August 13, 2025

To: Rancho Murieta Community Services District Board of Directors

From: John Merchant, Chairman of the Working Group and President, Rancho Murieta Community Services District

RE: Transmittal of the Conclusions Of The Working Group

In April 2025, RMCSD approved a "working group" (Group) to review the data of its draft 2024 Integrated Water Master Plan (IWMP). Members of this Group are:

- *Mr. Eric Houston: RMCSD Director of Operations*
- *Mr. Jim Farrell*
- *Ms. Janis Eckard:*

These members bring a wealth of historical and operational knowledge to the past, present and future District water supply and water demand. All have contributed significantly in the analysis contained in this report. The report's conclusions represent a collaborative and objective analysis of the 2024 Integrated Water Master Plan draft document. The group has reached consensus on its findings.

Many questions surround the data and the IWMP's suggestions to augment and/or mitigate the District's water supply when the District encounters a drought or other water emergency. The Group reviewed key questions raised by both residents and directors at a series of public meetings. Our findings address water supply and demand, water storage and some suggested mitigation strategies presented in the draft IWMP.

We agree with the recent statement by Ms. Lisa Maddaus (the principal consultant responsible for the review of historical, current and future water data), that the District's water supply is one of "high risk". The Group is concerned that the draft plan does not fully support this "high risk" analysis. We also believe this draft document is not a "water plan," as it does not provide necessary guidance to the District as it considers its ability to support future development.

The Group is unanimous in its conclusion that the District requires a secondary source of raw water. We caution that, absent a secondary source of raw water, the District cannot support development beyond that which the District has already approved (entitled). This conclusion is exacerbated by the lack of an emergency water supply. Present water supplies and storage fall short of current demand for potable water. A water emergency occurs with any interruption to the District's sole supply of raw water. Concerns that drought will create a water emergency

apply not only to current residents and future development. These concerns also apply to the “entitled” development approved in November 2024. This development is presently under construction.

The working group believes:

- *More frequent interruptions of flows on the Cosumnes River are a question of “when” and not “if.” Thus, an effective plan requires evaluation of “worst case scenarios” when evaluating supply and demand. The draft IWMP ends its evaluation in 2022, before a more recent “worst case scenario” for water storage and water evaporation occurs within the District. In 2024 temperatures exceeded 100 degrees for 51 days. These highest recorded 100 degree temperatures resulted in record evaporation and record demands for potable water. These conditions are not considered in the IWMP.*

- *A “high risk” of water shortages with catastrophic consequences mandate careful, conservative estimates of the availability of potable water.*

- *The District must consider both this working group document and the (unapproved) draft IWMP when considering the District’s ability to support future growth. Both documents must be made available to the entity which will prepare the District’s first Urban Water Master Plan.*

- *The work group’s “Next Steps and Guiding Principles” provide a framework for planning efforts. Future work will require collaboration, discipline and must culminate in a realistic plan. This plan must be financially attainable. The plan must also demonstrate its ability to physically support any new development BEFORE the plan is implemented. It must not use an assumption of water to justify adding demand to the District Water Supply.*

Rancho Murieta's Existing and Entitled Connections Need an Additional 2,000 Acre Feet of Water to a) Meet the One Year Supply of Emergency Water and b) Achieve the Drought Stress Test Standard in the IWMP.

Permitted Potable Water Storage in Calero and Chesbro Reservoirs	Acre Feet
Gross Storage: Combined Calero & Chesbro, using bathymetric results and without stop logs (IWMP p. 18)	**3,351**
• Evaporation (20%)*	(670)
• Seepage (7%)*	(235)
• Dead storage	(315)
Net Storage: Assumes 100% full on June 1 of a water year, after subtracting for annual losses due to evaporation & seepage and dead storage	**2,131**
Actual Water Demand on 12/31/22 (IWMP p.59): Includes non-revenue water (NRW) leakage, production and maintenance, metering issues. Also adjusted for 10% climate change outdoor use .	1,837
New Entitlements Beyond 12/31/22: Includes NRW	
• Retreats	27
• Riverview	105
• Residencies	187
• Murieta Gardens	1.0
Total Demand for Existing and Entitled Development	**2,157**
Average Demand per Month	179.8
Apply Historic Drought Stress Test outlined in IWMP Nov. 1975 – Dec. 1978 For 19 months river flows did not reach 70 CFS and no pumping was allowed. This period involved two back-to-back summers. (IWMP p.89) Note: Analysis shows that almost all droughts are multi-year in duration.	
Excess Storage in Calero and Chesbro at the end of June 1 diversion period in the following year.	**(26)**
• Months of supply without conservation in place	One month short
• Run out of water (i.e. at dead storage or below) in:	May
If mandatory emergency 25% conservation measures are initiated for 8 months (March through November), equaling 360 AF of "savings," RM would still run out of water in:	July/August

*Evaporation and seepage can be variable from year to year

Historic Drought Scenario 3 - from IWMP

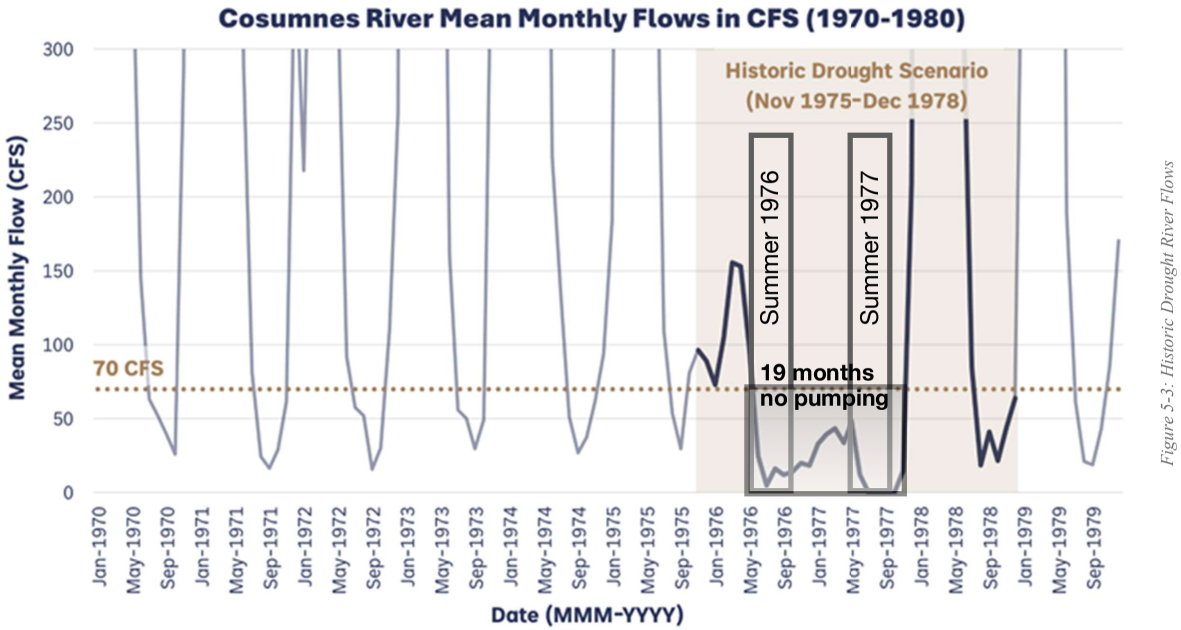

Figure 5-3: Historic Drought River Flows

This chart zooms into the Historic Drought hydrology scenario and has a horizontal line at a 70 Cubic Feet per Second (CFS) flow. A 70 CFS flow is the minimum flow required for the District to pump water from the river (see the Supply StoryMap for more information on RMCSD water rights).

From May 1976 ***(and through the summer of 76 and then through the summer of 1977*)*** **- until November 1977 - river flows did not reach the 70 CFS threshold and no pumping was allowed.** This meant that the District went one entire water year without pumping, which stressed the water supply significantly. This is the period of the lowest flows recorded for the Cosumnes River and is used in the Model as the "worst-case" scenario for this reason.

* *Italicized text shows wording that was added to accentuate that two summers are involved*

Work Group Report

IWMP Questions, Issues and Findings
and Recommended Next Steps & Guiding Principles
to Advance Water Planning

Prepared for the
Rancho Murieta Community Services District
Board of Directors

July 2025

Question by Eric Houston, Director of Operations, RMCSD
"What is our risk as a community and what is the resiliency of the system if we go into a multi-year drought period? . . Currently ."

Answer by Lisa Maddaus, Principal Consultant for IWMP
"I think the State has done that for you in SB552 . . . You are high risk . . That has not changed, that has not changed in quite some time"

April 8, 2025 Improvement Committee
Rancho Murieta Community Services District

Table of Contents

I. Summary Overview and Situation Assessment

Background Information: In April 2025, the Rancho Murieta Community Services District (CSD) appointed a work group to address unanswered questions and issues related to the Integrated Water Master Plan (IWMP). The work group is chaired by Director John Merchant and includes Janis Eckard, Jim Farrell and Eric Houston (Director of Operations at CSD).

One focus of the group involved reviewing questions related to data accuracy and assumptions used in the IWMP. Analysis also included the "Augmentation Options". However, this review was somewhat less detailed because CSD Board has already determined that the IWMP augmentation options are inadequate. Consulting group Water Systems Consulting (WSC) has been engaged to provide more robust and fact-based alternatives for planning. Finally, the group examined one of the communities most common questions: Why does this study feel so different?

Summary of Areas Reviewed: The group identified key questions and issues and provides general findings. For detail on this review see Sections IV A through H of this report (pages 8-12). A brief summary is as follows:

- The accuracy of data related to the number of "connections" is acceptable. However, there remain questions in regard to the IWMP's future commercial connections and the announced reductions of Villages D, E, F & G. There are also remaining questions in regard the 39 acres parcel adjacent to CSD – which was not included in the draft IWMP.
- There is a need to assess and drought stress test CSD's now "obligated group". This includes all "Current " connections as of 12/31/22 and adding in Retreats properties built since 12/31/22, and the recently approved "will serve" letters for 338 new residences in Riverview (140) and the Residences (198).
- Underlying plan assumptions regarding the mathematical adjustments for climate change, evaporation, seepage and non-revenue (leaks & production) water losses can influence up to 50% of water supply. These assumptions need to be clearly delineated..
- The Historic Drought Stress Test is a good method for gauging system capacity to avoid failure. This is important for determining the ability to serve existing customers and support future development. Recommended changes and/or clarification of this methodology include: a) not using flash board capacity as a starting point and b) mandatory emergency drought curtailments are not counted as system capacity allowing future development.
- Lake Clementia should not be considered a presumptive part of the potable water supply. Per recent CSD Ordinance 2025-03, its role is that of an emergency back up supply. Its capacity should not be used to justify future development.
- Recycled water assumptions for offsetting potable water demand should not be considered at this time. There is a poor history of this actually happening and costs are likely to be prohibitive.
- None of IWMP's supply augmentations should be "assumed" until they are fact based. This includes – but is not limited to: wells, use of recycled water to offset potable water demand, use of raw water during the summer to water golf courses, etc.

Why Does the 2024 draft IWMP Seem So Different from Earlier Studies?: One of the most common questions and concerns in the community, is why does the 2024 Integrated Water Master Plan (IWMP) seem so different than previous studies? Many in the community express surprise or disbelief that Rancho Murieta can no longer be considered to have an abundance of water?

One of the clear differences is the 2024 IWMP explicitly points to water supply shortages for the first time. To more fully answer this question, the group reviewed the 2006 and 2010 IWMPs (2010 was largely an update of 2006 data) and the Water Assessment in 2016.

Changes and use of data: For veterans of the previous water studies, this shortage is not a surprise. And, there is a feeling that parts of previous studies may have understated, masked or otherwise "brushed aside" water shortages. Some of this could be due to changes in key measures or assumptions, such as: a) Equivalent Dwelling Units (EDUs) initially at 750, then reduced 20% – and now, Parcel-Level Demand units based on lot size, b) over estimations of system capacity – at this time all three reservoirs now show less capacity than initially assumed, c) the mathematics of water savings when implementing mandatory emergency drought curtailments, d) not considering the need to add "contingency storage" as a deficit, e) lack of action in implementing recommended "solutions" in earlier studies, and/or f) a variety of other factors outlined in Section IV.G of this report (page 12).

Trust: There is also a heightened level of distrust that clouds the current water planning efforts. This is reflected in doubts directed toward the consultant(s). There is also the concern that developers have overly influenced the water studies and once they have "overbuilt", they will leave the community as a less desirable place, with an overly risky water situation.

This distrust is only reinforced by factors such as: a) threats of lawsuits, b) aggressive "full build out" plans (which many view as not compatible with the community), c) a principal property owner's plans to offload properties and move out of state, and d) a polarized board and inadequate and unstable administrative leadership. This distrust helped lead to an earlier Grand Jury review and a recent community petition for a moratorium – which was signed by more than 2,000 residents.

In earlier years, these kinds of issues might be tolerated and given time to work themselves out. But that is no longer the case. The risk of water system failure is now a reality, given community growth and climate change. This is especially true with the recent approval of "will serve" letters to provide water for 338 new homes for Riverview (140) and Residences (198). There are also the additional Retreats properties built since 12/31/22. And, the problem only magnifies when looking at "full buildout" scenarios.

At the April 8, 2025 meeting of the Improvement Committee, Lisa Maddaus (principal consultant), who has been involved in many of the previous studies, stated that she considers Rancho Murieta a "High Risk" community from a water resiliency standpoint (i.e. potential for system failure).

The Work Group strongly recommends that the current water planning includes special care to avoid errors, omissions, overstatements, masking and/or ambiguities. Lessons can be learned by looking back – but the primary purpose of planning is to look forward. Engineering and specialized knowledge will be needed for the work. But, the plan also needs to pass a transparent business-like due diligence and be understandable to the community.

II. Next Steps and Guiding Principles for Advancing the Plan

The Work Group recommends the following for advancing the water planning process.

- The Historic Drought "stress test" should serve as the basis for judging the adequacy of the system's capacity to meet the needs of current customers and future development. Drought testing benchmarks and parameters should be uniformly understood – including accurate data for demand and supply analysis (no use of flashboards for the starting point). This also includes setting specific numbers for underlying assumptions regarding adjustments for climate change, evaporation, seepage and non-revenue water (these underlying assumptions can impact nearly 50% of the supply levels).

- There is a high priority to measure the water deficit for CSD's existing "obligated group". This includes the 2024 IWMP's "Current" connections (those as of 12/31/22), plus newly added Retreats properties since 12/31/22, and the recently approved "will serve" letters for 338 new residences in Riverview (140) and the Residences (198).

- Once the "obligated group" analysis is complete, the same analysis should be done for the remaining developments described as "Full Buildout" in the 2024 IWMP.. No future "will serve" letters should be issued until a supply and demand analysis (including drought stress test) is successfully completed.

- All "Full Buildout" properties proposed in the developer's application PLNP2014-00206 must be included in water planning. This includes the 39 acres parcel adjacent to CSD, and "Lot N", which is a consolidation of properties adjacent to the reservoirs (formally referred to as Villages D, E, F & G). This also applies to the future Commercial connections listed in the IWMP.

- 50% mandatory drought curtailments may be regulatorily required for drought testing – but that does not translate into using it for strategic water planning. Reduced water consumption from emergency drought conservation curtailments (whatever the percentage) should not be considered as part of system capacity for development. In other words, no new development should be approved if it relies on emergency conservation curtailments to avoid shortfalls during a drought. "Normal" year water usage may be the better tool for strategic water planning.

- Risk averse assumptions should be used in planning, with any potential water savings from them being considered contingency storage. Contingency storage is not added to water supply estimates. This also applies to added water capacities that may be gained by the use of "flash boards". A lack of adequate "contingency storage" should be considered a deficit.

- A planning priority should be better diversification of water supply sources in order to improve system resiliency and mitigate the current risk of system failure. System failure risk is increased with the existing over-reliance on the river as the sole source of water supply.

- RMCSD Ordinance 2025-03 states CSD is to solicit SWRCB to permit Lake Clementia as an emergency supply of water. This capacity is toward meeting the one year supply of emergency water and it shall not be considered potable water for additional development. As an emergency source it will serve the current and future community.

- No supply of water should be "assumed" until it is fact based. This includes – but is not limited to: wells, use of recycled water to offset potable water demand, use of raw water during the summer to water golf courses, etc.

- The current IWMP does not address the needs and options for an ongoing and impactful conservation program by CSD.

- A notable shortcoming of IWMPs is the lack of gauging the significant economic damage to property owners in the event of a failed water supply. Media coverage would trigger significant drops in home values. Additional losses would include trees, parks and landscapes. Fire risk would increase. Nor does it gauge the reduction in water quality as reservoirs are drawn down to dead storage levels.

- Integrated Water Master Plan (IWMP) is a misnomer. Completing an IWMP is not a "Plan". In order for it to be considered a *"plan"* – CSD needs to prioritize available options and adopt reality based initiatives that are more than just the pursuit of good ideas. Identified action plans need to be researched, fact-based (not assumed) and have timelines and expected results. They also need to be financially feasible. A financial analysis should be completed and available financing assured. This also applies to permitting and other approvals – they need to be known and assured (not assumed). Once these things are accomplished – there can be a *"plan"*.

- The Board of CSD needs to lead planning that is "mission centric': ***To provide reliable, high quality water to customers in the most cost effective manner.*** Costs to find and expand the water supply to satisfy development, should be the responsibility of developers – not current customers.

III. Urban Water Master Plan (UWMP)

The Shared Vision Model used by Maddaus Water Management provides a good planning framework. While there were some questions about data accuracy, the Work Group judged the models "demand" forecasting methodology as generally good and deemed it directionally accurate. Once the needed fixes outlined in the above Statement of the Problem and Next Steps & Guiding Principles are resolved - that part of the planning analysis can be considered complete.

As has been outlined above, most of the issues related to the Shared Vision Model are on the "supply" side of the draft 2024 IWMP. It is recommended that the Work Group's report be provided to WSC as part of its information for developing an UWMP.

At this time, Rancho Murieta is only 80 connections away from the 3,000 connections triggering the need for an UWMP. The Work Group believes that the rigorous detail and analysis required of an UWMP will address the issues and questions that have been raised through this review. This analysis should also provide a risk assessment analysis. The UWMP will help assure that CSD completes the comprehensive analysis (including fact based water supply "solutions") to meet current needs as well as those for future development.

IV Questions, Issues and Findings

The following pages provide a summary of the different categories of questions and issues reviewed – as well as the findings of the Work Group.

IV. A. Accurate Accounting of Connections in "Current 12/31/22" Data

Questions/Issues

1. Reconciliation of "Current" (12/31/2022) residential connections counts
   - 2,845 vs. 2,729 (116 unit difference between billing data and the data in IWMP).
   - Concern was IWMP did not include 116 existing residences.
   - A quick answer provided was: "Homes with purple pipes have two meters."
   - Reviewing billing data, 123 accounts have multiple meters – but it is not a function of purple pipes.
2. There is also the question of how many vacant "infill" lots exist in the district – and how are they accounted for?
3. Further, recent Finance updates indicate:
   - 200 meters not talking to billing system
   - 40 homes never set up with a billing account
   - How does this effect IWMP data accuracy?

Findings

- IWMP data is not missing 116 residences and the apparent discrepancy between the billing report and data in the IWMP, it is not significant.
- Answers to questions #2 and #3 are to be provided by CSD staff and it will need to be determined if IWMP data needs adjustment.

IV.B. Need to Segment Data to be More Useful for Planning

Questions/Issues

1. The demand analysis in the water study provides two base points for demand, including:
   - Current connections as of 12/31/22, and
   - Full Build Out
2. CSD has now issued "will serve" letters for an additional 338 new residences (140 Riverview and 198 Residences).
3. There is a shortfall of water capacity to satisfy these obligations. This needs to be resolved before any additional "will serve " requests should be considered.
4. Accurate demand projections of Future Build Out also require greater clarification.
5. This segmentation will help to better define capital planning, timing and cost allocation.

Findings

- Data should be segmented in the following ways:
  - Current as of 12/31/22 (this is done now).
  - Current (12/31/22) + Newly built and entitled since 2022 (such as, Riverview & Residences). This is not done now.
  - Full Build Out (this is done now).
  - Full Build Out minus Villages D-G (this is new information).
- Villages D-G cannot be removed from the study without land ceded for development?

IV.C. Clarification on Account Usage Data

Questions/Issues

1. Previous studies have used "EDUs" as the basis for projecting usage. The IWMP now uses a "Parcel-Level Demand" (by categories of lot sizes) as the basis for projecting usage.
2. The study shows Future 435 AF of Commercial demand.
   - Includes 11 new commercial accounts (each at 35,240 GPDA usage).
   - Does this include the 24 unit Extended Stay? Other?
3. 39 Acres
   - The 160 apartments and 88 residences were not in IWMP.
   - Therefore, withdrawing these units should not affect Demand?
   - Nor should it affect Recycle?

Findings

- The "Parcel-Level Demand" basis for projecting usage can be accepted for accuracy.
- While there is uncertainty about the demands for items #2 and #3 above, this data cannot be removed from the study until the land is ceded for development.

IV. D. Clarification of Underlying Plan Assumptions and Adjustments

Questions/Issues

1. The study provides a 10% "climate change" adjustment for outdoor demand. Some have said that is too low and others say it is too high.
2. Evaporation and Seepage
   - Data used for IWMP analysis were **2012(**30%,) **2017(**45%), **2022(**35%) – which would average 36.6%.
   - For seepage the IWMP makes reference to the 1990 Gibertson Report: Evaporation 52.4 inches per year and Seepage 30 inches per year.
   - Discussions about the study have represented evaporation at 19.8% and seepage at 7.7% - which combined equals 27.5%.
3. Non-Revenue Water (NRW)
   - Study uses 13.6%.
   - Study estimates 12% of that is from leakage.
   - NRW also includes maintenance and production operations.
   - American Association of Water Agencies report median NRW at 18.5%.

Findings

- These underlying assumptions have significant impact on the demand/supply numbers of the study.
- WSC should be asked to review the data, using the data presented in the Maddaus report as needed - and provide CSD with clear numbers for these items.
- WSC should also provide a detailed "risk assessment" for CSD.

IV. D. "Historic Drought" Stress Testing and "Shortfall" Estimates

Questions/Issues

1. IWMP Scenarios 2a (Current connections as of 12/31/22) and 2b (Full Buildout) both show water supply shortfalls in the event of historic drought.
2. The analysis appears to begin with reservoir levels over 100% by the use of stop logs.
3. It does limit drought emergency conservation at 30%, representing cautious planning.
4. IWMP shortfalls may be understated because the modeling includes recycled water being used for "purple pipe" existing and future connections – which is questionable.
5. It does not provide the amount of water needed to avoid the shortfalls.

Findings

- Modeling based on "historic drought" reflects prudent stewardship.
- The starting point of drought modeling should be based on the water level in reservoirs without stop logs. November is the beginning of the "pumping season."
- Reduced water consumption achieved through the use of emergency drought conservation triggers should not be considered when gauging system capacity for development. It should be considered as a part of conservative assumptions built into the plan for doing long term strategic water supply analysis. In other words, no new development should be approved if it relies on emergency drought conservation measures to pass drought stress testing.
- In regard to measuring the water needed to avoid the shortfalls, one modeling approach arrives at the following numbers for the different build out levels (see IV.B. above).
    - Current (12/31/22 connections): **611 AF shortfall**.
    - Current + Newly built & entitled: **1,013 AF shortfall**.
    - Full Buildout minus Villages D-H: **2,202 AF shortfall**.
    - Full Buildout**: 2,508 AF shortfall**.
- Above estimates do not include consideration for the one year emergency supply policy.
- How close are the above numbers to what the IWMP data generates (again, not using the emergency drought triggers)?
- Estimates above used November 1, 2024 reservoir levels (1734 AF in Calero and Chesbro) as the starting point.

IV.E. Using Lake Clementia

Questions/Issues

Converting Lake Clementia to a potable water reservoir is a major part the augmentation solutions in the IWMP. This lake is primarily runoff (vs. river diversion). There are a wide variety of issues associated with this, including but not limited to:

Findings

- Recent bathymetric study shows 766 AF vs. the 1,007 AF in IWMP. This amount needs to be reduced even further to account for dead storage.
- The lake's water quality is such that it should only be considered in emergencies, as it would be extremely difficult and costly to process through the CSD plants.
- RMCSD Ordinance 2025-03 states CSD is to solicit SWRCB to permit Lake Clementia as an emergency supply of water. This capacity is toward meeting the one year supply of emergency water and it shall not be considered potable water for additional development. As an emergency source it will serve the current and future community.

IV.F. Recycled Water to Offset Potable Water Demand

Questions/Issues

1. IWMP reports 937 AF of recycled water – the rough equivalent of a 4th reservoir, nearly the size of Lake Chesbro.
2. CSD recycle history: *Over Promise and Under Perform.*
3. The simple math of percent increase in homes vs. increase in recycled water, does not make sense – 226% increase in recycled water, but only a 48% increase in units.
4. CSD lacks the infrastructure (including the need to pressurize) in order to deliver the recycled water as envisioned in the IWMP.

Findings

- At this time it is not deemed feasible to use recycled water to offset potable water demand.
- The uncertainty of the non-residential demand discussed in Section IV.C of this report (i.e. 435 Acre Feet) only adds to questions about the assumed 937 AF of recycled water in the draft IWMP.
- Assumptions regarding additional recycled water should be removed until the analysis is fully redone and provided in a manner that is understandable and complete.
- Future analysis needs to show::
  - Current and Future Tables:
    - Where is the water coming from (indoor, rain, etc.)?
    - How much volume?
    - What is lost in production and delivery?
    - Where it is going (destinations and volumes)?
      - Who has purple pipe and who does not?
      - Now and in future?
  - The analysis should also address:
    - Storage
    - Pressurization requirements
    - Seasonality
    - Limits for when doing Drought Stress Testing
    - Contractual obligations (including RMA, and RMCC)
    - License issues (agricultural vs. residential use of recycled water)
    - Solid waste disposal
    - Costs

IV. G. Comparison with Previous IWMPs

Questions/Issues

1. Why do the results of this IWMP seem to differ from that reported in the 2006 IWMP and the 2010 Update (which was largely based on 2006 data)? These differences can also impact the 2016 Watter Assessment provided to the county.
2. What are examples in previous studies that contributed to feelings that water deficits have been understated, masked or otherwise "brushed aside" in the past?
3. One of the concerns that should be added is Rancho Murieta's designation as a wildfire area and the additional risk to the community in the event of water shortfalls.

Findings

- Examples of items contributing to this problem include, but are not limited to the following:
    - Lake Clementia (reported at 1007 acre feet) has been presumed to be an integral part of the potable water supply. It is not.
    - The 2010 study states the full "useable" capacity of the three reservoirs is 4,723 AF.. This is not accurate. Useable water (that which is diverted from the river) is limited 3,900 AF of storage. And, even with that, bathymetric studies show that all three reservoirs have less capacity than previously assumed (combined this represents 805 AF of less water). The 2024 study continues to overstate Clementia capacity.
    - All studies, including 2024, include the 457 AF gained by flashboard "topping off" as part of the water supply. This should not be considered as a given – especially with climate change and the over-drafting of the Cosumnes River.
    - Both 2006 and 2010 IWMPs report deficits and needs for adding safety "contingency storage". 2006 has deficits of 210 AF (medium) and 1,830 AF (high) growth. It recommends adding 435 AF for storage contingency. The 2010 IWMP recommends adding 600 AF for safety. Lack of sufficient safety contingency storage should be considered a water supply deficit.
    - Changing EDU measures. (750 to 600 to Parcel-level by lot size).
    - Different mathematical calculations are used for aggressive mandatory emergency reductions in drought. For example the 2010 study says there is a 695 AF deficit when using 40% mandatory drought curtailments – but makes it go away by using 50%. All the studies seem to assume that reductions from drought curtailments are somehow an addition to system capacity. They should not be.
    - The studies continually increase assumptions for recycled water offsetting demand for potable water. 2024 IWMP now pegs recycled water at 937 AF. It is unclear where this water comes from. In any case, no offsetting of potable water has materialized – nor is it likely.
    - The 2016 Water assessment states*: "the district is currently planning augmentation for drought and emergency need".* This was to include two wells adding an additional 645 AF of capacity. After nearly a decade, this is not even close to reality.
    - If you add up all the "problems" above, it represents more than a cumulative 5,500 AF of water that – one way or another - is in question.
- The Work Group discussed that some of these examples are beyond CSD's ability to control or influence; such as, changing regulations, evolving climate change assumptions (American River Basin Study), Cosumnes River over drafting, fire risk, etc.
- The current planning process should primarily be looking forward and not backward. But issues like the examples above should be avoided or managed in a way that assures understanding and acceptance.
- Following the recommended Next Steps and Guiding Principles should help mitigate ambiguities and distrust.