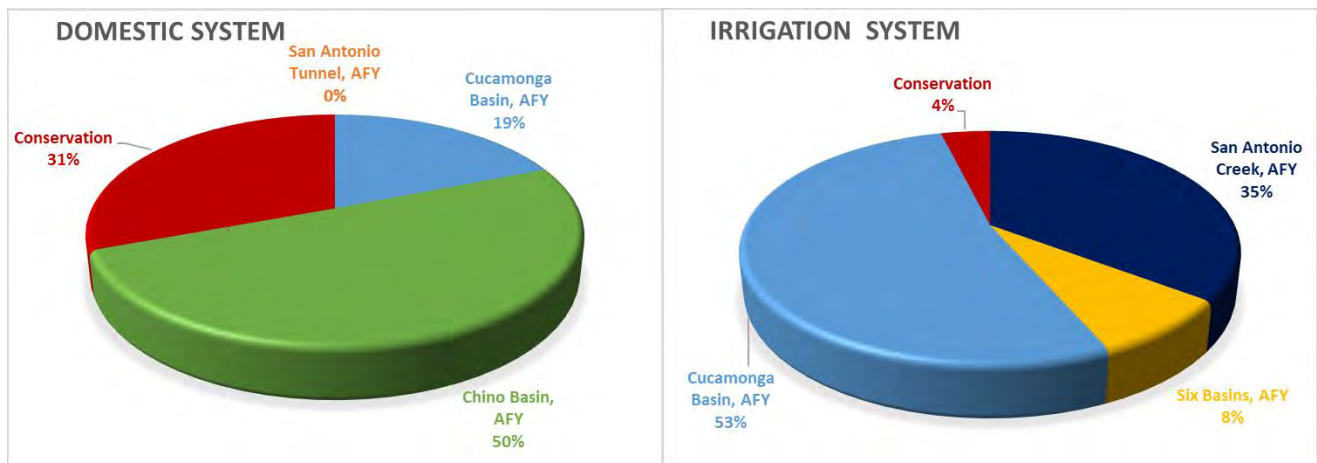


Figure 6. Scenario 5 Tunnel Collapse Supply Portfolio for the Domestic and Irrigation Systems

6 Recommendations

The gap analysis shows that under the future scenarios evaluated, SAWCo's well diversified supply portfolio is sufficient to meet projected demands in most scenarios and situations. However, it is important SAWCo maintains its current conjunctive use operation strategy, production facilities and infrastructure, and demand management measures. In addition to the active maintenance of its systems, new potential supplies are recommended for further investigation to serve the domestic system potable water in the event of the loss of the Tunnel supply.

Recommendations to maintain the current systems and supply portfolio:

- **Conjunctive use:** SAWCo currently diverts San Antonio Canyon Water in the winter during the rainy season for surface water spreading and recharge of groundwater basins. It is recommended to continue this practice to maximize the available San Antonio Canyon Water and store in the groundwater basins for longer term use. Building up groundwater storage through conjunctive use could help SAWCo meet demands and reduce or eliminate the need for the WSCP during extremely dry years.
- **Demand Management:** The analysis estimates that if demands rebound to pre-drought levels it could exceeded the normal supplies available to each year. While this is unlikely and current lower water use levels are expected to continue, SAWCo should maintain its demand management measures to prevent water waste and a potential rebound to unsustainable demand levels.
- **Infrastructure Maintenance:**
 - **Tunnel Inspection and Maintenance:** The San Antonio Tunnel is a high volume and important gravity fed source of potable water for the domestic system. As shown in Scenario 5, if the San Antonio Tunnel collapsed there will be a significant supply shortage for the domestic system. Firstly, the San Antonio Tunnel should be inspected via CCTV and evaluated by a structural engineer. The inspection can provide an assessment of the current condition of the San Antonio Tunnel and provide recommendations for improvements to maintain the lifespan of the tunnel. If significant issues are found that would require major improvements, SAWCo can plan for these improvements now instead of responding to these issues after an emergency such as a tunnel failure or collapse.
 - **San Antonio Creek Diversion and Maintenance:** Similar to the San Antonio Tunnel, the San Antonio Creek is a high volume and important gravity fed supply source. Currently all the water from the San Antonio Creek is diverted at one location and conveyed into the irrigation system via a single clay pipeline that is nearing the end of its useful lifetime. The pipeline should be inspected and evaluated for relining. The evaluation should consider the ideal relining materials and method, impacts to the pipeline capacity, and cost evaluation with a comparison to replacing the pipeline through a traditional replacement methods.
 - **Well Maintenance:** SAWCo's groundwater wells are also important production facilities and regular testing, maintenance and upkeep is imperative to maintaining production capacity. While the loss of a single well has a less impact than the loss of the tunnel or creek pipeline, regular well upkeep can maintain well production capacity and extend the well's lifetime. It is also recommended to obtain one or more back-up generators that can be used to operate the wells during power outages and emergency situations.

Recommendations for new supply sources:

- **Construct Well 19:** As described in Chapter 4 of the Water Master Plan Update, SAWCo plans to construct a new well within the Cucamonga Basin to mitigate the production deficit in the domestic system. Future Well 19 is projected to provide approximately 1,490 gpm of additional supply to the domestic system, which will help maintain service levels in the domestic system if the tunnel collapsed or other supplies were unavailable.
- **Emergency Connection:** In the past SAWCo has purchased water from the City of Upland and had a connection to Metropolitan Water District whose pipelines run through SAWCo's service area. Due to the potable supply limitations to the domestic systems, and vulnerability of the San Antonio Tunnel, a new emergency connection is recommended for the domestic system to provide potable water for SAWCo's retail customers. This could be through a direct connection with the City of Upland downstream of their Water Treatment Plant where SAWCo purchases back water supplied to the City that has now been treated, or through an agreement with the City to treat additional water for SAWCo. Additionally, SAWCo could also obtain imported water from Metropolitan through a new connection or an interconnection with an adjacent agency that received imported water and enter into a wheeling agreement. The interconnection would ideally be located in the domestic system along an existing main with adequate capacity. Additional discussion with potential partnering agencies and evaluation of interconnection locations is needed to determine the preferred intertie location.
- **Repurpose Irrigation System Wells for use in the Domestic System:** SAWCo has multiple wells that currently only serve the irrigation system. These wells could be repurposed to serve the domestic system when needed. If required, new wellhead treatment could be constructed to meet potable water quality standards, and existing or new infrastructure repurposed or constructed to convey more groundwater water to the domestic system.
- **1 MGD Water Treatment Plant. Currently, water from the San Antonio Creek serves only the irrigation system, and is the main supply source for the City of Upland's surface water treatment plant.** A new SAWCo owned and operated 1 MGD water treatment plant, located near the Forebay, could allow SAWCo to treat the creek supply to drinking water levels and serve the domestic system. The WTP would reduce the current vulnerability in the domestic system and allow additional sources of supply to serve San Antonio Heights. A 1 MGD plant corresponds to 1,120 AFY if operating a full capacity year-round, which would supply about 95% of the supply and demand gap in the domestic system if the tunnel were out of service. Additionally, the treatment plant would be available to provide water to the City of Upland when their treatment plant is out of commission.

C

Appendix C Cost Estimates



Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



RZ 1 **Opinion of Probable Construction Cost**

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Feasibility study to rezone a portion of the High Zone to the Holly Drive Zone. Includes evaluation of operational and system changes.	1	LS	\$45,000.00	\$45,000

Segment Label	Laterals	Diam in	Depth ft
RZ-1	0	N/A	6.0

Subtotal	\$45,000
Project Development 25%	\$11,300
Project Cost	\$56,300

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company

Project: Water Master Plan

Prepared By: PO

Reviewed By: KP

Date: 10/31/2022



FF 1

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	384	S.Y.	\$10.39	\$3,990
Hauling Pavement	32	L.C.Y.	\$7.69	\$246
Pavement Repair	42	Ton	\$250.00	\$10,500
Shoring	5264	SF Wall	\$0.66	\$3,474
Excavation-Trench	211	B.C.Y.	\$8.88	\$1,874
Pipe Bedding (sand import)	81	L.C.Y.	\$25.55	\$2,070
Bedding Compaction	81	E.C.Y.	\$4.10	\$332
Native Backfill & Compaction	130	E.C.Y.	\$4.74	\$616
Water Compaction	130	E.C.Y.	\$2.22	\$289
Hauling Excavation	253	B.C.Y.	\$5.31	\$1,343
8" PVC Pressure Pipe AWWA C900	560	L.F.	\$22.39	\$12,538
8" Gate Valve	1	Ea.	\$1,700.00	\$1,700
8" Tee	1	Ea.	\$1,277.28	\$1,277
8" 90 Bend	1	Ea.	\$243.47	\$243
Air Release Valve	1	Ea.	\$6,000.00	\$6,000
Pipeline Testing and Disinfection	560	L.F.	\$1.50	\$840
Saddle & Tap for Service	12	Ea.	\$1,700.00	\$20,400

Segment Label	Laterals	Diam in	Depth ft
FF - 1	12	8	4.7

Mobilization	3%	\$2,032
SWPPP (per LF)	\$2	\$1,120
Traffic Control (per Day)	\$500	\$2,500
Subtotal		\$73,385
Construction Contingency	20%	\$14,677
Construction Total		\$88,062
Project Development	25%	\$22,015
Project Cost		\$110,077

Note:

1. Costs are preliminary and may not represent actual project items

Client: San Antonio Water Company

Project: Water Master Plan

Prepared By: PO

Reviewed By: KP

Date: 12/30/2022



FF 2

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	206	S.Y.	\$10.39	\$2,140
Hauling Pavement	17	L.C.Y.	\$7.69	\$131
Pavement Repair	23	Ton	\$250.00	\$5,750
Shoring	2820	SF Wall	\$0.66	\$1,861
Excavation-Trench	113	B.C.Y.	\$8.88	\$1,003
Pipe Bedding (sand import)	43	L.C.Y.	\$25.55	\$1,099
Bedding Compaction	43	E.C.Y.	\$4.10	\$176
Native Backfill & Compaction	70	E.C.Y.	\$4.74	\$332
Water Compaction	70	E.C.Y.	\$2.22	\$155
Hauling Excavation	136	B.C.Y.	\$5.31	\$722
8" PVC Pressure Pipe AWWA C900	300	L.F.	\$22.39	\$6,717
8" Tee	2	Ea.	\$1,277.28	\$2,555
Pipeline Testing and Disinfection	300	L.F.	\$1.50	\$450

Segment Label	Laterals	Diam in	Depth ft
FF - 2	0	8	4.7

Mobilization	3%	\$693
SWPPP (per LF)	\$2	\$600
Traffic Control (per Day)	\$500	\$2,000
Subtotal		\$26,384
Construction Contingency	20%	\$5,277
Construction Total		\$31,661
Project Development	25%	\$7,915
Project Cost		\$39,577

Note:

1. Costs are preliminary and may not represent actual project items

Client: San Antonio Water Company
 Project: Paloma Curve Hydraulic Break Alternatives
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



FF 3 **Opinion of Probable Construction Cost**

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Fire Hydrant Assembly (Furnish and Install)	6	Ea.	\$8,500.00	\$51,000
8-inch PVC Pressure Pipe AWWA C900 Hydrant Lateral	60	L.F.	\$22.39	\$1,400

Segment Label	Laterals	Diam in	Depth ft
FF-3	0	8	N/A

Mobilization	3%	\$1,600
Traffic Control (per Day)	\$ 500	\$1,500
	Subtotal	\$55,500
Construction Contingency 20%		\$11,100
	Construction Total	\$66,600
Project Development 25%		\$16,700
	Project Cost	\$83,300

Note:

1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



R&R 1 **Opinion of Probable Construction Cost**

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Well Drilling	1	Ea.	\$1,500,000.00	\$1,500,000
Emergency Generator	1	Ea.	\$275,000.00	\$275,000
Well Pump & Motor	1	Ea.	\$100,000.00	\$100,000

Segment Label	Laterals	Diam in	Depth ft
R&R-1	N/A	N/A	N/A

Mobilization	3%	\$56,300
Traffic Control (per Day)	\$ 500	\$10,000
	Subtotal	\$1,941,300
Construction Contingency 20%		\$388,300
	Construction Total	\$2,329,600
Project Development 25%		\$582,400
	Project Cost	\$2,912,000

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Paloma Curve Hydraulic Break Alternatives
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



R&R 2 Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Professionally inspect and clean storage tanks with divers	1	LS	\$60,000.00	\$60,000

Segment Label	Laterals	Diam in	Depth ft
R&R-2	0	0	N/A

Mobilization 3% \$1,800
Project Cost \$61,800

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/26/2022



R&R 3 **Opinion of Probable Construction Cost**

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Inspect the San Antonio Tunnel via CCTV	5100	L.F.	\$70.00	\$357,000
Install inspection points	1	LS	\$50,000.00	\$50,000

Segment Label	Laterals	Diam in	Depth ft
R&R-3	0	0	N/A

Mobilization	3%	\$12,300
	Subtotal	\$419,300
	Project Development 25%	\$104,900
	Project Cost	\$524,200

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company

Project: Water Master Plan

Prepared By: PO

Reviewed By: KP

Date: 12/30/2022



R&R 4

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	411	S.Y.	\$10.39	\$4,270
Hauling Pavement	34	L.C.Y.	\$7.69	\$261
Pavement Repair	45	Ton	\$250.00	\$11,250
Shoring	5640	SF Wall	\$0.66	\$3,722
Excavation-Trench	226	B.C.Y.	\$8.88	\$2,007
Pipe Bedding (sand import)	87	L.C.Y.	\$25.55	\$2,223
Bedding Compaction	87	E.C.Y.	\$4.10	\$357
Native Backfill & Compaction	139	E.C.Y.	\$4.74	\$659
Water Compaction	139	E.C.Y.	\$2.22	\$309
Hauling Excavation	271	B.C.Y.	\$5.31	\$1,439
8" PVC Pressure Pipe AWWA C900	600	L.F.	\$22.39	\$13,434
8" Gate Valve	1	Ea.	\$1,700.00	\$1,700
8" Tee	1	Ea.	\$1,277.28	\$1,277
Pipeline Testing and Disinfection	600	L.F.	\$1.50	\$900
8" Cross	1	Ea.	\$1,787.16	\$1,787
Saddle & Tap for Service	13	Ea.	\$1,700.00	\$22,100

Segment Label	Laterals	Diam in	Depth ft
R&R - 4	13	8	4.7

Mobilization	3%	\$2,031
SWPPP (per LF)	\$2	\$1,200
Traffic Control (per Day)	\$500	\$2,500
Subtotal		\$73,426
Construction Contingency	20%	\$14,685
Construction Total		\$88,112
Project Development	25%	\$22,028
Project Cost		\$110,140

Note:

1. Costs are preliminary and may not represent actual project items

Client: San Antonio Water Company

Project: Water Master Plan

Prepared By: PO

Reviewed By: KP

Date: 12/30/2022



R&R 5

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	133	S.Y.	\$10.39	\$1,382
Hauling Pavement	11	L.C.Y.	\$7.69	\$85
Pavement Repair	15	Ton	\$250.00	\$3,750
Shoring	1800	SF Wall	\$0.66	\$1,188
Excavation-Trench	67	B.C.Y.	\$8.88	\$595
Pipe Bedding (sand import)	25	L.C.Y.	\$25.55	\$639
Bedding Compaction	25	E.C.Y.	\$4.10	\$103
Native Backfill & Compaction	42	E.C.Y.	\$4.74	\$199
Water Compaction	42	E.C.Y.	\$2.22	\$93
Hauling Excavation	80	B.C.Y.	\$5.31	\$425
6" PVC Pressure Pipe AWWA C900	200	L.F.	\$15.85	\$3,170
6" Tee	1	Ea.	\$826.11	\$826
6" 90 Bend	1	Ea.	\$406.49	\$406
Pipeline Testing and Disinfection	200	L.F.	\$1.50	\$300
Saddle & Tap for Service	2	Ea.	\$1,700.00	\$3,400

Segment Label	Laterals	Diam in	Depth ft
R&R - 5	2	6	4.5

Mobilization	3%	\$497
SWPPP (per LF)	\$2	\$400
Traffic Control (per Day)	\$500	\$2,000
Subtotal		\$19,457
Construction Contingency 20%		\$3,891
Construction Total		\$23,349
Project Development 25%		\$5,837
Project Cost		\$29,186

Note:

1. Costs are preliminary and may not represent actual project items

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/26/2022



R&R 6

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Inspect Wells 22, 24, 25A, and 27 via CCTV	1	LS	\$20,000.00	\$20,000
Well Specific Rehabilitation / Replacement Plan	1	LS	\$60,000.00	\$60,000

Segment Label	Laterals	Diam in	Depth ft
R&R-6	0	0	N/A

Mobilization	3%	\$2,400
	Subtotal	\$82,400
	Project Development 25%	\$20,600
	Project Cost	\$110,000

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 11/1/2022



R&R 7

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	6,600	S.Y.	\$10.39	\$68,600
Hauling Pavement	550	L.C.Y.	\$7.69	\$4,300
Pavement Repair	594	Ton	\$250.00	\$148,500
Shoring	95,040	SF Wall	\$0.66	\$62,800
Excavation-Trench	6,160	B.C.Y.	\$8.88	\$54,800
Pipe Bedding (sand import)	2,591	L.C.Y.	\$25.55	\$66,300
Bedding Compaction	2,591	E.C.Y.	\$4.10	\$10,700
Native Backfill & Compaction	3,569	E.C.Y.	\$4.74	\$17,000
Water Compaction	3,569	E.C.Y.	\$2.22	\$8,000
Hauling Excavation	7,392	B.C.Y.	\$5.31	\$39,300
24" HDPE Piping	7,920	L.F.	\$114.09	\$903,600
24" Tee	3	Ea.	\$14,992.63	\$45,000
24" 90 Bend	12	Ea.	\$8,733.16	\$104,800
Pipeline Testing and Disinfection	7,920	L.F.	\$1.50	\$11,900

Segment Label	Laterals	Diam in	Depth ft
R&R-7	0	24	6.0

Mobilization	3%	\$46,400
SWPPP (per LF) \$	2	\$15,840
Traffic Control (per Day) \$	500	\$10,000
Subtotal		\$1,617,840
Construction Contingency 20%		\$323,600
Construction Total		\$1,941,440
Project Development 25%		\$485,400
Project Cost		\$2,426,840

Note:

1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 11/1/2022



R&R 8

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	1,852	S.Y.	\$10.39	\$19,300
Hauling Pavement	154	L.C.Y.	\$7.69	\$1,200
Pavement Repair	188	Ton	\$250.00	\$47,000
Shoring	26,000	SF Wall	\$0.66	\$17,200
Excavation-Trench	1,284	B.C.Y.	\$8.88	\$11,500
Pipe Bedding (sand import)	523	L.C.Y.	\$25.55	\$13,400
Bedding Compaction	523	E.C.Y.	\$4.10	\$2,200
Native Backfill & Compaction	761	E.C.Y.	\$4.74	\$3,700
Water Compaction	761	E.C.Y.	\$2.22	\$1,700
Hauling Excavation	1,541	B.C.Y.	\$5.31	\$8,200
14" HDPE Piping	2,500	L.F.	\$40.36	\$100,900
14" 90 Bend	2	Ea.	\$1,428.15	\$2,900
Pipeline Testing and Disinfection	2,500	L.F.	\$1.50	\$3,800

Segment Label	Laterals	Diam in	Depth ft
R&R-8	0	14	6.0

Mobilization	3%	\$7,000
SWPPP (per LF) \$	2	\$5,000
Traffic Control (per Day) \$	500	\$10,000
Subtotal		\$255,000
Construction Contingency 20%		\$51,000
Construction Total		\$306,000
Project Development 25%		\$76,500
Project Cost		\$382,500

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company

Project: Water Master Plan

Prepared By: PO

Reviewed By: KP

Date: 10/31/2022



0 1

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	1576	S.Y.	\$10.39	\$16,375
Hauling Pavement	131	L.C.Y.	\$7.69	\$1,007
Pavement Repair	173	Ton	\$250.00	\$43,250
Shoring	21620	SF Wall	\$0.66	\$14,269
Excavation-Trench	867	B.C.Y.	\$8.88	\$7,699
Pipe Bedding (sand import)	333	L.C.Y.	\$25.55	\$8,508
Bedding Compaction	333	E.C.Y.	\$4.10	\$1,365
Native Backfill & Compaction	534	E.C.Y.	\$4.74	\$2,531
Water Compaction	534	E.C.Y.	\$2.22	\$1,185
Hauling Excavation	1040	B.C.Y.	\$5.31	\$5,522
8" PVC Pressure Pipe AWWA C900	2300	L.F.	\$22.39	\$51,497
Pipeline Testing and Disinfection	2300	L.F.	\$1.50	\$3,450

Segment Label	Laterals	Diam in	Depth ft
O - 1	0	8	4.7

Mobilization	3%	\$4,700
SWPPP (per LF)	\$2	\$4,600
Traffic Control (per Day)	\$500	\$8,500
Subtotal		\$174,459
Construction Contingency 20%		\$34,892
Construction Total		\$209,351
Project Development 25%		\$52,338
Project Cost		\$261,689

Note:

1. Costs are preliminary and may not represent actual project items

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 11/1/2022



O 2

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Sawcut & Remove	867	S.Y.	\$10.39	\$9,100
Hauling Pavement	72	L.C.Y.	\$7.69	\$600
Pavement Repair	90	Ton	\$250.00	\$22,500
Shoring	12,000	SF Wall	\$0.66	\$8,000
Excavation-Trench	556	B.C.Y.	\$8.88	\$5,000
Pipe Bedding (sand import)	225	L.C.Y.	\$25.55	\$5,800
Bedding Compaction	225	E.C.Y.	\$4.10	\$1,000
Native Backfill & Compaction	331	E.C.Y.	\$4.74	\$1,600
Water Compaction	331	E.C.Y.	\$2.22	\$800
Hauling Excavation	667	B.C.Y.	\$5.31	\$3,600
12" HDPE Piping	1,200	L.F.	\$36.18	\$43,500
Pipeline Testing and Disinfection	1,200	L.F.	\$1.50	\$1,800

Segment Label	Laterals	Diam in	Depth ft
O-2	0	12	6.0

Mobilization	3%	\$3,100
Traffic Control (per Day)	\$ 500	\$10,000
Subtotal		\$116,400
Construction Contingency 20%		\$23,300
Construction Total		\$139,700
Project Development 25%		\$35,000
Project Cost		\$174,700

Note:

1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/26/2022



O 3

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Inspect Irrigation Main from Main Box to tee towards Upland WTP via CCTV	1	LS	\$420,000.00	\$420,000

Segment Label	Laterals	Diam in	Depth ft
O-3	0	20	6.0

Mobilization	3%	\$12,600
	Subtotal	\$432,600
	Project Development 25%	\$108,200
	Project Cost	\$541,000

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



O 4

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Upgrade and replace production meters in both the domestic and irrigation systems.	13	Ea.	\$25,000.00	\$325,000

Segment Label	Laterals	Diam in	Depth ft
O-4	0	0	N/A

Mobilization	3%	\$9,800
Subtotal		\$334,800
Construction Contingency 20%		\$67,000
Construction Total		\$401,800
Project Development 25%		\$100,500
Project Cost		\$436,000

Note:

1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/26/2022



0 5 Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
Backup Well Generator	2	Ea.	\$275,000.00	\$550,000

Segment Label	Laterals	Diam in	Depth ft
O-5	0	0	N/A

Project Development 25% \$137,500
Project Cost \$687,500

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



O 6

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
BPS #9 Evaluation	1	LS	\$50,000.00	\$50,000

Segment Label	Laterals	Diam in	Depth ft
O-6	0	N/A	N/A

Subtotal	\$50,000
Project Development 25%	\$12,500
Project Cost	\$62,500

Note:
 1. Costs are preliminary and may not represent actual project items.

Client: San Antonio Water Company
 Project: Water Master Plan
 Prepared By: PO
 Reviewed By: KP
 Date: 10/31/2022



O 7

Opinion of Probable Construction Cost

Item Description	Quantity	Units	Unit Cost	Total Item Cost
18" Butterfly Valve	2	Ea.	\$22,237.90	\$44,500

Segment Label	Laterals	Diam in	Depth ft
O-7	0	N/A	N/A

Mobilization	3%	\$1,335
Traffic Control (per Day) \$	500	\$500
	Subtotal	\$46,335
Construction Contingency 20%		\$9,300
	Construction Total	\$55,635
Project Development 25%		\$14,000
	Project Cost	\$69,635

Note:
 1. Costs are preliminary and may not represent actual project items.

Item Title: Design and Construction Management Contract
of Company Administration and Operation Facilities

Purpose:

Discussion and Possible Action regarding relocation of the Administration and Operation functions of the Company to the 20th Street property.

Issues:

Should the Company award a not-to-exceed \$283,550 contract with CEDG Architects to design and manage the construction of facilities at the 20th Street property?

Manager's Recommendation:

Authorize staff to execute a contract with CEDG Architects for a not-to-exceed amount of \$283,550

Background:

For several years, the Company has been considering options to consolidate administrative and operational functions onto a single parcel. The most recent concept is for the Company's 20th Street parcel.

CEDG has prepared the attached concept plans at Board direction. The plans were presented to the full Board at the February 2023 regular meeting. Discussion at the meeting was significant and none of the recommended changes have yet been incorporated into the design. CEDG will be making changes to the plans based on the Board's direction. The attached plans do not yet incorporate those changes. Future plans will be brought before the Ad-Hoc Committee for review and revising prior to issuing final plans and specifications for construction bidding.

Additionally, CEDG has prepared the attached proposed professional services contract for Board consideration. The total proposed professional service fee is \$283,550 for design and project management through construction. The current full budget for the project is proposed to be \$4M, including a contingency of \$700k. This proposed design and project management contract represents 7% of the proposed budget.

Previous Action:

At its regular February 2023 meeting the Board reviewed the conceptual plans at the 20th Street property.

Impact on Budget:

Staff does not have a construction estimate for the current plan. The buildings have changed significantly (smaller admin and larger ops building) and the construction market costs have risen

Agenda Date: March 21, 2023

due to hyper-inflation. Staff proposes a budget of \$4 million, which includes a sizable contingency of \$700k due to unknowns.

The cost of construction and relocation is planned to come from the sale of property. Specifically the Admin Building, the Operations Building and the remaining North Benson Ave Property. Dependent on market conditions staff estimates property sale revenue of approximately \$4.4M.

Previous Sale of Benson South Property to City of Upland	\$ 1,720,000
Sale of Administration Office	\$ 500,000
Sale of Operations Property	\$ 500,000
Sale of Benson North Property	<u>\$ 1,720,000</u>
	\$ 4,440,000

The construction funds would be drawn from the Company's Depreciation and Obsolescence (D&O) fund. Revenue from the sale of property would backfill the D&O funds.

Given the above, this project is expense-neutral at worst. It may actually provide a slight one-time increase in D&O funds once complete. This project will not impact current rates and charges.

SAN ANTONIO WATER COMPANY MASTER PLAN

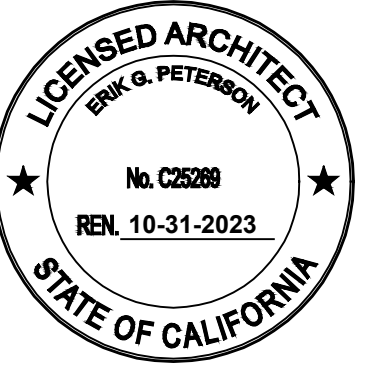
400 E. 20TH STREET, UPLAND, CALIFORNIA

cedg

ARCHITECTURE
BUILD/
LANDSCAPE/

401 e. columbia ave.
pomona, ca 91767
909.625.3916
cedgarchitects.com
info@cedgarchitects.com

STAMP:



CONSULTANTS:

OWNER:

SAN ANTONIO WATER
COMPANY

KEY PLAN

PROJECT:

concept:
SAN ANTONIO WATER
COMPANY HEADQUARTERS
AND MAINTENANCE YARD

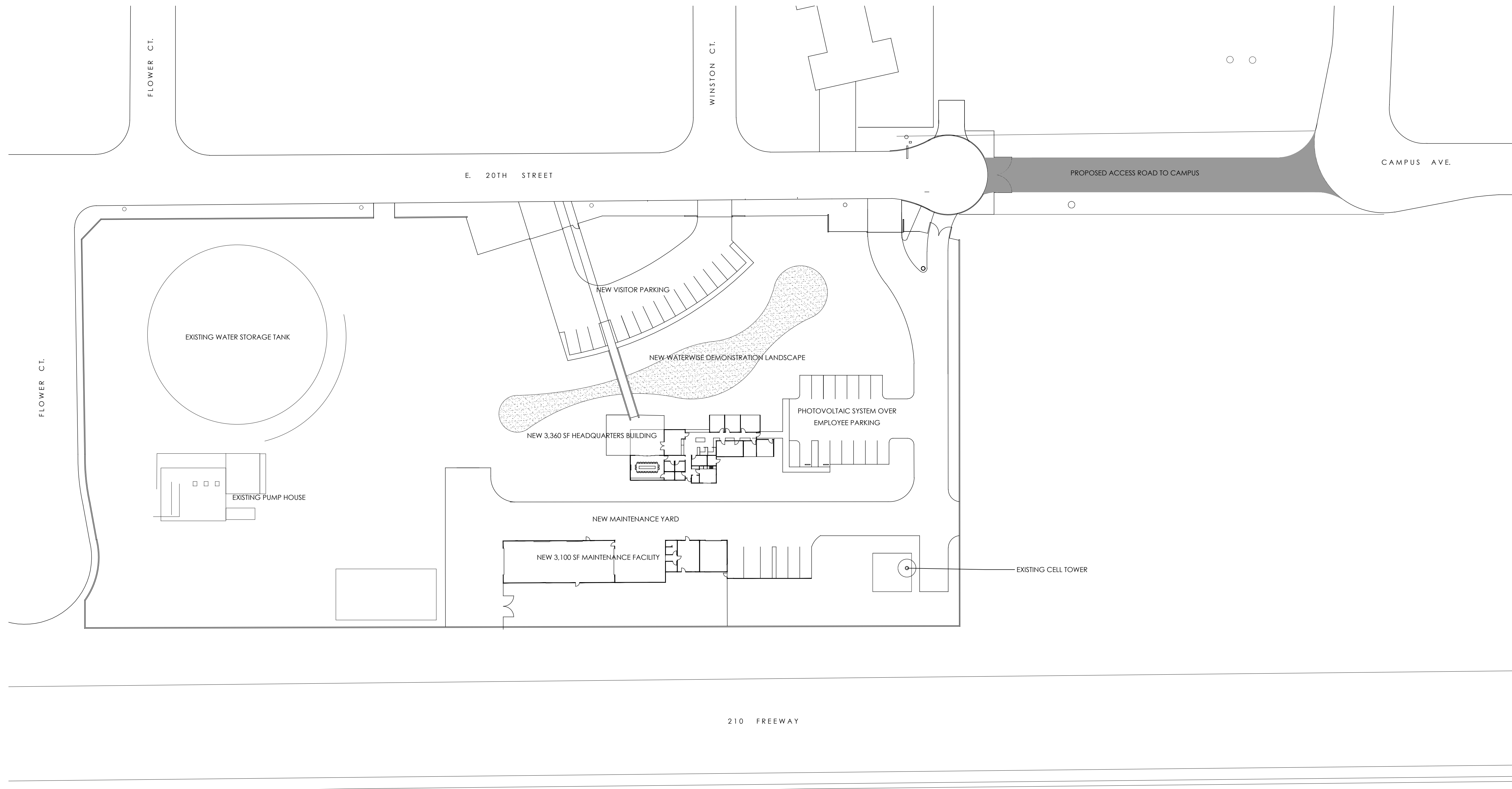
COVER
SHEET AND
SITE PLAN

SUBMITTALS

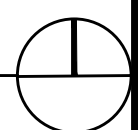
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JOB NO: 1603
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CHK BY: EGP

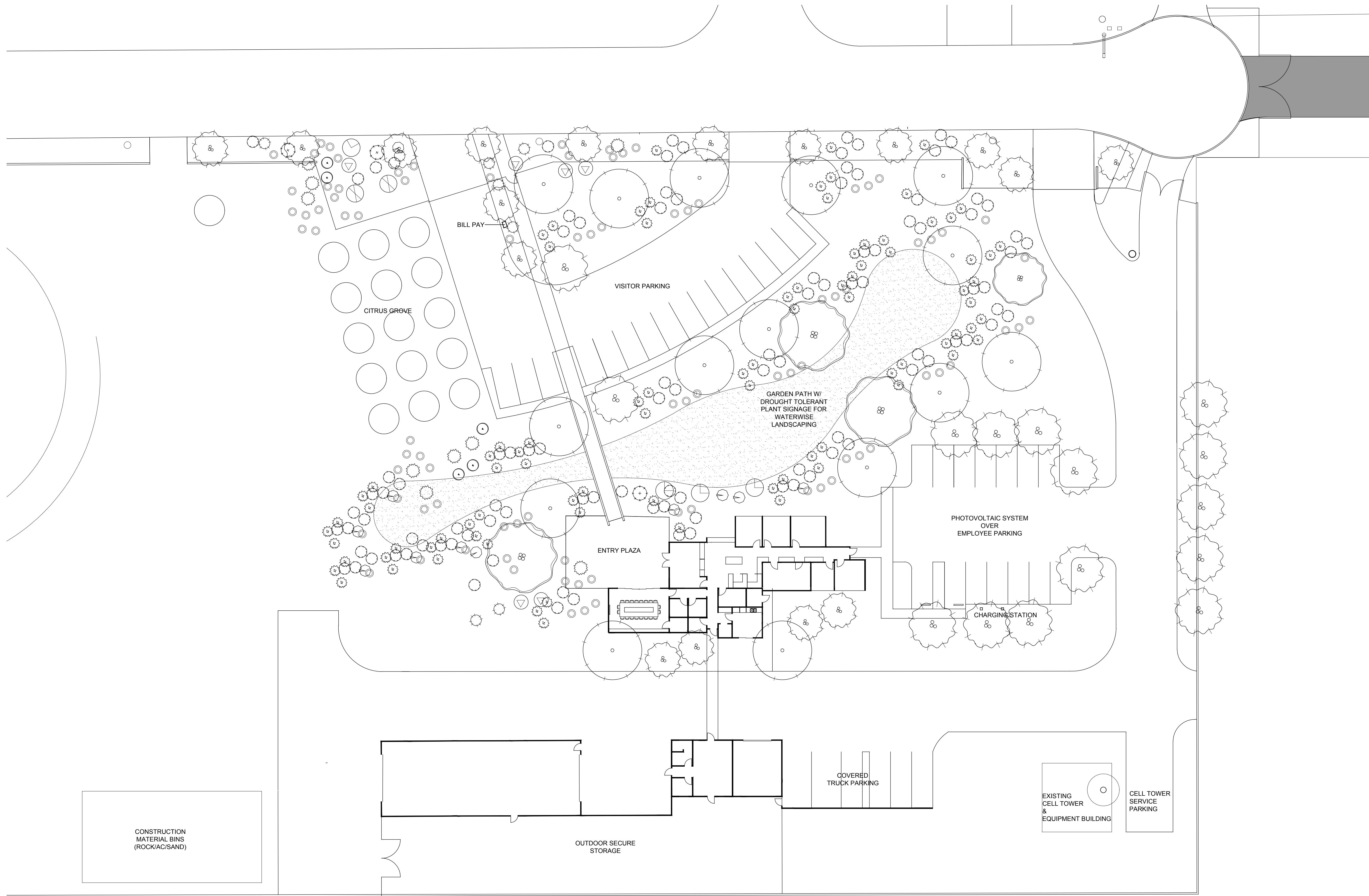
SHEET NO.

A-0.1



1 SITE PLAN & ACCESS ROAD TO CAMPUS AVENUE
1"=40'-0"





cedg

ARCHITECTURE
BUILD/
LANDSCAPE/

401 e. columbia ave.
pamona, ca 91767
909.625.3916
cedgarchitects.com
info@cedgarchitects.com

STAMP:



CONSULTANTS:

OWNER:

SAN ANTONIO WATER
COMPANY

KEY PLAN

PROJECT:

concept:
SAN ANTONIO WATER
COMPANY HEADQUARTERS
AND MAINTENANCE YARD

PARTIAL SITE
PLAN
CONCEPT
LANDSCAPE

SUBMITTALS

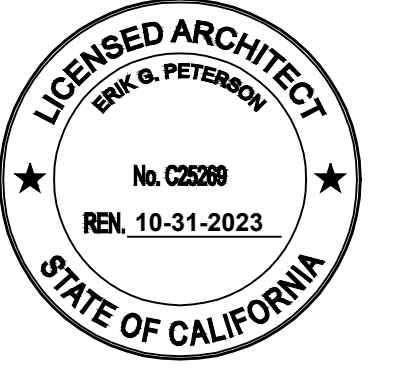
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SCALE: AS NOTED
JOB NO: 1403
DWN BY: EGP, CCW
CHK BY: EGP

SHEET NO.

A-1.0

1 PARTIAL SITE PLAN W/ CONCEPT LANDSCAPE
1"=20'-0"

STAMP:



CONSULTANTS:

OWNER:

SAN ANTONIO WATER
COMPANY

KEY PLAN

PROJECT:

concept:
SAN ANTONIO WATER
COMPANY HEADQUARTERS
AND MAINTENANCE YARD

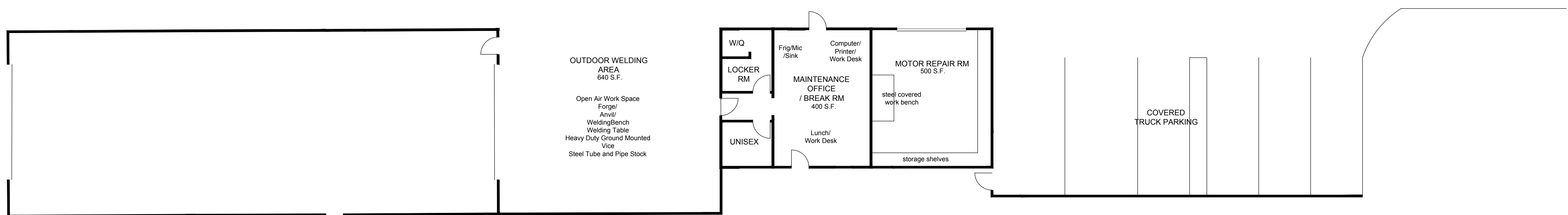
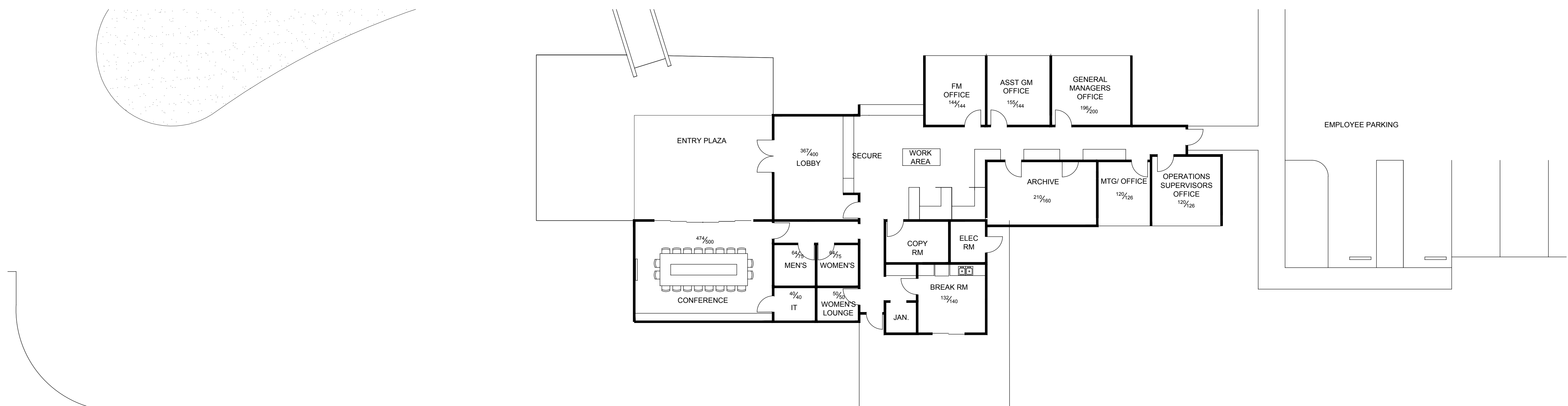
HEADQUARTERS
&
MAINTENANCE
BUILDING
FLOOR
PLANS

SUBMITTALS

DATE: 12 / 30 / 2022
SCALE: AS NOTED
JOB NO: 1403
DWN BY: EGP, CCW
CHK BY: EGP

SHEET NO.

A-2.0





ARCHITECTURE//
BUILD//
LANDSCAPE//
//cedgarchitects.com

February 17, 2023

AGREEMENT BETWEEN THE **SAN ANTONIO WATER COMPANY** and **CLAREMONT ENVIRONMENTAL DESIGN GROUP, INC.**

Claremont Environmental Design Group, Inc. —herein referred to as **CEDG** — agrees to provide architecture and engineering services to **the San Antonio Water Company** — herein referred to as **Client**— in order to help carry out the following project in accordance with the terms and conditions identified in this contract.

PROJECT: San Antonio Water Company New Office and Operations Yard Facilities Project

I. CEDG's RESPONSIBILITIES

CEDG shall provide design services for the Project as described in this Agreement in a manner consistent with locally accepted standards for professional skill and care and shall assist the Client in determining consulting services required for the project. Our scope of service includes the following:

1. Update Pre-Design Services Including Concept Design & Project/ Understanding

CEDG shall build upon our project understanding through meetings with Staff and Ad Hoc Committee to verify final programmatic requirements.

- Boundary and Topographic Survey including driveway connection to Campus Avenue.
- Soils Report including driveway connection to Campus Avenue.

2. Schematic Design

CEDG shall incorporate the approved design concept, programmatic requirements and approved architectural style.

Deliverables

- Site plan
- Concept landscape plan w/ plant palette
- Floor plans, building elevations, building sections
- 3-Dimensional Rendered Digital Concept Design
- Public and staff parking options, including traffic flow diagrams
- Demonstrate how careful use of the site will preserve land for growth and facilitate future growth

- Preliminary cost estimate for the total cost of project construction
- Construction materials options for interior, exterior and site

3. Design Development

During Design Development, CEDG shall refine the design including:

- Optimize building envelope through passive solar design techniques so that the building will heat, cool, ventilate and daylight itself as much as possible. This is accomplished through proper orientation, thermal mass, insulation and placement of windows (all appropriately sized and located to optimize thermal performance).
- Indoor Air Quality Considerations: CEDG will specify no and low-VOC materials. Indoor spaces will be designed for passive ventilation. Active systems will be designed for back-up. All indoor spaces will be monitored for indoor air quality.
- Design the grading and site drainage as an educational model for constituents to demonstrate the hydrologic cycle.

Deliverables

CEDG shall prepare the following drawings and schedules:

- Site plan, Landscape Planting Plan and Concept Irrigation Plan
- Preliminary Grading and Drainage Plan
- Floor and Roof Plans, Reflected Ceiling Plan of Main Office, Building Sections, Elevations
- Selection of Lighting and Plumbing Fixtures
- Material & Equipment Selection
- Selection of Site and Building Security, Data and Communications Systems

CEDG shall prepare and review the draft Planning Submission Package with SAWCo. Once approved by the Company, CEDG shall submit the Planning Package and make any Planning required changes as well as represent the Owner at any required public hearings.

CEDG shall value engineer the project as part of the Design Development Phase and shall update the Preliminary Estimate of Construction Costs.

4. Construction Document Phase

In this phase, CEDG and its consultant team shall:

- Prepare full Civil, Architectural, Structural, Mechanical, Electrical, Plumbing and Landscape Architectural Plans and Calculations required by the City of Upland in order to obtain building permits. Written specification will also be provided to identify materials, products and their proper installation.
- Revise the Preliminary Estimate of Construction Cost.
- Review and gain approval of the Construction Document Package and Preliminary Estimate of Construction Cost with SAWCo prior to submission to Building & Safety.

Deliverables

- Construction Documents Package submitted to Building and Safety
- Final Preliminary Estimate of Construction Cost

5. Bidding Services

During the bidding process, CEDG shall:

- Coordinate the Bid Documents, incorporating the Company's standard contract documents and general provisions, modified for specific items within the Project
- Finalize the Bidding and Construction Schedule based on the project Phasing Plan
- Conduct Pre-bid meeting
- Prepare addendum as required
- Respond to Requests for clarification/information
- Review of bids received for responsiveness
- Recommendation to staff regarding contract award
- Selected Contractor to provide a Critical Path Construction Schedule

6. Construction Administration Services

- Review contractor's work schedule
- Review contractor's shop drawing schedule
- Review contractor's payment schedule of values
- Review contractor's request for payments
- Review contractor's shop drawing submittals
- Maintain on-going submittal schedule and review status report
- Specify in the Contract Documents that the Contractor shall maintain on-going records of all field changes for final as-built construction drawings.
- Conduct weekly job meetings and provide summaries
- Observe construction at each job meeting to ensure the integrity of the work completed and the project is built per the approved drawings and specifications
- Identify issues or barriers to completing the project and corrective strategies
- Advise and process change orders (if necessary). (All changes to the scope and subsequent fees must be submitted in writing and approved prior to any action being taken)
- Certify substantial completion
- Perform punch list inspection
- Complete final inspection at completion of punch list

To ensure the above tasks to be executed in a timely manner, Client's approval in each of the stage is required to advance to the next stage.

The scope of basic services **excludes** the following:

1. Job site supervision.
2. Printing and reproduction done by contracted printing services.

3. Perspective renderings.
4. Plan check permit and other fees.
5. Studies that the City may require as part of their CEQA process.
6. Fire sprinkler and fire alarm design and coordination.
7. Security systems design and coordination.
8. Noise calculation, arborist and other such specialty requirements of the City.
9. Any work not explicitly listed in the Scope of Services above.

II. CLIENT'S RESPONSIBILITIES

1. The Client shall provide decisions and furnish information as expeditiously as necessary for the orderly progress of the Project. CEDG shall be entitled to rely on the accuracy and completeness of the Client's information.

USE AND REUSE OF DOCUMENTS

1. Drawings, specifications and other documents prepared by CEDG are instruments of design services and are for the Client's use solely with respect to this project. We shall retain all common law, statutory and other reserved rights, including copyright. Upon completion of the Project or termination of this Agreement, the Client's right to use the instruments of services shall cease. When transmitting copyright protected information for use on the Project, the transmitting party represents that it is either the copyright owner of the information, or has permission from the copyright owner to transmit the information for its use on the project.

III. TERMINATION, SUSPENSION OR ABANDONMENT

1. This Agreement may be terminated by either party upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.
2. If the Project is suspended by the Client for more than 30 consecutive days, CEDG shall be compensated for services performed prior to the notice of suspension. When the Project is resumed, CEDG's compensation shall be equitably adjusted to provide for expenses incurred in the interruption and resumption of CEDG's services.
3. This Agreement may be terminated by the Client upon not less than seven days' written notice to CEDG in the event that the Project is permanently abandoned. In the event of abandonment, CEDG shall be compensated for services performed as of the notice of abandonment.
4. Client may terminate this Agreement without cause upon of not less than seven days' written notice sent to CEDG. Should CEDG be terminated without cause, CEDG shall be compensated for services performed as of the effective date of such termination.

IV. PAYMENT AND COMPENSATION

1. The total contract amount for the work outlined in Section I is set to be **\$283,550.00 (Two Hundred Eighty-Three Thousand Five Hundred Fifty)** and is computed as follows:

Architecture
Boundary and Topographic Survey
Geotechnical Engineering - Soils Report
Civil Engineering
Structural Engineering
Mechanical, Electrical and Plumbing Engineering.
Landscape Architecture

Total Contract Cost	\$283,550.00
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2. Payment: CEDG will submit an invoice at the end of each month for the work completed based on the following stages of the project:

a. Deposit upon execution of the Agreement (10%)	\$ 28,355.00
b. Update Pre-Design Services Including Concept Design & Project/ Understanding (10%)	\$ 28,355.00
c. Schematic Design (15%)	\$ 42,532.50
d. Design Development (15%)	\$ 42,532.50
e. Construction Document Phase (35%)	\$ 99,242.50
f. Bidding Services (5%)	\$ 14,177.50
g. Construction Administration Services (10%)	\$ 28,355.00

Total Contract Amount (100%)	\$ 283,550.00
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Payments are due and payable within **fifteen (15)** days of receipt of CEDG’s invoice corresponding to the above-referenced event. Amounts unpaid **fifteen (15)** days after the invoice date shall bear interest at the rate of **1% per month**, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of CEDG. **CEDG reserves the right to stop work if payment is overdue under this agreement.**

3. Additional Work: The services described in this section are not included in the Work, as described in Section I above, and shall be paid for by the Client in addition to the Contract Sum. CEDG is not to proceed prior to receiving the Client’s authorization for the additional service. CEDG shall be entitled to additional compensation under this section for the following:

- a. Making revisions in working drawings that are:

- inconsistent with approvals or instructions previously given by the Client, including changes made by the Client after a design scheme had been approved by the Client or after the plans are submitted for plan check;
 - required by enactment or revisions of codes, laws, or regulations subsequent to the preparation of the drawing;
 - changes required as a result of design review and/or conditional use permit process of the local planning department. Notwithstanding anything contained herein to the contrary, CEDG at no extra charge shall render changes required by the local building and safety department necessary to affect the Work and accomplish the intent of the Project.
4. Reimbursable Expenses: Reimbursable expenses are in addition to the Contract Sum and include expenses incurred by CEDG and CEDG's employees in the interest of Project, as identified below:
- a. Cost of reproductions and printing of drawings, specifications and other documents done by contracted printing services shall be **reimbursed at cost + 15%**.
 - b. All expenses of transportation shall be **reimbursed at \$0.55 per mile plus any associated parking fees**.
 - c. CEDG's Accounting Record: Records of reimbursable expenses pertaining to additional services shall be available to the Client or Client's authorized representative at mutually convenient times.

V. LIMIT OF LIABILITY

CEDG's total liability related to the services provided shall be limited to the total compensation received under this agreement.

VI. DISPUTE RESOLUTION:

1. Any claim arising out of or related to the agreement shall be subject to arbitration. Prior to arbitration, Client and CEDG shall endeavor to resolve disputes by mediation. Mediation shall be a condition precedent to arbitration or the institution of legal or equitable proceedings by either party. Cost of mediation shall be shared equally by the parties, and the mediation shall take place in the area where the project is located. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.
2. Claims not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be in accordance with the rules of alternative resolution center ILC.

NOTICE: BY INITIALING IN THE SPACE BELOW YOU ARE AGREEING TO HAVE ANY DISPUTE ARISING OUT OR OF THE MATTERS INCLUDED IN THE ARBITRATION PROVISION DECIDED BY NEUTRAL ARBITRATION AS PROVIDED BY CALIFORNIA LAW AND YOU ARE GIVING UP ANY RIGHTS YOU MIGHT POSSESS TO HAVE THE DISPUTE LITIGATED IN A COURT OR JURY TRIAL. IF YOU REFUSE TO SUBMIT TO ARBITRATION AFTER AGREEING TO THIS PROVISION, YOU MAY BE COMPELLED TO ARBITRATE UNDER THE AUTHORITY OF THE BUSINESS AND PROFESSIONS CODE OR OTHER APPLICABLE LAWS. YOUR AGREEMENT TO THIS ARBITRATION IS VOLUNTARY.

WE HAVE READ AND UNDERSTAND THE FOREGOING AND AGREE TO SUBMIT DISPUTES ARISING OUT OF THE MATTERS INCLUDED IN THE ARBITRATION PROVISION TO NEUTRAL ARBITRATION.

(Initial – Client)

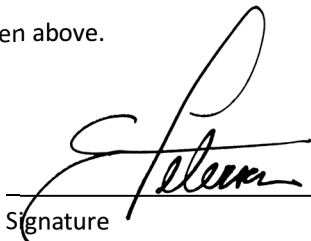


(Initial – Erik G. Peterson)

3. Attorney’s Fees: In the event of any action commenced by or between the parties to the Agreement, the prevailing party shall be entitled to attorneys’ fees and costs incurred as a result of such arbitration, litigation or action, including but not limited to fees of accountants, experts or other necessary professionals engaged in connection with the arbitration, litigation, or action. In awarding attorneys’ fees, the arbitrator or court shall not be bound to any court or statutory fee schedule, but shall award the full amount of costs, expenses, and attorneys’ fees paid or incurred in good faith. Further, the prevailing party shall also be entitled to reimbursement of attorneys’ fees and costs incurred in obtaining court confirmation of the arbitrator’s award.
4. Severability: Should any of the terms or conditions of this Agreement be found by a court of proper jurisdiction to be invalid or unenforceable, the remaining provisions of this Agreement shall remain in full force.
5. Merger: This Agreement constitutes the full and entire agreement between the parties, and may only be amended by a written instrument signed by all of the parties hereof.

This Agreement entered into as of the day and year first written above.

Signature Date
Client



Signature Date
Erik G. Peterson, Principal, CEDG, Inc. 2/17/2023

Item Title: Brown Act Changes Regarding Public Meetings

Purpose:

Discussion and Possible Action regarding recent changes in the Brown Act regarding public meeting attendance by Directors.

Issues:

How does the Company maintain compliance with current Brown Act requirements?

Manager's Recommendation:

Follow legal advice and opinion

Background:

California has revised the Brown Act multiple times over the past few years in response to the ever changing issues due to COVID 19. The most recent change was implemented at the first of March, 2022. Legal has prepared the attached memo regarding new state rules regarding Director's remote attendance at public meetings.

Previous Action:

None.

Impact on Budget:

None anticipated.

MEMORANDUM

TO: Board of Directors
San Antonio Water Company
Brian Lee, General Manager

FROM: Fennemore LLP, General Counsel

DATE: March 16, 2023

RE: Updated Brown Act Requirements Related to Remote Meetings

During the COVID-19 pandemic, the Board was able to conduct its meetings via teleconferencing¹ under a relaxed set of Brown Act (Govt. Code §§ 54950-54963) restrictions that applied during the Governor's declared State of Emergency. However, with the February 28, 2023, end of the State of Emergency, the Board must now revert to non-pandemic requirements for teleconferenced meetings.² These requirements discussed in this memorandum apply to both Board meetings and Committee meetings.

Discussion

On October 17, 2022, Governor Newsom announced that he would end the COVID-19 State of Emergency as of February 28, 2023. As a result, the Brown Act provisions applicable to teleconference meetings during a declared State of Emergency expired as of that date and the Company must now comply with the standard rules applicable to remote participation³. Subject only to limited exceptions for "just cause" or "emergency circumstances" (discussed below), the following conditions will apply when one or more Board members participate from a location other than the physical meeting location.

1. Standard Teleconference Requirements (Non-State of Emergency). In order for Board members to remotely participate in a teleconferenced meeting, the following requirements apply:

a. no less than a quorum of the Board must participate from locations (teleconference or physical) within the Company's service area *and each teleconference location*

¹ "Teleconferencing" means a meeting with members in different locations and connected by electronic means, audio, visual, or both.

² Although the Company is not a public agency, the courts have nonetheless been held that the Company is subject to the Brown Act.

³ "Remote participation" is defined as "participation in a meeting by teleconference at a location other than any physical meeting location designated in the notice of the meeting." (*Id.* § 54953(j)(4).) "Watching or listening to a meeting via webcasting or another similar electronic medium that does not permit members to interactively hear, discuss, or deliberate on matters, does not constitute remote participation." (*Ibid.*)

must be open to the public and allow the public to address the Board directly via audio, visual, or audio-visual means;

b. each teleconference location must be identified on the meeting agenda and the agenda must advise the public as to how they may participate via teleconference and directly address the Board;

c. an agenda must be posted at each teleconference location and all other applicable Brown Act requirements met;

d. all votes must be by rollcall.

2. Exceptions to Standard Teleconference Requirements (Non-State of Emergency). In limited circumstances, a member may participate remotely via teleconferencing and avoid the “teleconference location open to the public” requirement. Those circumstances are limited to a member’s need to participate remotely for “just cause” or due to “emergency circumstances.”⁴

“Just cause” is defined as (a) a childcare or other caregiving need of a child, parent, grandparent, grandchild, sibling, spouse, or domestic partner that requires the Board member to teleconference remotely; (b) a contagious illness that prevents a Board member from attending in person; (c) a need related to a physical or mental disability not otherwise accommodated by the Americans with Disabilities Act; or (d) travel while on official business of the Company or another state or local agency. For participation under the “just cause” exception, the Board member must notify the Board at the earliest possible opportunity, which includes at the beginning of a regular meeting, of their need to participate remotely for “just cause” and describe the circumstances justifying their remote participation. The just cause exception may be used by a member only twice per calendar year.

“Emergency circumstances” are defined as a physical or family emergency that prevents a Board member from attending in person. For participation under the “emergency circumstances” exception, the Board member must request the Board to allow remote participation and the Board must approve that request. In their request, the member must include a general description of the “emergency circumstances,” although the description does not have to be longer than twenty (20) words and the member is not required to disclose the nature of a medical diagnosis or disability. The Board member’s request must be made at the earliest possible opportunity and a separate request must be made for each meeting for which the Board member seeks to participate remotely due to emergency circumstances.

A member may participate remotely under the “just cause” and “emergency circumstances” exceptions no more than a total of three (3) consecutive months or twenty percent (20%) of the regular meetings within any calendar year. The limit is reduced to two (2) meetings per year if the legislative body regularly meets fewer than ten (10) times per year. These limits apply to the combined use of the exceptions.

⁴ These exceptions, however, expire January 1, 2026.

3. Participation under Either Exception. For remote participation under either exception:

a. the member must disclose, before any action is taken by the Board, whether other individuals eighteen (18) years of age or older are present and, if so, their relationship to the member; and

b. the meeting must be broadcast by two-way audio and webcast or audio-visual means which allows the public to remotely hear and observe the meeting and remotely address the Board in real time;

c. no less than a quorum of the Board must participate from a single *physical* location within the Company's service area that is open to the public;

d. the remotely participating member must participate by both visual and audio means; and

e. the agenda must advise the public of the means it may access the meeting and give public comment, whether by a call-in option, internet-service option, or directly at the physical location.

Notably, remote participation under either exception does not require that the remote location be open to the public.

4. Public Access. In all circumstances where the Board uses teleconferencing, whether under the standard rules or the exception rules, the Board must provide a means for the public to remotely see and hear the meeting and address the Board. Call-in and webcast information must be included on the meeting agenda.

Conclusion

As of this month, the Board and its Committees must return to in-person meetings or remote participation under the Standard Teleconference Requirements, unless either the "just cause" or "emergency circumstances" exception applies. In those cases where the exceptions come into play, the Board must adhere to the conditions applicable to use of the exceptions.

Please let us know if you have any questions.

Derek Hoffman
Kevin Randolph