

**Yolo County Flood Control &
Water Conservation District**

**Board Meeting
34274 State Highway 16
Woodland, CA 95695
Tuesday, August 2, 2022
7:00 P.M.**

Public documents relating to any open session item listed on this agenda that are distributed to all or a majority of the members of the Board of Directors less than 72 hours before the meeting are available for public inspection by scheduling an appointment with Christina Cobey at (530) 662-0265 or ccobey@ycfcwcd.org.

In compliance with the Americans with Disabilities Act, if you have a disability and need a disability-related modification or accommodation to participate in this meeting please contact Christina Cobey. Requests should be made as early as possible, and at least one full business day before the start of the meeting.

AGENDA

- 7:00 1. Consideration: Adoption of the July 5, 2022 Regular Board Meeting Minutes
- 7:02 2. Open forum (Limited to five minutes): Guest introductions, unscheduled appearances, opportunity for public comment on non-agenda items
- 7:07 3. Consideration: Adding Items to the Posted Agenda
In order to add an item to the agenda, it must fit one of the following categories:
a) A majority determination that an emergency (as defined by the Brown Act) exists; or
b) A 4/5ths determination that the need to take action that arose subsequent to the agenda being posted.
- 7:10 4. Presentation: Update on City of Woodland’s Aquifer Storage and Recovery Program
- 7:30 5. Consideration: Adopt Resolution 22.02 Requesting Collection of Charges on Tax Roll

- 7:35 6. Presentation: Receive Update from Finance Committee and Authorize Chair to Appoint Ad Hoc Outreach Committee
- 8:10 7. Director's Report: Report on meetings and conferences attended during the prior month on behalf of the District
- 8:15 8. Attorney's Report: Report on legal matters of concern to the District
- 8:20 9. General Manager's Report: Report regarding current general activities and projects of the District
- a) Operations, Maintenance, and Water Conditions
 - b) Financial Report
 - c) Capital Improvement Program
 - d) YSGA Update
 - e) General Activities
 - f) Upcoming Events
- 8:35 10. General Discussion: Opportunity for clarification or additional information request
- 8:40 11. Consideration: Consider the approval and the payment of bills
- 8:45 12. Closed Session: Bay-Delta
- Closed session conference with legal counsel for existing administrative proceeding and anticipated litigation/significant exposure to litigation pursuant to Government Code §54956.9, subsections (d)(1) and (d)(2) – State Water Resources Control Board Bay/Delta Plan update proceeding.
- 9:00 13. Adjourn

The public may address the Board concerning an agenda item either before or during the Board's consideration of that agenda item. Public comment on items within the Board's jurisdiction is welcome, subject to reasonable time limits for each speaker. Upon request, agenda items may be moved up to accommodate those in attendance wishing to address that item. Times listed for consideration of agenda items are approximate only. The Board may consider any agenda item at any time during the Board meeting.

I declare that the foregoing agenda was posted at the office of the Yolo County Flood Control & Water Conservation District, 34274 State Highway 16, Woodland, CA on July 29, 2022.

By:

Kristin Sicke, General Manager

YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

AGENDA REPORT

MEETING DATE: August 2, 2022

ITEM #: 1

SUBJECT: Consideration: Adoption of the July 5, 2022 Regular Board Meeting Minutes

INITIATED OR BOARD
REQUESTED BY: STAFF
 OTHER _____

COORDINATED OR
APPROVED BY: Kristin Sicke

ATTACHMENT YES NO
 DIRECTION

INFORMATION
 ACTION: MOTION
 RESOLUTION

BACKGROUND:

Pursuant to Section 54957.5 of the Brown Act, copies of the draft minutes are available to the public on the District's website and at the District office prior to their approval.

In advance of the Board meeting, staff request the Directors notify staff if a correction is needed in the draft minutes to clarify a substantial point or to correct content. Staff will make the appropriate change(s) and submit the revised draft for review to the Board and the public at the meeting.

RECOMMENDATION:

District staff recommend the adoption of the attached minutes with any corrections.



YOLO COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT

BOARD MEETING MINUTES
Tuesday, July 5, 2022, 7:00 PM

YCFC&WCD Offices
34274 State Highway 16
Woodland, CA 95695

The regular meeting of the Board of Directors of the Yolo County Flood Control & Water Conservation District (District) was held at 7:00 p.m. on Tuesday, July 5, 2022 at its regular place of business, 34274 State Highway 16, Woodland, California. Chair Vink convened the meeting. The following people were in attendance:

District Board

Erik Vink, Chair
Jim Mayer
Shane Tucker

District Staff

Kristin Sicke, General Manager
Andrew Ramos, Legal Counsel
Kristin Peer, Legal Counsel

Members of the Public

Jim Barrett
Scott Bradford
Patrick McLafferty
Chris Ott
Lee Smith

1. CONSIDERATION: Approval of Minutes

M/S/C approved the minutes of the June 7, 2022 regular Board meeting.

Ayes: Directors Mayer, Tucker, and Vink

Noes: None

Absent: Directors Barth and Kimball

Abstain: None

2. OPEN FORUM

There were no comments.

3. CONSIDERATION: Adding Items to the Posted Agenda

There were no changes made to the agenda.

4. PRESENTATION: Utilizing Excess Storm Flows for Groundwater Recharge on Agricultural Lands

General Manager Sicke briefly reviewed the District’s history with diverting excess storm flows at the Capay Diversion Dam for retention in the District’s earthen canal system and ultimately, percolation to the groundwater aquifer. Sicke discussed the vision to convey excess storm flows across a broader landscape and increase the available surface area for water retention and percolation. Sicke announced a potential pilot project opportunity to partner with Eaton Drilling (Eaton) in the hopes of successfully implementing an on-farm recharge program. Sicke introduced Eaton’s Chief Operating Officer, Chris Ott, to provide additional details on the proposed public-private-partnership.

Ott informed the Board of his work in the Alexander Valley assisting in the development of a groundwater recharge program that involves farmers, municipalities, and the Pomo Indians. The Alexander Valley project inspired him to consider something similar in Yolo County; given the District’s existing storm water diversion project, established infrastructure for farmgate deliveries, and existing customer base, he believes the District would be an excellent partner. Eaton is in the process of transitioning its strategic focus to incorporate sustainable water management in the company’s mission. The proposed partnership concept entails Eaton and the District working together to develop a grant application for implementing an on-farm recharge program: delivering excess storm water to farm fields and tracking and monitoring deliveries and groundwater elevations. The project would likely include the installation of new farmgate deliveries or field (on-site) equipment for proper monitoring, along with a water availability analysis for the District to make progress on its long-term winter water right application for the State Water Board.

Director Mayer suggested that Eaton and Sicke create a summary of roles and responsibilities of each party detailing the partnership arrangement prior to proceeding with a potential grant opportunity.

5. PRESENTATION: USDA Agricultural Research Service Sustainable Agricultural Water Systems Unit

General Manager Sicke introduced Dr. Scott Bradford of the USDA Agricultural Research Service Sustainable Agricultural Water Systems Unit. Dr. Bradford provided a presentation on the use of drywells to enhance or increase groundwater recharge. Dr. Bradford reviewed his recent research for the McMullin Project in Helm, California. The McMullin Project utilizes Kings River flood water for transport of surface water through the vadose zone via the dry wells strategically located

at a test site. Dr. Bradford and his team are monitoring the vadose zone to effectively determine when the surface water enters certain soil layers in the ground. Numeric modeling simulates the hydraulic properties throughout the test site to demonstrate the rate and effectiveness of recharge via the drywells.

There were general discussions about installation costs and maintenance of the drywells. Sicke reported that she would continue to work with Dr. Bradford to consider a potential test site for a drywell in Yolo County (assuming a funding opportunity arises).

6. DIRECTORS' REPORTS

Director Mayer reported on participating in NCWA's Groundwater Management Task Force meeting and preparing for a conversation with DWR on ways to lessen regulatory barriers for groundwater recharge. Mayer reported that the NCWA Board of Directors were meeting on July 6, 2022 to receive a legislative update and review the annual budget.

Director Tuckers and Vink had nothing to report.

7. ATTORNEY'S REPORT

Legal Counsel Ramos introduced Kristin Peer as a new BKS attorney. Peer recently transitioned from CalEPA and has good expertise in matters that are relevant to the District so she will be an asset to the team.

8. GENERAL MANAGER'S REPORT

General Manager Sicke provided reports on the following:

- a) Operations, Maintenance, and Water Conditions
- b) Financial Report Summary – Highlights from the June 30, 2022 Financial Statements Report were reviewed, and the actual FY 2022/2023 Budget was compared to the projected FY 2022/2023 Budget.
- c) Capital Improvement Program – An update on the planning activities related to capital projects was provided.
- d) YSGA Update – An update on Yolo Subbasin Groundwater Agency's *2022 Yolo Subbasin Groundwater Sustainability Plan* implementation activities was provided.
- e) General Activities – A list of outreach activities and projects (in-house and coordinated with other agencies) was reviewed.
- f) The following upcoming events were announced:
 1. YCFB's Young Farmers & Ranchers Meeting (June 8)
 2. WRA TC Ad Hoc Drought Task Force (June 9)
 3. YCFB / YSGA Workshop (June 9)
 4. YSGA: Hungry Hollow Area Groundwater Subcommittee Meeting (June 9)
 5. WRA / YSGA Executive Committees' Meetings (June 13)
 6. NCWA: Groundwater Task Force Meeting (June 13)

7. NCWA’s Coordination Task Force Meeting (June 14)
8. Interview with Ricardo Amon (June 15)
9. ACWA Legislative Committee (June 20)
10. NCWA Voluntary Updates, Coordination Meeting (June 20)
11. WRA / YSGA Board of Directors Meetings (June 20)
12. YSGA: Hungry Hollow Area Community Town Hall Meeting (June 22)
13. YCFB / YSGA SGMA Public Workshop (June 28)
14. RD 108’s 150th Celebration (June 29)
15. County / Farm Bureau Coordination Meeting (July 5)
16. NCWA Voluntary Updates, Coordination Meeting (July 5)

9. GENERAL DISCUSSION

There was no general discussion.

10. CONSIDERATION: Payment of Bills

M/S/C approved the following claims for payment – Yolo County Flood Control & Water Conservation District Checks # 61347-61355.

Ayes: Directors Mayer, Tucker, and Vink

Noes: None

Absent: Directors Barth and Kimball

Abstain: None

11. CLOSED SESSION

Closed Session conference with legal counsel for existing administrative proceeding and anticipated litigation/significant exposure to litigation pursuant to Government Code 54956.9, subsections (d)(1) and (d)(2) – State Water Resources Control Board Bay-Delta Plan update proceeding.

Closed Session Report: Chair Vink reported that the Directors, General Manager Sicke, and Legal Counsel Ramos participated in the closed session item and that there was nothing to report.

12. ADJOURNMENT

There being no further business to come before the Board, the meeting was adjourned.

Erik Vink, Chair

ATTEST:

Kristin Sicke, Secretary

YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
AGENDA REPORT

MEETING DATE: August 2, 2022

ITEM #: 4

SUBJECT: Presentation: Update on City of Woodland's Aquifer Storage and Recovery Program

INITIATED OR BOARD
REQUESTED BY: STAFF
 OTHER _____

COORDINATED OR
PREPARED BY: Kristin Sicke
APPROVED BY: Kristin Sicke

ATTACHMENT YES NO
 DIRECTION

INFORMATION
 ACTION: MOTION
 RESOLUTION

BACKGROUND:

The City of Woodland has three wells in its Aquifer Storage and Recovery (ASR) Program allowing the City to inject treated Sacramento River water into the ground for temporary storage and recovery during peak demands. The City's ASR Program has decreased the City's dependence on groundwater and increased the City's resiliency to drought periods.

City of Woodland's Principal Utilities Civil Engineer, Tim Busch, will provide a presentation on lessons learned in implementing the City's ASR Program.

RECOMMENDATION:

This agenda item is for informational purposes only. No Board action is required.

YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
AGENDA REPORT

MEETING DATE: August 2, 2022

ITEM #: 5

SUBJECT: Consideration: Adopt Resolution 22.02 Requesting Collection of Charges on Tax Roll

INITIATED OR BOARD
REQUESTED BY: STAFF
 OTHER _____

COORDINATED OR
PREPARED BY: Kristin Sicke
APPROVED BY: Kristin Sicke

ATTACHMENT YES NO
 DIRECTION

INFORMATION
 ACTION: MOTION
 RESOLUTION

BACKGROUND:

The District places the following Regular Special Assessments on the Yolo County (County) property tax roll annually:

1. 1990 East Adams Area Assessment District (Code 54620)
2. 2000 Hungry Hollow Area Assessment District (Code 54621)
3. 2012 Annexation Special Assessment District (Code 54623)

As part of the Special Assessments' process, the County is requesting the Board adopt a formal resolution that acknowledges the collection of these charges on the County's property tax roll for 2022/2023. The 2022/2023 assessments by special assessment district are attached.

RECOMMENDATION:

District staff recommend the Board adopt Resolution 22.02 Requesting Collection of Charges on Tax Roll.

RESOLUTION NO. 22.02

**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE
YOLO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
REQUESTING COLLECTION OF CHARGES ON TAX ROLL**

WHEREAS, the Yolo County Flood Control and Water Conservation District (District) requests the County of Yolo (County) collect on the County tax rolls certain charges which have been imposed pursuant to Sections 28 and 29 of the District Act, found on the [District's website](#); and

WHEREAS, the County has required as a condition of the collection of said charges that the District warrant the legality of said charges and defend and indemnify the County from any challenge to the legality thereof.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of the Yolo County Flood Control and Water Conservation District that:

1. The Audit-Controller of Yolo County has requested to attach for collection on the County tax rolls those taxes, assessments, fees, and/or charges, attached hereto.
2. The District warrants and represents that the taxes, assessments, fees, and/or charges imposed by the District and being requested to be collected by Yolo County comply with all requirements of state law, including but not limited to Articles XIIC and XIID of the California Constitution (Proposition 218).
3. The District releases and discharges County, and its officers, agents, and employees from any and all claims, demands, liabilities, costs, and expenses, damages, causes of action, and judgments, in any manner arising out of the collection by County of any taxes, assessments, fees, and/or charges on behalf of the District.
4. The District agrees to and shall defend, indemnify, and hold harmless the County, its officers, agents, and employees (the "Indemnified Parties") from any and all claims, demands, liabilities, costs and expenses, damages, causes of action, and judgments, in any manner arising out of collection by County of any of the District's said taxes, assessments, fees, and/or charges requested to be collected by County for the District, or in any manner arising out of the District's establishment and imposition of said taxes, assessments, fees, and/or charges. The District agrees that, in the event a judgment is entered in a court of law against any of the Indemnified Parties as a result of the collection of one of the District's taxes, assessments, fees, and/or charges, the County may offset the amount of the judgment from any other monies collected by County on behalf of the District, including property taxes.
5. The District agrees that its officers, agents, and employees will cooperate with the County in answering questions referred to the District by the County from any person concerning the District's taxes, assessments, fees, and/or charges, and that the District will not refer such persons to County officers and employees for response.

6. The District agrees to pay such reasonable and ordinary charges as the County may prescribe to recoup its costs in placing on the tax rolls and collecting the taxes, assessments, fees, and/or charges, as provided by Government Code Sections 29304 and 51800.

PASSED AND ADOPTED by the Board of Directors of the Yolo County Flood Control and Water Conservation District on August 2, 2022 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Signed by me after its passage this 2nd day of August 2022.

Erik Vink, Chair

ATTEST:

Kristin Sicke, Secretary

APN	Assessment Charge (\$)	Tax Area Code		
025260018000	161.28	54620		
025280021000	112.62	54620		
025280023000	131.54	54620		
025280024000	73.16	54620		
025280025000	64.62	54620		
025280026000	58.30	54620		
025280027000	62.30	54620		
025290002000	147.26	54620		
025300001000	12.80	54620		
025300002000	20.58	54620		
025300004000	58.02	54620		
025300008000	18.26	54620		
025300027000	22.44	54620		
025300030000	35.62	54620		
025350020000	13.64	54620		
025350032000	60.52	54620		
025350033000	26.34	54620		
025350035000	1.00	54620	ESA	\$1,080.30
054220013000	223.10	54621		
054220014000	114.69	54621		
910001412000	0.00	54621	HUH	\$337.79
025010015000	348.68	54623		
025010018000	305.86	54623		
025010020000	53.92	54623		
025010043000	19.80	54623		
025010044000	329.76	54623		
025010048000	79.78	54623		
025010049000	11.06	54623		
025240037000	73.96	54623		
025240038000	495.12	54623		
025260002000	44.10	54623		
025260021000	33.56	54623		
025280028000	177.72	54623		
025280029000	78.24	54623		
025280030000	102.64	54623		
025280031000	25.44	54623		
030030065000	69.12	54623		
030030066000	302.54	54623		

050150003000	19.14	54623
050150004000	35.78	54623
050150015000	74.48	54623
050150016000	7.04	54623
050200002000	50.40	54623
050200004000	11.56	54623
050200006000	84.14	54623
050200009000	30.44	54623
050200010000	26.44	54623
050200013000	25.78	54623
050200014000	68.74	54623
050200015000	38.06	54623
054050001000	37.22	54623
054050002000	67.04	54623
054060006000	189.06	54623
054060007000	213.28	54623
054100011000	147.52	54623
054100012000	70.36	54623
054110002000	1.04	54623
054110010000	196.32	54623
054110011000	195.18	54623
054110012000	100.36	54623
054110013000	35.44	54623
054110014000	16.98	54623
054120001000	1,203.50	54623
054120003000	150.82	54623
054120004000	1.52	54623
054120008000	385.26	54623
054120009000	255.26	54623
054120010000	74.08	54623
054120011000	7.44	54623
054120012000	136.42	54623
054120013000	92.22	54623
054120014000	105.70	54623
054120015000	115.56	54623
054120016000	21.78	54623
054230009000	172.90	54623
054230018000	1,655.96	54623

054230019000	158.42	54623		
054230021000	163.66	54623		
054230022000	213.78	54623		
054230023000	173.78	54623		
054230024000	18.56	54623		
055210008000	42.90	54623		
055210009000	25.26	54623		
061060003000	377.22	54623	2012 Annex	\$9,845.10
				\$11,263.19

YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
AGENDA REPORT

MEETING DATE: August 2, 2022

ITEM #: 6

SUBJECT: Presentation: Receive Update from Finance Committee and Authorize Chair to Appoint Ad Hoc Outreach Committee

INITIATED OR BOARD
REQUESTED BY: STAFF
 OTHER _____

COORDINATED OR
PREPARED BY: Kristin Sicke
APPROVED BY: Kristin Sicke

ATTACHMENT YES NO
 DIRECTION

INFORMATION
 ACTION: MOTION
 RESOLUTION

BACKGROUND:

The Finance Committee met on July 20, 2022 to review Larsen, Wurzel & Associates (LWA) draft Technical Memorandum (TM) for investigating an alternative funding mechanism to augment and diversify the District's current funding structure (attached for reference).

LWA's Adam Riley will provide a summary presentation of the TM and the possible opportunities for generating new revenues for the District.

RECOMMENDATION:

Staff recommend the Chair appoint an ad hoc outreach committee to facilitate LWA's Phase 2 efforts with customer input.

Technical Memorandum

Yolo County Flood Control & Water Conservation District Revenue Evaluation and Analysis Project

DRAFT

July 28, 2022

Prepared For: Kristin Sicke, PE, YCFC&WCD

Prepared By: Adam Riley, PE

Reviewed By: Scott Brown, PE

1. Background

The Yolo County Flood Control and Water Conservation District (District) identified challenges with its current revenue structure, which is highly dependent on water sales. The District has consulted with LWA to review its current financial sustainability, identify alternatives to the current revenue structure, and make recommendations on long-term revenue generating capabilities to meet operational needs.

Described further in this technical memorandum (TM) are a description of the District's problem statement, a brief approach to the evaluation methodology, a summary of the analysis conducted, a presentation of several alternatives and their trade-offs, and recommended next steps. This TM can serve as a District rate study, including a revenue deficiency assessment during water deficient years and a capital improvement reserve fund. Further, this TM provide a summary of the region's groundwater management planning efforts and nexus to the District's mission and implications on its longer-term budget.

Agency Overview

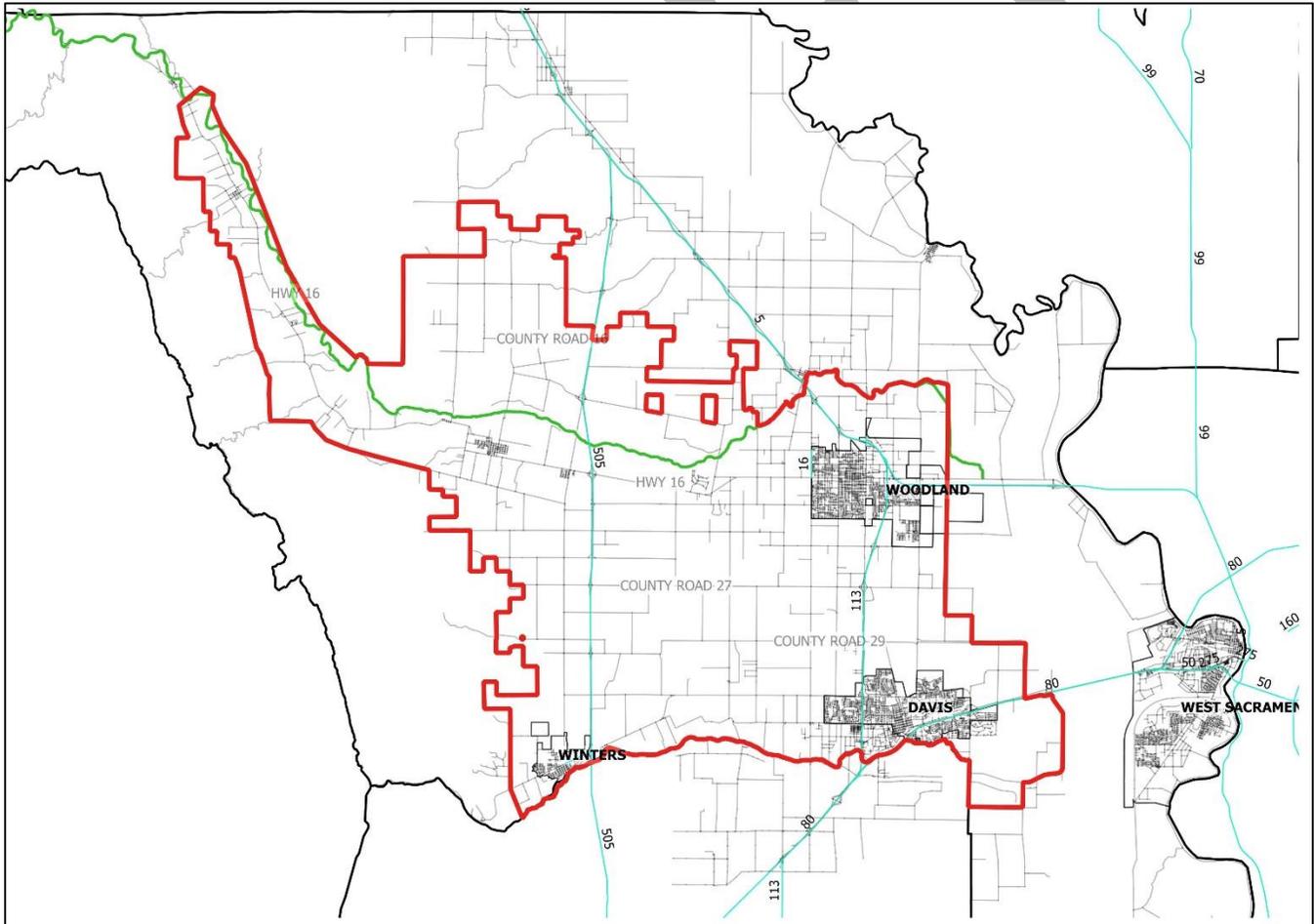
The District was created by the California Legislature as an independent Special District in 1951 to manage the District's water resources. The District currently manages a small hydroelectric plant, two reservoirs, over 150 miles of canals and laterals, and three dams – Cache Creek Dam (Clear Lake's outfall), Indian Valley Dam, and the Capay Diversion Dam. The District boundary covers 195,000 acres of Yolo County, including the cities of Davis, Woodland, and Winters, and the towns of Capay, Esparto, Madison and other small communities within the Capay Valley.

Mission Statement:

“To plan, develop, and manage the conjunctive use of the District's surface and groundwater resources to provide a safe and reliable water supply at a reasonable cost, and to sustain the socioeconomic and environmental well-being of Yolo County.”

The District predominantly supplies surface water for agricultural use to nearly 45,000 acres of cropland, during the growing months, between April and October. It also supplies a small amount of municipal and industrial water to approximately 20 municipal and industrial customers around Clear Lake in Lake County, based on existing water supply contracts. Throughout a normal growing season, the earth-lined canals of the District’s irrigation system supply an average of 25,000 acre-feet of recharge to the region’s groundwater aquifer. During the rainy season, excess, unused water travels throughout the system and recharges the aquifer. As such, the District recognizes the vital role and connectedness between groundwater and surface water, and thus, the District conjunctively manages its water supplies. The availability of the District’s surface water supplies provides an in-lieu benefit to the community. Additionally, the passive and active groundwater recharge via the canal system directly benefits regional users who draw water from wells, both in the direct use of groundwater supplies and also in the bolstering of aquifer reserves, supporting groundwater sustainability and ensuring compliance with the California Sustainable Groundwater Management Act.

Figure 1 - District Boundary



Problem Statement

The District's budget depends primarily on agricultural water sales to fund District operations to provide water delivery services to its customers. The District identified the following problem statements associated with the District's current rate structure.

- **Water Sales Volatility:** The current rate structure creates substantial revenue volatility, which erodes the District's ability to effectively manage the water resources of the County for economic, social, and environmental benefits.
- **Capital Investment Reserves:** The overall revenue structure prevents the District from effectively implementing capital improvement projects – both to rebuild and maintain the legacy infrastructure and the new investments and infrastructure that will be needed to provide agricultural water delivery services to the region, given changing hydrology.
- **Groundwater:** The current water rate structure does not allow the District to capture the revenue associated with the District's present and future groundwater recharge activities; no revenue is generated by groundwater pumping activities.

Problem Statement Considerations and Constraints

During the development of the problem statement, the District identified several factors that constrain possible solutions to these problems. Many of these related factors pertain to the use or regulation of groundwater and its nexus to surface water deliveries and rates. These constraints must be recognized during this alternatives analysis and may affect the District's decisions on possible revenue generation options. The following are those factors:

- Currently, the District does not control or regulate groundwater use; although this authority does exist, it is not defined in this memo.
- New planting areas without surface water availability has resulted in increased grower dependence on groundwater use.
- There may be preference by some growers, especially in orchards, for groundwater wells because of the convenience, water quality, and irrigation control (timing and amount) over that afforded by surface water deliveries.
- Rate increases could perversely encourage growers to pump groundwater instead of purchasing surface water from the District, which:
 - Further erodes District revenue under the current rate structure, and
 - Increases groundwater pumping and therefore drawing down groundwater supplies unnecessarily.
- Rate increases could further concentrate the burden of maintaining the system for all the properties in the District on those farm operations that buy District water.

Current Finances

Revenue Discussion

The District’s primary sources of revenue are water sales and property taxes, which made up 82% of the total \$7.39M fiscal year (FY) 20/21 revenue. Other revenue sources come from hydroelectric power sales, Federal and State grants, and miscellaneous revenues, such as from shared services or recreation income. Of all water sales revenue, 92% were generated from sales of measured agricultural water, making this category the single largest revenue generating component of the District’s budget (Source: Audited financials from FY20/21). It also represents the most uncertain revenue sources given its dependence on water availability and grower demand. Over the past 10 years, the District’s average revenue from agricultural water sales (measured) was \$2.98M with a low of \$0.04M and a high of \$4.32M (FY11/12-FY20/21) (Chart 1 & Table 1). Over the past five years, the average was higher at \$3.86M and the range was tighter; however, the FY21/22 year is proving to be considerably low (actuals not yet available), and the upcoming FY22/23 year will provide near zero revenue from this source given the current state of the water levels in the District’s reservoirs.

Chart 1: Historical Revenue

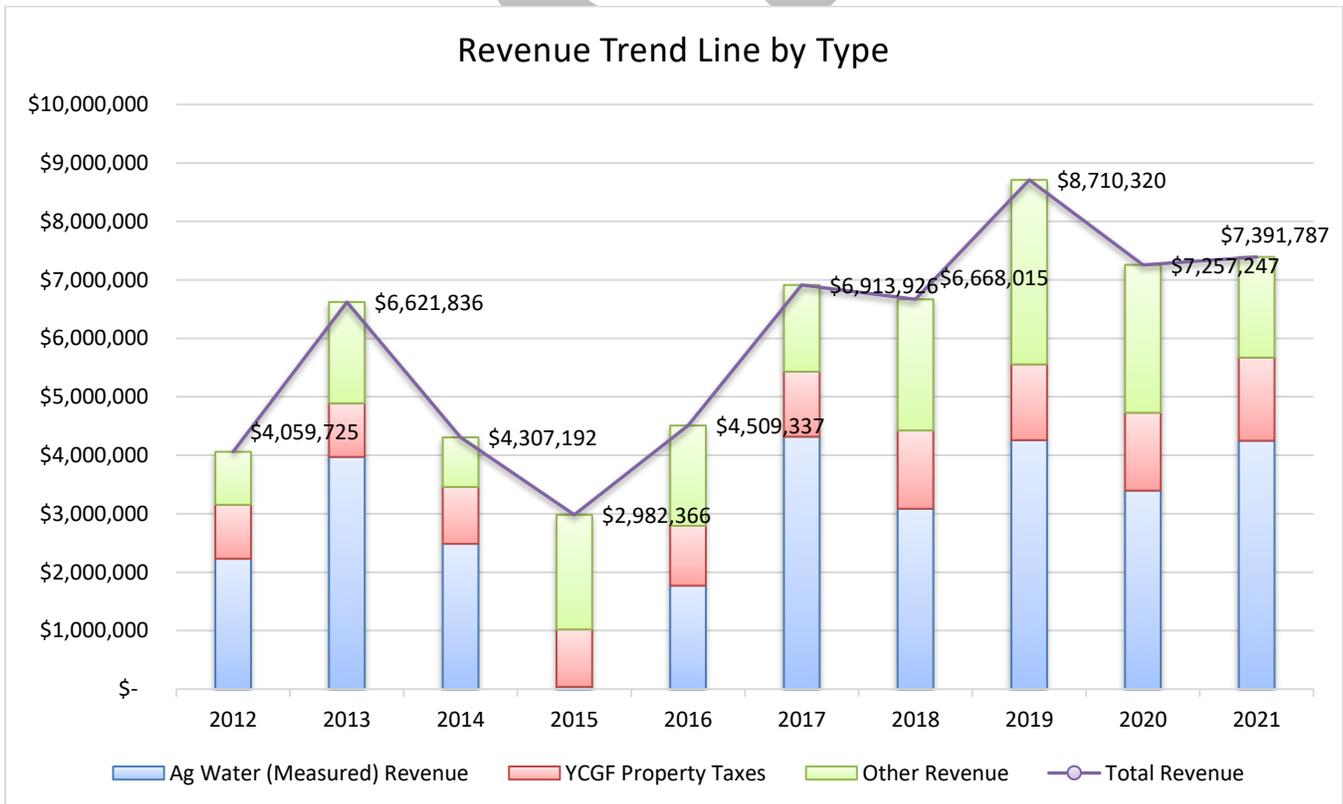


Table 1
YCFCWCD Revenue Evaluation and Analysis
Historical Financial Data [1]

	10-yr Low	10-yr High	10-yr Average	5-yr Average
Total Revenue	\$ 2,982,366	\$ 8,710,320	\$ 5,942,175	\$ 7,388,259
Ag Water Sales [2]	\$ 39,727	\$ 4,318,871	\$ 2,981,049	\$ 3,862,375
Non-Ag Water Sales [2]	\$ 185,299	\$ 297,657	\$ 226,099	\$ 248,936
Yolo County Property Tax [2]	\$ 917,643	\$ 1,421,889	\$ 1,132,359	\$ 1,300,457
Total Expenses	\$ 3,703,175	\$ 6,698,514	\$ 5,163,041	\$ 5,637,035
SOS [2]	\$ 775,032	\$ 1,758,794	\$ 1,244,924	\$ 1,314,559
T&D O&M [2]	\$ 573,007	\$ 1,443,164	\$ 916,276	\$ 1,054,615
G&A [2][3]	\$ 1,471,466	\$ 2,042,293	\$ 1,685,352	\$ 1,747,889

[1] Values are not adjusted for depreciation expense or groundwater expense

[2] Reported values may not occur in the same year for each column, so may not correspond with totals

[3] G&A as defined in District financials (not as adjusted later in report)

Current Agricultural Rate Structure

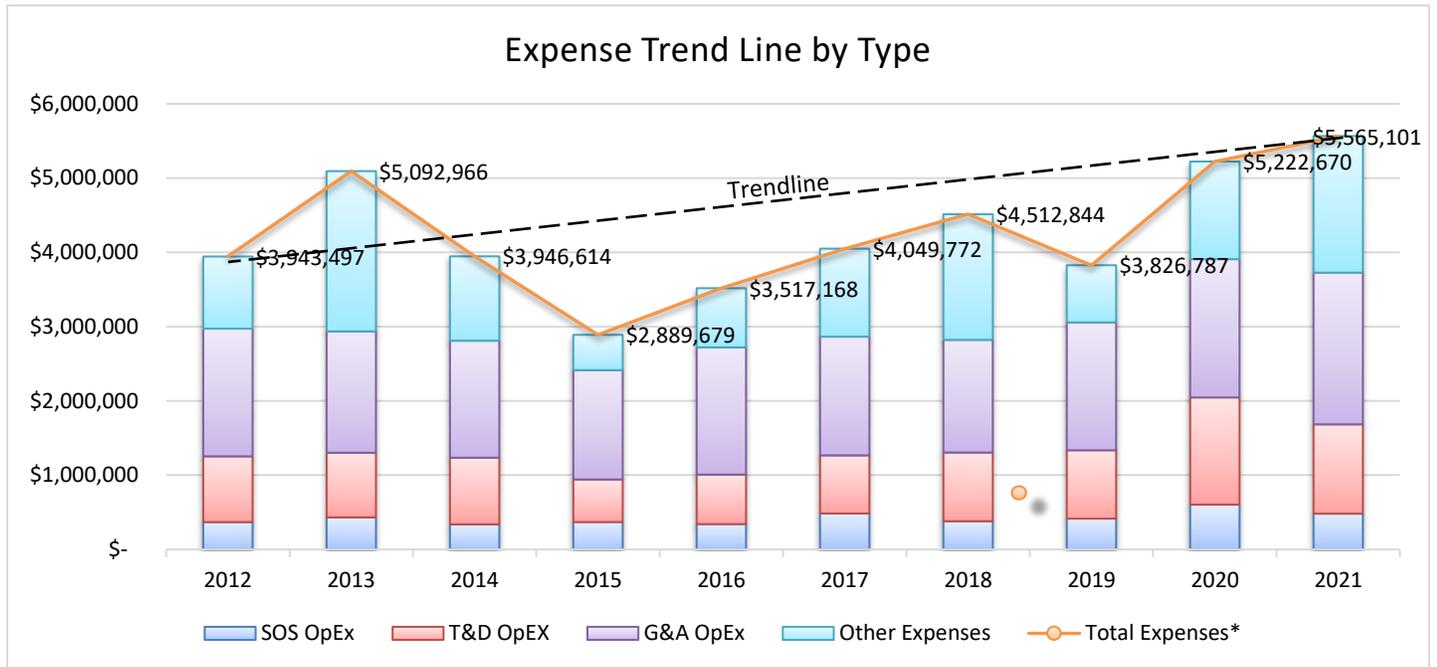
The District charges for agricultural water supplies on a price per acre-foot (AF) basis, which is set based on total available reservoir storage as of April 1st of each year. The price is set on a sliding scale – \$24/AF with full reservoir storage of 450,000 AF and \$44/AF with minimal reservoir storage of 50,000 AF or less. From time-to-time, the District issues water supply allocation limits, if reservoir water availability is insufficient to meet grower’s demand. During very dry periods, when reservoir capacity is low, the District does not release water for agricultural use; historically going back to 1975, this has occurred 3 times (1977, 1990, 2014), and the District plans for this to occur in the 2022 water year. Minimal to no available supply places a substantial burden on the District’s long-term viability, especially given that agricultural water sales (measured) represent 80% of operational revenue and 57% of overall revenue (*source: Audited financials from FY20/21*).

Expenditure Discussion

The primary water supply related expenditures include source of supply (SOS) and transmission/distribution operations and maintenance (T&D O&M), which account for 30% of the total \$5.56M of expenses in FY20/21, excluding depreciation. General and administrative (G&A) expenses, which primarily support water supply services, account for an additional 37% of the total. Over the last 10 years, the expenditures averaged \$4.26M, excluding depreciation, and ranged approximately +/-30% (**Chart 2**). Expenditures are trending up over time at an average annual growth rate of 7.6%. Expenditures prove to be relatively fixed throughout the historical record,

even during periods of weaning water sales. Combined revenue and expenditure historical data can be found below in **Chart 3**.

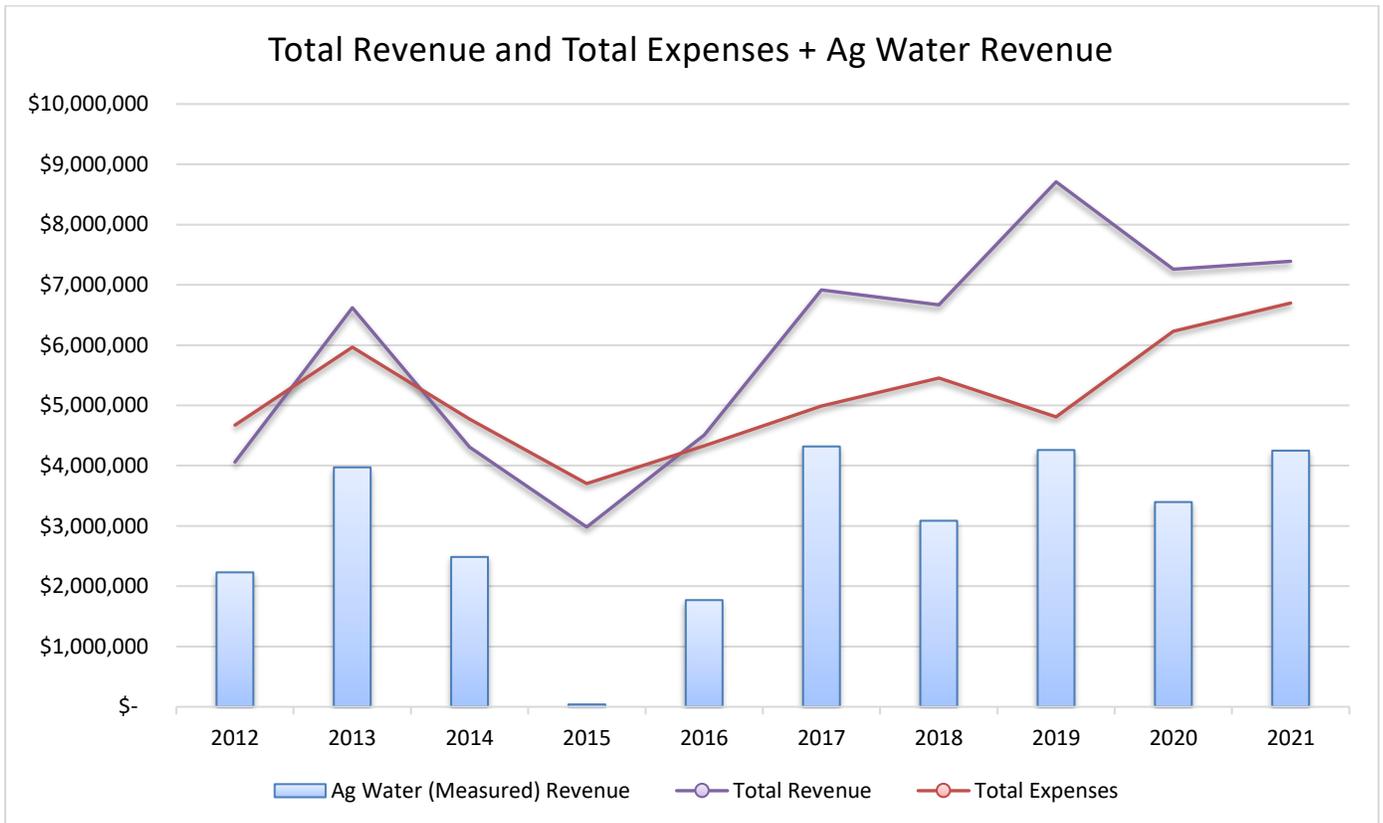
Chart 2: Historical Expenses



*Depreciation expense removed

**Groundwater replenishment expense removed

Chart 3: Total Revenue and Total Expenses | Agricultural Water Revenue



*Depreciation expense removed

**Groundwater replenishment expense removed

2. Evaluation Approach

The evaluation approach taken for this TM is summarized here. In short, the problem statement sets the basis for the purpose and need of this study. Once crafted and once the constraints and considerations were prepared, LWA evaluated the existing financial position of the agency to define the projected revenue gap, which sets a basis for possible solutions and recommendations going forward. This evaluation involved the following steps, which are explained in more depth throughout this TM.

1. *Problem finding* – LWA coordinated closely with the District to define the problems and concerns associated with the District’s financial position. Through that process, the problem statement was defined, which consists of the need to:
 - a. Stabilize revenue for future budget cycles,
 - b. Develop capital improvement reserves, and
 - c. Identify, leverage, and potentially re-capture the system’s groundwater recharge benefits
2. *Problem solving constraints/considerations* – Throughout the identification of the problem statements, LWA and the District identified several important factors that must be considered when examining any potential solutions. These are expanded and analyzed with the alternatives in **Section 6**.
3. *Review of District’s historical financials* – The District provided LWA with revenue, expense, water sales data, its water rate setting process, estimated surface water seepage losses, a list of capital projects, and other information. This provided a basis for understanding possible fluctuations in District expenditures, water sales, and other revenues.
4. *Establishing a pro forma base year for expenses* – Using the data provided by the District, LWA estimated a base-year expenditure schedule (i.e., pro forma base year) and allocated costs across the District’s operational service areas.
 - a. The pro forma is utilized as a basis for projecting future year’s expenditures. As discussed in **Section 3**, the pro forma uses the FY22/23 budget, which represents the most current FY cost expectations for the District. For some expense line-items, adjustments were made by using a five-year average, which represents a more accurate expected cost during a typical water year. The pro forma base year defines the most recent, accurate estimate of District expenditures going forward.
 - b. Each expenditure line-item was classified by the service being provided – water, recreation, groundwater, flood control, or those costs that support all service areas. Items that were summarized as an expenditure that supports all service areas are called general and administrative (G&A) for the purposes of this report (note: this differs slightly from how the District defines G&A expenses in its budget and audited financials). This is by design so that expenditures can be apportioned to each service area.

- c. Water expenditures were further split into agricultural water and non-agricultural water.
 - d. G&A expenses were spread into each service category – agricultural water, non-agricultural water, and non-water (flood, groundwater, recreation) for the purposes of allocated expenditures. This is used to support the allocation of non-operational revenue to offset agricultural water expenditures in a future step of the analysis.
 - e. The expenditure schedule includes a new capital reserve fund to directly address one component of the District’s problem statement. This capital fund was based on the District’s projection of its capital projects, costs, and implementation timeline. The District can utilize this fund as a pay-as-you go fund for ongoing capital projects or can use it to service future debt to finance capital projects.
 - f. The pro forma assumes annual cost escalation of 3% across all cost categories.
5. *Establishing a pro forma base year for revenue* – Similar to the expenditures, LWA estimated a base-year revenue schedule (i.e., pro forma base year) under current water rates.
- a. LWA calculated the volumetric water sales (AF) and back calculated the expected total reservoir storage and applicable water rate based on the current rate setting process. The water sales estimates for the pro forma are based on a 10-year water sales volumetric (AF) average.
 - b. For the purposes of this analysis and assumptions, a normal, expected water year is defined as one in which reservoir levels are plentiful and the District can meet agricultural water demand without imposing allocations.
 - c. Other revenue was primarily forecasted based on a 10-year average; however, some line items were adjusted down or up based on future expectations. For example, grant revenue lines were reduced to zero in some cases, given the uncertainty of future grant awards.
 - d. This forecast also includes Yolo County General Fund Property Tax apportionments, which are escalated at 2% per year, assumed as the maximum amount under Prop. 13 of the base year. No assumption has been made for increases in the tax base based on future development or property reassessment at turnover).
6. *Use of non-operating revenue to cover costs* – Non-operating revenue is primarily comprised of Yolo County general fund property taxes. It offsets both non-operating and operating expenses. LWA performed a non-operating revenue allocation across the service areas to determine how much of the non-operating revenue can be used, in a typical pro forma year, to offset agricultural water expenses.
7. *Estimating agricultural water revenue gap* – Putting together all previous steps generates the anticipated agricultural water revenue gap, which is one component of the targeted revenue requirements.

8. *Considering water storage uncertainty* – This revenue gap represents a normal, expected water year but does not account for the fluctuations in upstream water storage, primarily when water is scarce. A normal, expected water year is one in which reservoir levels are plentiful and the District can meet agricultural water demand without imposing allocations. To determine a plan for low-water years, a drought contingency evaluation and fund is presented. This captures another component of the problem statement to promote revenue stability. This reserve fund is associated with those revenue alternatives that utilize a similar rate structure as is present today.
9. *Review of alternatives* – LWA prepared several revenue alternatives for comparison. Each alternative qualitatively compares the constraints and considerations from the problem identification phase. These include implementation timeline, revenue administration, equity, financial stability, affordability, stakeholder support, and legal and regulatory constraints. The District, then, suggests one or more scenarios for further assessment.
10. *Recommendations provided* – Finally, recommendations are presented to address the District’s problem statements.

As part of this assessment, an additional section is added to discuss groundwater management in the region and the possible connection with the District’s revenue structure. Because there isn’t an immediate desire or capability to charge for groundwater use, the groundwater section of this TM is more qualitative, leaning on the various groundwater use considerations and tying back to the region’s groundwater sustainability plan (Yolo Subbasin Groundwater Agency’s *2022 Groundwater Sustainability Plan*). The TM also includes a summary of potential charges due to the benefit afforded to the area by the District’s groundwater recharge activities from canal seepage losses during the irrigation season and from active retention and percolation during the winter season.

3. Expense Projections

To determine the District's future revenue requirements, an expenditure projection must be created. The following sections describe the basis for the projections (pro forma), assumptions associated with the new Capital fund, and the G&A expense allocation across the District's service areas. This all allows for the identification of agricultural water specific expenditures, which are later compared to projected revenues at current water rates.

Basis for Expense Projections

The District's historical financial line-items and anticipated cost growth allow a projection of the District's expenditures over the next five years. A pro forma expenditure schedule was created to capture all revenue requirements of the District. These include existing District costs using current budget and historical financials and includes a capital infrastructure fund. These revenue requirements are then allocated across the applicable operational service areas.

The pro forma starts with the FY22/23 budget which represents most recent cost expectations. However, some line items were adjusted to use the five-year average because it represents a better expected cost during a typical water year (i.e., sufficient reservoir water supplies to meet water demands) and because the 2022/23 fiscal year will vary from typical due to the low reservoir levels. It is assumed cost growth will equate to 3% across all line items.

The detailed pro forma base year is in **Appendix A** and is utilized and summarized in subsequent tables.

Capital Infrastructure

The pro forma expenditure schedule removes historical depreciation since it does not represent an actual cash expenditure, nor does it directly impact the fee structure. However, a new category was created to establish a capital infrastructure improvement fund, which is directly attributed to and required for providing water-related services. As indicated in the District's problem statement, a capital reserve is not currently available to manage the system's current water delivery infrastructure or to allow for new infrastructure investments. This fund is a necessary cost of providing sustainable water deliveries, and thus is calculated into the operational expenditures under the water category; for the purposes of this assessment, no grant revenue for capital improvements is assumed. The annual amount required is estimated at **\$1.4M** based on the District's catalogue of capital improvement projects and costs. The District could utilize this funding on a pay-as-you-go basis or utilize this to service debt for larger capital investments.

Cost of Services

Each operating and non-operating expenditure line item was further broken up into different categories:

- General & Administrative: these are costs that are borne by the District that support all operations; these are already categorized in the current budget. However, some costs can be directly attributable to one service area (e.g., FERC regulatory costs to water related). In those cases, the applicable line-item was

recategorized. In other cases, costs are borne by the District that are not in the current G&A expense, such as environmental costs. These are reclassified as G&A for the purposes of this assessment. This allows attribution of all broad District costs to its service areas.

- Water Expenses: Like above, all water-related expense line items were itemized in the expenditure schedule. Water system-related costs are then split into agricultural and non-agricultural based on the five-year average acre-feet of water deliveries (**Table 2**).
 - Agricultural water: These costs are those attributed to provide water for agricultural use.
 - Non-agricultural water: These costs are those attributed primarily for municipal and industrial (M&I) use.
- All other service areas: Each of the remaining line-item expense were classified as flood, groundwater, or recreation, and grouped as non-water expenses.

Once itemized, the cost categories are rolled up by service area (**Table 3**).

Table 2
YCFCWCD Revenue Evaluation and Analysis
Water Allocation by Type of Sales

Type of Water Sales	5-year Average (AF)	% of Total
Ag Water Sales	118,473	93%
Non-Ag Water Sales	9,042	7%

Table 3
YCFCWCD Revenue Evaluation and Analysis
Projected Expenses - Pro Forma - 5 Year - Summary by Service Area

Projected Expenses Summary	Pro Forma Base	Pro Forma Years				
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Total G&A	\$ 2,279,224	\$ 2,347,601	\$ 2,418,029	\$ 2,490,570	\$ 2,565,287	\$ 2,642,245
Total Ag Water Direct	\$ 3,556,148	\$ 3,662,832	\$ 3,772,717	\$ 3,885,899	\$ 4,002,476	\$ 4,122,550
Total Non-Ag Water Direct	\$ 252,159	\$ 259,724	\$ 267,515	\$ 275,541	\$ 283,807	\$ 292,321
Total Non-Water Operating Direct	\$ 286,378	\$ 294,969	\$ 303,818	\$ 312,933	\$ 322,321	\$ 331,990
Total Non-Operating Direct	\$ 290,256	\$ 298,963	\$ 307,932	\$ 317,170	\$ 326,685	\$ 336,486
Total	\$ 6,664,164	\$ 6,864,089	\$ 7,070,011	\$ 7,282,112	\$ 7,500,575	\$ 7,725,592

[1] G&A expense include G&A items found within project expense tables from YCFCWCD and removes some items which are water related (e.g. FERC) and adds in other costs that are shared across all expense categories (e.g. environmental)

G&A Expense Allocation

G&A expenses need to be attributed to the District’s service areas (Agricultural Water, Non-Agricultural Water, and Other Services) to align all costs with the specific services provided. For this study, G&A expenses within the operational expense category are attributed to the District’s operational service areas according to the following attribution methodology and are summarized in **Table 4**.

- A percentage split for all water services versus all other services is determined first. The split is based on a percent of total direct operational expenses (not including operational G&A). This results in 89% of all total direct operational expenses being attributed to water-related activities with the remaining 11% attributed to non-water related services.
- Of all water-related operational G&A expenses, agricultural water and non-agricultural water are further split according to the 5-year average percentage of water sales, from **Table 2**. Taking the 89% total direct operational expenses for all water-related activities and multiplying by the factors from **Table 2** results in the allocation percentages found in **Table 4**.

Table 4
YCFCWCD Revenue Evaluation and Analysis
Operating Area Allocation

Operating Area	Percent Allocation
Ag Water	83%
Non-Ag Water	6%
Other Operational	11%

Non-operating G&A expenses are already accounted for separately in the District’s finances and the pro forma statements. **Table 5** contains the expense categories and its associated G&A allocation.

Table 5
YCFCWCD Revenue Evaluation and Analysis
Projected Expenses - Pro Forma - 5 Year

Projected Expenses	% of Total	Pro Forma Base	Pro Forma Years				
			Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Ag Water Operations	34%	\$ 2,248,846	\$ 2,316,311	\$ 2,385,800	\$ 2,457,374	\$ 2,531,096	\$ 2,607,029
Ag Water G&A Allocation	27%	\$ 1,832,066	\$ 1,887,028	\$ 1,943,639	\$ 2,001,948	\$ 2,062,006	\$ 2,123,867
Ag Water Capital (NEW)	20%	\$ 1,307,302	\$ 1,346,521	\$ 1,386,917	\$ 1,428,524	\$ 1,471,380	\$ 1,515,521
Non-Ag Water Operations	2%	\$ 159,461	\$ 164,245	\$ 169,172	\$ 174,247	\$ 179,475	\$ 184,859
Non-Ag Water G&A Allocation	2%	\$ 129,908	\$ 133,805	\$ 137,819	\$ 141,954	\$ 146,212	\$ 150,599
Non-Ag Water Capital (NEW)	1%	\$ 92,698	\$ 95,479	\$ 98,343	\$ 101,294	\$ 104,332	\$ 107,462
Non-Water Operations	4%	\$ 286,378	\$ 294,969	\$ 303,818	\$ 312,933	\$ 322,321	\$ 331,990
Non-Water G&A Allocation	4%	\$ 233,303	\$ 240,302	\$ 247,511	\$ 254,937	\$ 262,585	\$ 270,462
Total Projected Annual Operating Expenses	94%	\$ 6,289,961	\$ 6,478,660	\$ 6,673,020	\$ 6,873,210	\$ 7,079,407	\$ 7,291,789
Non-Operating Expenses							
Non-Operating Expenses	4%	\$ 290,256	\$ 298,963	\$ 307,932	\$ 317,170	\$ 326,685	\$ 336,486
Non-Operating G&A Allocation	1%	\$ 83,947	\$ 86,465	\$ 89,059	\$ 91,731	\$ 94,483	\$ 97,318
Total Projected Annual Non-Operating	6%	\$ 374,203	\$ 385,429	\$ 396,991	\$ 408,901	\$ 421,168	\$ 433,803
Grand Total	100%	\$ 6,664,164	\$ 6,864,089	\$ 7,070,011	\$ 7,282,112	\$ 7,500,575	\$ 7,725,592

[1] G&A expense include G&A items found within project expense tables from YCFCWCD and removes some items which are water related (e.g. FERC) and adds in other costs that are shared across all expense categories (e.g. environmental)

4. Revenue Gap Analysis

The revenue gap is determined by comparing the projected expenditures against the current revenue projections at existing rates. First the projected revenue must be created across all District service areas. Then, the non-operational revenue can be used to offset various operational costs and its associated components of G&A. This approach segregates the agricultural water revenue and expenditures to determine the revenue gap. More detail is described in the subsequent sections.

Projected Revenue at Current Rates by Service Area

A normal, expected water year is defined as one in which reservoir levels are plentiful and the District can meet agricultural water demand without imposing allocations. This is the basis for a pro forma revenue estimate and builds into the five-year projection. This combined with the expenditure projection gives a picture of the potential revenue shortfall to generate a basis for a new revenue structure and/or proposed rate changes.

The District’s current rate structure is dependent on the total available storage capacity on April 1st in both Clear Lake and Indian Valley Reservoir. The rate is factored from an existing linear relationship to determine the annual agricultural water rate. The pro forma revenue analysis utilizes the historical water sales, whereby a normal water sales year is determined for this analysis to be the 10-year average water sales volume (AF) (FY11/12-FY20/21¹); this captures the years where water availability is both plentiful and scarce. Similarly, the historical total available storage is projected utilizing the April 1st storage reading across a 10-year average (2013 – 2022). This results in a water sales volume estimate of 105,000 AF with a total storage capacity of 207,000 AF for the purposes of developing a pro forma revenue. For the projected revenue, it is assumed that property tax revenues increase by 2% annually. A summary of the projected revenue can be found in **Table 6**.

¹ At the time this draft was developed, audited financials and the corresponding water sales data were not finalized for 2021/2022

Table 6
YCFCWCD Revenue Evaluation and Analysis
Revenue Projections, Average Water Year at Existing Rates

Revenue Summary	Pro Forma Base	Pro Forma Years				
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Operating Ag Water Sales	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604
Operating Non-Ag Water Sales	\$ 269,012	\$ 269,012	\$ 269,012	\$ 269,012	\$ 269,012	\$ 269,012
Other Operating Revenues	\$ 302,052	\$ 302,052	\$ 302,052	\$ 302,052	\$ 302,052	\$ 302,052
Non-Operating Revenues - Prop Tax	\$ 1,581,000	\$ 1,612,620	\$ 1,644,872	\$ 1,677,770	\$ 1,711,325	\$ 1,745,552
Non-Operating Revenues - Misc	\$ 302,569	\$ 302,569	\$ 302,569	\$ 302,569	\$ 302,569	\$ 302,569
Total	\$ 6,252,237	\$ 6,283,857	\$ 6,316,109	\$ 6,349,007	\$ 6,382,562	\$ 6,416,788

Non-Operating Revenue Allocation

Non-operating revenue is projected to be \$1.88M in the pro forma base year; this is largely comprised of property tax apportionment to the District, which is estimated at \$1.58M and projected to grow at 2% annually over the five-year timeframe. The miscellaneous non-operating revenue comes from a variety of sources, such as shared services, rental income, interest revenues, and service area taxes. Tax revenue can be allocated to District expenses as required by the District. For this analysis, non-operating revenue is allocated to expenses in the following order:

- Non-Operating Expenses
- Other Operating Expenses
- Non-Agricultural Water Expenses
- Agricultural Water Expenses

Table 7 provides the five-year estimate of the available non-operating revenues that are available to offset Agricultural Water Operating Expenses and are used in the subsequent revenue gap assessment.

Table 7
YCFCWCD Revenue Evaluation and Analysis
Non-Operating Revenue Allocation to Offset Ag Water Expenses

Non-Operating Revenue Allocation	Pro Forma Base	Pro Forma Years				
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Non-Operating Revenue - Taxes	\$ 1,581,000	\$ 1,612,620	\$ 1,644,872	\$ 1,677,770	\$ 1,711,325	\$ 1,745,552
Non-Operating Revenue - Misc	\$ 302,569	\$ 302,569	\$ 302,569	\$ 302,569	\$ 302,569	\$ 302,569
Non-Operating Expenses	\$ 374,203	\$ 385,429	\$ 396,991	\$ 408,901	\$ 421,168	\$ 433,803
Total Net Non-Operating Revenues	\$ 1,509,366	\$ 1,529,760	\$ 1,550,450	\$ 1,571,438	\$ 1,592,726	\$ 1,614,317
Non-Ag Water Operations						
Non-Ag Water Operating Expenses	\$ 382,067	\$ 393,529	\$ 405,334	\$ 417,495	\$ 430,019	\$ 442,920
Non-Ag Water Rate Revenue	\$ 269,012	\$ 269,012	\$ 269,012	\$ 269,012	\$ 269,012	\$ 269,012
Net Non-Ag Water Expense	\$ 113,055	\$ 124,517	\$ 136,323	\$ 148,483	\$ 161,008	\$ 173,908
Other Operations						
Other Operating Expenses	\$ 519,681	\$ 535,271	\$ 551,330	\$ 567,869	\$ 584,905	\$ 602,453
Other Operating Revenue	\$ 302,052	\$ 302,052	\$ 302,052	\$ 302,052	\$ 302,052	\$ 302,052
Net Other Operating Expense	\$ 217,629	\$ 233,220	\$ 249,278	\$ 265,818	\$ 282,854	\$ 300,401
Total Non-Operating Rev Avail to Offset Ag Water Expenses:	\$ 1,178,682	\$ 1,172,024	\$ 1,164,849	\$ 1,157,137	\$ 1,148,864	\$ 1,140,008

Agricultural Water Revenue Gap Analysis

A flow of funds combines the pro forma revenue/expenses, the non-operating revenue available to offset agricultural water costs and estimated agricultural water revenue requirements (**Table 8**). This results in an agricultural water operation revenue deficit of 11% in the pro forma base year and grows to 34% in Year 5. As discussed above, this includes ongoing projected operational costs, attributed agricultural water G&A, and a new capital improvement fund. Drought contingency reserves are considered in the next section.

Table 8
YCFCWCD Revenue Evaluation and Analysis
Agricultural Water Sales Flow of Funds

Flow of Funds - Ag Water	Pro Forma Base	Yr 1	Pro Forma Years			
			Yr 2	Yr 3	Yr 4	Yr 5
Ag Water Operating Expenses	\$ 5,388,214	\$ 5,549,860	\$ 5,716,356	\$ 5,887,847	\$ 6,064,482	\$ 6,246,416
Ag Water Rate Revenue	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604
Net Ag Water Expense	\$ 1,590,609	\$ 1,752,256	\$ 1,918,751	\$ 2,090,242	\$ 2,266,877	\$ 2,448,812
Total Non-Operating Rev Avail to Offset Ag Water Expenses - from Table 7	\$ 1,178,682	\$ 1,172,024	\$ 1,164,849	\$ 1,157,137	\$ 1,148,864	\$ 1,140,008
Net Ag Water Surplus/(Deficit)	\$ (411,927)	\$ (580,232)	\$ (753,902)	\$ (933,105)	\$ (1,118,013)	\$ (1,308,804)
Begin Balance	\$ -	\$ (411,927)	\$ (992,159)	\$ (1,746,061)	\$ (2,679,166)	\$ (3,797,179)
End Balance	\$ (411,927)	\$ (992,159)	\$ (1,746,061)	\$ (2,679,166)	\$ (3,797,179)	\$ (5,105,983)
% of Ag Water Operating Revenue	-11%	-15%	-20%	-25%	-29%	-34%

Water Sales Fluctuations and Drought Contingency

Agricultural water sales fluctuate based on the upstream reservoir supply. In most years, supply is plentiful, and the District can meet grower demand, but in other years water availability is much more constrained, forcing the District to impose delivery allocations or to eliminate agricultural water deliveries altogether. As previously discussed, the water sales component of the District’s budget is significant and can adversely affect its long-term ability to provide services to its customers. As such, this section presents an assessment of revenue shortfall during periods of low water supply. Ideally, this would provide a basis for a District policy to set a drought contingency reserve that can be built up during years where water sales are maximized and can be tapped when water availability is constrained. This assessment assumes the current water rate structure. In specifying a preferred alternative under this TM, this drought contingency fund can be adjusted to align with the proposed revenue structure moving forward.

The historical 10-year low water sales (AF) and its corresponding rate and revenue were identified to calculate the total agricultural water revenue during a low-water year period. Although this could go to zero in the driest conditions, the average low two-year period gives a reasonable, prudent, and economical contingency target. This analysis results in a **\$3.0M** shortfall during low water years, which is approximately 79% of the pro forma base agricultural water sales.

The timing and severity of drought years are unpredictable but may grow in frequency; therefore, predicting an appropriately sized annual drought contingency amount is challenging. If too low, the fund would take a long time

to accumulate and if too high, water rates may become unreasonable. Since water sales are variable from year to year, the District could reserve additional drought contingency funds during periods where sales exceed the pro forma year and as budget setting allows, until such time that the drought fund has reached a target amount. Upon meeting the target, the District can adjust rates down below future adopted rates (assuming a similar revenue structure is approved and utilized in the future); this can be done during the District’s budget setting process to ensure a robust drought contingency and to keep rates as low as possible.

For the purposes of rate setting, a drought contingency can be added to the current revenue gap, which is identified above. Although there are several approaches, a simple annualized value, using the drought fund target across a 10-year planning horizon, is assumed for illustrative purposes. This would result in \$300,000 required annually as a drought contingency reserve expense. Combining the drought contingency fund with the prior revenue gap results in the following pro forma net deficit (**Table 9**). This results in a shortfall of 19% in the pro forma base year and grows through year 5 to 42%.

Table 9
YCFCWCD Revenue Evaluation and Analysis
Agricultural Water Sales Flow of Funds with Drought Contingency

Flow of Funds - Ag Water	Pro Forma Base	Yr 1	Pro Forma Years			
			Yr 2	Yr 3	Yr 4	Yr 5
Ag Water Operating Expenses	\$ 5,388,214	\$ 5,549,860	\$ 5,716,356	\$ 5,887,847	\$ 6,064,482	\$ 6,246,416
Ag Water Rate Revenue	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604	\$ 3,797,604
Net Ag Water Expense	\$ 1,590,609	\$ 1,752,256	\$ 1,918,751	\$ 2,090,242	\$ 2,266,877	\$ 2,448,812
Total Non-Operating Rev Avail to Offset						
Ag Water Expenses - from Table 7	\$ 1,178,682	\$ 1,172,024	\$ 1,164,849	\$ 1,157,137	\$ 1,148,864	\$ 1,140,008
Drought Contingency Reserve Expense	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
Net Ag Water Surplus/(Deficit)	\$ (711,927)	\$ (880,232)	\$ (1,053,902)	\$ (1,233,105)	\$ (1,418,013)	\$ (1,608,804)
Begin Balance	\$ -	\$ (711,927)	\$ (1,592,159)	\$ (2,646,061)	\$ (3,879,166)	\$ (5,297,179)
End Balance	\$ (711,927)	\$ (1,592,159)	\$ (2,646,061)	\$ (3,879,166)	\$ (5,297,179)	\$ (6,905,983)
% of Ag Water Operating Revenue	-19%	-23%	-28%	-32%	-37%	-42%
Rate projections						
current rate	36.15	36.15	36.15	36.15	36.15	36.15
new rate	\$ 42.9	\$ 44.5	\$ 46.2	\$ 47.9	\$ 49.6	\$ 51.5
Ag Water Rate Revenue (new rate)	\$ 4,509,532	\$ 4,677,836	\$ 4,851,507	\$ 5,030,710	\$ 5,215,618	\$ 5,406,408
Net Ag Water Surplus/(Deficit)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Rate Increase (%)	19%	23%	28%	32%	37%	42%

5. Authority and Regulatory Requirements

Before developing rate structures and options, it's important to define the District's authority and constitutional and regulatory limitations on implementing various funding options.

Funding Authority

The District was created by special act of the California Legislature (the "District Act"). (Water Code App., Sec 65-1.) Under the District Act, the District is empowered to form zones within the district and levy assessments on land within those zones. (Water Code App., Sec 65-15-65-15.5) The District may levy taxes on real property within a zone created by the District in order to raise revenue to pay any District obligation. (Water Code App. Sec 65-12, 65-13, 65-30.) The District also may fix rates and charges "...for water, service and benefit from its operations..." to pay operating expenses, repairs and depreciation, interest on bonded debt, principal on bonded debt, and for constructing, maintaining, operating, and purchasing or leasing works that provide that water service and benefit. (Water Code App. Sec 65-27.5, subd. (a)-(e).) Further, the District may impose groundwater charges (Water Code App, Sec 65-4.1 through 65-4.8) and water standby and availability charges (Water Code App, Sec 65-27.6).

The District Act defines the jurisdictional boundaries of the District. (Water Code App., Sec 65-1.) The District may impose assessments, fees, charges, and special taxes only within its jurisdictional territory. (See Water Code App., Sec 65-4 (groundwater charges may be imposed for groundwater production "on any and all land within the District"), 65-12-65-13 (District may impose a tax "upon the taxable property in [the] [D]istrict"), 65-15-65-15.5 (assessments may be imposed in a zone or zones within the District), 65-27.5 (rates and charges for water, service and benefit from District operations may be imposed), 65-27.6 ("The board may fix a water standby or availability charge for land within the District to which water is made available..."); 65-30 (the District may levy a tax "...on taxable property in [the] [D]istrict...").) The District may therefore impose assessments, fees, charges, and special taxes only within its territorial jurisdiction, as the territorial jurisdiction is defined in the District Act.

Requirements and Limitations

The District, as with any public agency, is subject to limitations and regulations when imposing fees, assessments and/or taxes. Given the District's authority to impose fees, charges, assessments, and special taxes, Propositions 13, 218, and 26 provide the framework for which the District must comply when imposing any fees, charges, assessments, and special taxes. Proposition 218 lays out the constitutional limitations and requirements for implementing property-related charges, requiring noticing, protest proceedings or balloting. Aside from Proposition 218, other fees can be adopted by the governing agency, under Proposition 26 given the applicability of certain exemptions. The summaries below highlight general funding options that define the implementation requirements to which the District would have to comply.

Proposition 218 Requirements

Proposition 218 governs charges, assessments, and taxes imposed for property-related services, which are subject to limitations and procedures. These property-related charges and assessments must be proportional to and not exceed the cost of providing services and must only be used for the services identified as the basis for the charge or assessment.

The requirements of **fees or charges** for water-related services under Proposition 218² must meet the following requirements:

- Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
- The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question.
- No fee or charge may be imposed for general governmental services where the service is available to the public at large in substantially the same manner as it is to property owners.

A fee or charge requires the following procedures:

- The District shall provide written notice by mail of the proposed fee or charge to the record owner of each identified parcel including the following information: the amount of the fee or charge, the basis upon which the amount of the proposed fee or charge was calculated, the reason for the fee or charge, the date, time, and location of the public hearing at which the District will consider the fee or charge.

² California Constitution Article XIII D, Section 6

- Conduct a public hearing not less than 45 days after mailing the notice of the proposed fee or charge to the record owners of each identified parcel upon which the fee or charge is proposed. At the hearing, the District shall consider all protests of the proposed fee or charge.
- If the written protests against the proposed fee or charge are presented by a majority owners of the identified parcels, the agency shall not impose the fee or charge.

To levy a **special benefit assessment** for a property related service, Proposition 218³ requires the District to develop an engineer's report documenting the special benefits conferred by the services provided, requiring the District to:

- Separate the general benefits from the special benefits conferred on a parcel;
- Identify the parcels that have special benefits conferred on them by the facility and/or service;
- Calculate the proportionate special benefit for each parcel in relation to the entirety of the capital and/or operations and maintenance expenses being funded; and
- Ensure the assessment does not exceed the reasonable cost of the proportionate special benefit conferred on each parcel.

An assessment requires the following procedures:

- Development of an engineer's report as discussed above.
- The District's board accepts for preliminary approval, calling for an assessment ballot proceeding and public hearing.
- A notice and assessment ballot will be mailed to property owners within the proposed assessment boundary.
- The balloting and notice period will extend for a minimum of 45 days, and a public hearing will be conducted on the last day of the balloting period, where the ballots will be counted.
- If the votes received in favor of the assessment, weighted by the proportional financial obligation of the property for which the ballots are submitted, outweigh the votes received opposing the assessment, then the Board may continue with the process of imposing the proposed assessment and its future levy.

Proposition 26 Requirements

Under the authority of the District Act⁴, the District is authorized to levy fees for groundwater use. Under Proposition 26, these fees are neither taxes nor property-related fees or charges under Proposition 218⁵. Proposition 26 states:

³ California Constitution Article XIII D, Section 4

⁴ Yolo County Flood Control & Water Conservation District, District Act, September 13, 2007, Section 4

⁵ California Constitution Article XIII C, Section 1(e); *City of San Buenaventura v. United Water Conservation Dist.* (2017) 3 Cal.5th 1191

“(e) As used in this article, “tax” means any levy, charge, or exaction of any kind imposed by a local government, except the following:

- (1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege.
- (2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.
- (3) A charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.
- (4) A charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property.
- (5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law.
- (6) A charge imposed as a condition of property development.
- (7) Assessments and property-related fees imposed in accordance with the provisions of art. XIID.

“The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from, the governmental activity.”

The District may be able to rely on exceptions 1-3 when crafting its fees under Proposition 26. However, that would depend on the type of fee, subject to the District’s burden of proof, and is subject to review of current case law and recommendations from the District’s legal counsel.

6. Funding and Rate Structure Options

The prior section defines the District’s authority and legal constraints on funding implementation. This section lists the District-identified parameters that are to be used when considering various funding options. With those, several funding rate structure options are proposed for consideration. Each of these options should be evaluated by the District’s legal counsel to define any legal limitations or risks as LWA is not a legal authority on these matters.

Funding Parameters

The District must consider various trade-offs associated with any of its available funding options. Typically, agencies consider those options that are legally defensible while reducing the implementation burden on the agency. For water rate studies, this typically amounts to a Proposition 218 fee study on cost of services provided, undergoing similar methodology, requirements, and processes described above. However, this report does not constitute a Proposition 218 fee study, but several elements from this analysis can be used for such a purpose. The District has some unique factors to consider, given its authority to impose fees for the use of groundwater, its current fee structure, and the various District implementation considerations and constraints. This section describes all the parameters that the District would seek to balance when identifying future funding approaches. After consultation with the District, the following parameters are to be considered across different funding approaches and are listed in no particular order.

- **Implementation Timeline:** Several considerations influence the process requirements and associated effort required to implement a new or updated funding structure. These may include things such as collecting and analyzing an appropriate level of data (property, crop size, etc); conducting stakeholder, payor, grower, political and constituent outreach; drafting and presenting materials to the District’s Board of Directors and its statutory public review phases.
- **Revenue Administration:** Data exchange and coordination required with the County may differ across funding options.
- **Equity:** Ensuring services are paid for by those receiving benefits.
- **Financial Stability:** The District seeks security to cover its most basic operational needs and accounting for appropriate reserves during times of drought and for capital improvements to ensure viable water deliveries into the future.
- **Affordability:** Consider payors, growers, and others who might be impacted by any cost changes; consider comparisons to historical charges; ensure increases align with the need and are not excessive, especially in years where water availability is low; ensure rate structure is attainable in relation to other irrigation districts, regions, and water delivery options.
- **Stakeholder support:** Ensure customers understand the necessity and purpose of any funding changes; define the level of effort and appropriate outreach and interaction necessary to growers and other users.
- **Legal & Regulatory:** Conduct appropriate regulatory and legal due diligence to ensure the funding approach matches all legal and regulatory requirements and can be defended.

Funding Options

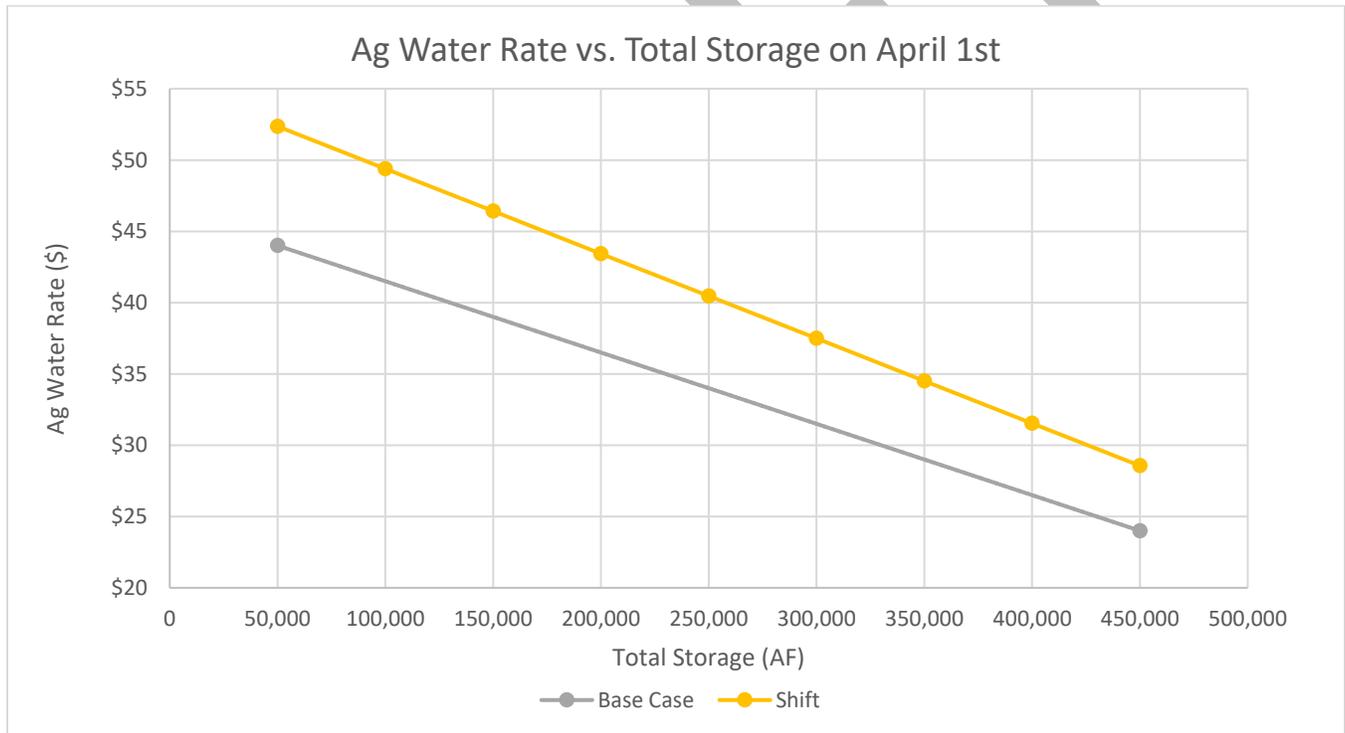
Each funding option discussed below contains benefits and drawbacks. Each are prepared on a conceptual, qualitative basis with some quantitative analysis utilizing the base-rate structure already in place for the district and were analyzed for this memorandum. Each approach can be compared to identify an approach most advantageous and acceptable to the District. The recommended approach would require carrying forward

additional analysis to align the approach and its requirements with the revenue needs, as defined in prior sections of this report.

Option 1: Increase Current Rate Structure by Percentage

This option considers maintaining the current methodology to determine water rates, whereby the rate is determined on a sloped line, based on the total available storage on April 1 of each water year as described earlier in this report. Under this scenario, the rates would increase along the entire line (i.e., “shift up”) based on the 19% increase under the Pro Forma year, which is required to cover the District’s costs as developed under **Section 4**. This is the base case to which all other options can be compared. An example of increased rate structure is found in the **Chart 4**. During the Pro Forma year, \$4.5M in revenue will be collected from water sales. This in addition to the portion of non-operating revenue presented above (\$1.178M) will cover all agricultural water expense and the new drought contingency, as defined herein.

Chart 4: Agricultural Water Rate Line Increase



Pros:

- Simple approach that is currently employed so is understandable by growers/water users
- Implementation timeline quickest as it follows similar methodology currently employed.

Cons:

Increase in rate may seem large given no recent historical increases in rates.

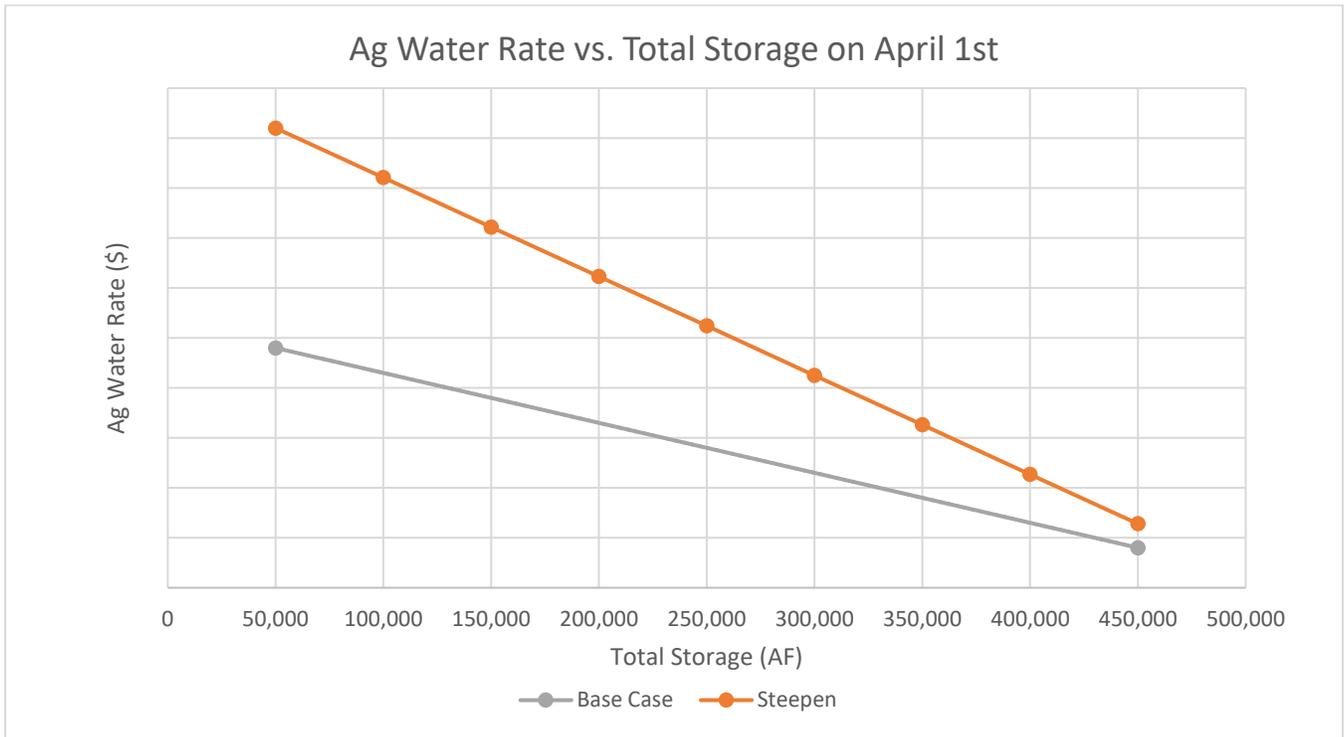
- Approach is fair and reasonable as growers pay for surface water consumed
- Low legal risk due to current methodology use
- Provides for better stability because developing a drought contingency
- Does not account for groundwater use by growers
- Legal review of drought contingency charge as a separate line-item.
- Even with a drought contingency, the rates during very low water years would still create revenue uncertainty, especially during periods of prolonged, multi-year droughts.

Option 2: Increase Rates at Low Storage Pools

Under this option, the rate structure would still be based on the total available storage on April 1st of a given year, but the rate would be increased above the current rates. The increase in rates would be larger at lower storage pools than the increase at higher storage pools (i.e., “steepen the line”). This would allow the District to capture more revenue during periods of lower water storage, even when selling less acre-feet of water. However, this is still limited by the available water for sale and the rate increase would likely not be sufficiently large to completely offset very low available water. This option would require further analysis to determine how much of an increase is required during high water availability and during low water availability.

An example of the steepened lined is provided in **Chart 5**. Notice that no rates are given as the appropriate analysis to determine these rates haven’t been completed.

Chart 5: Steepened Rate Line



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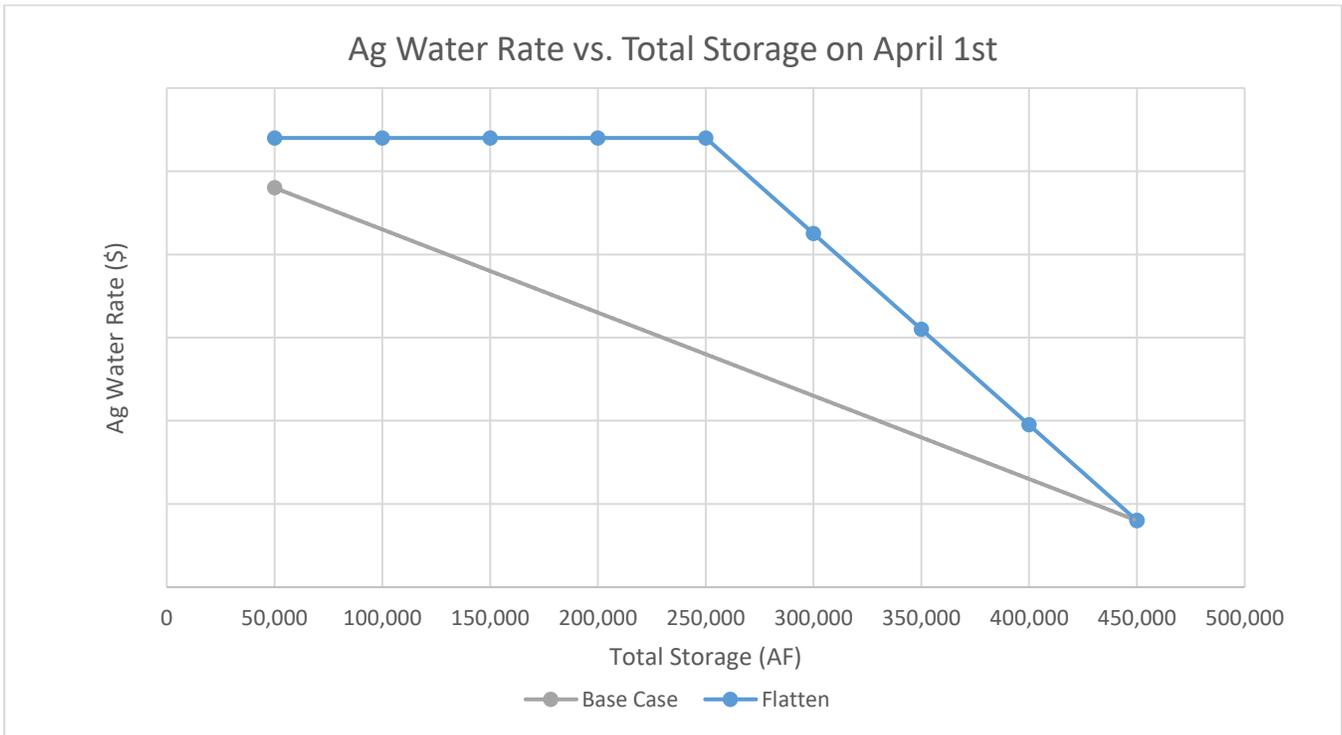
<i>Pros:</i>	<i>Cons:</i>
<ul style="list-style-type: none"> • Implementation timeline is relatively quick given it will follow a rate change. • Approach is fair and reasonable as growers pay for surface water consumed • Low legal risk due to current methodology use • Provides for better stability because developing a drought contingency • High rates at lower total available storage in the upstream reservoirs would generate more revenue than the base case during low water years. 	<ul style="list-style-type: none"> ○ May require additional explanation to growers/stakeholders because rate adjustments could differ along the range of storage availability. ○ Does not account for groundwater use by growers ○ Legal review of drought contingency charge as a separate line item ○ Ultimately, financial stability still a concern when water availability is low. ○ Increase in rate may seem large given no recent historical increases in rates. ○ Even with a drought contingency, the rates during very low water years would still create revenue uncertainty, especially during periods of prolonged, multi-year droughts ○ Rate structure may push more water users to pull groundwater during periods of low water availability due to the steep cost/AF.

Option 3: Flatten Rates During Low Storage Pools

Under this option, the rate during low total available upstream storage would remain constant. Then, when water is sufficient to meet demand, the rate would decrease, as it does now, with more available upstream storage (i.e., “flatten rates”). This would allow the District to capture more revenue during periods of lower water storage and when water is allocated, even when selling less acre-feet of water. However, this is still limited by the available water for sale, and the rate increase would likely not be sufficiently large to completely offset very low available water. This option would require further analysis to determine how to set the flat portion of the curve, when water availability is low and how steep to make the curve when water availability is high. The benefit of this option gives growers some predictability of rates when water availability is low and allows the district to capture more revenue across a range of total available upstream storage levels.

An example of the flattened curve is provided in **Chart 6**. Notice that no rates are given as the appropriate analysis to determine these rates haven’t been completed.

Chart 6: Flatten Curve



Pros:

- Implementation timeline is relatively quick given it will follow a rate change.
- Approach is fair and reasonable as growers pay for surface water consumed
- Low legal risk due to current methodology use
- Provides for better stability because developing a drought contingency
- Sloping rate down more quickly during wet years may promote use of groundwater, depending on per AF cost
- Flattened rates at lower total available storage in the upstream reservoirs would generate more revenue than the base case.

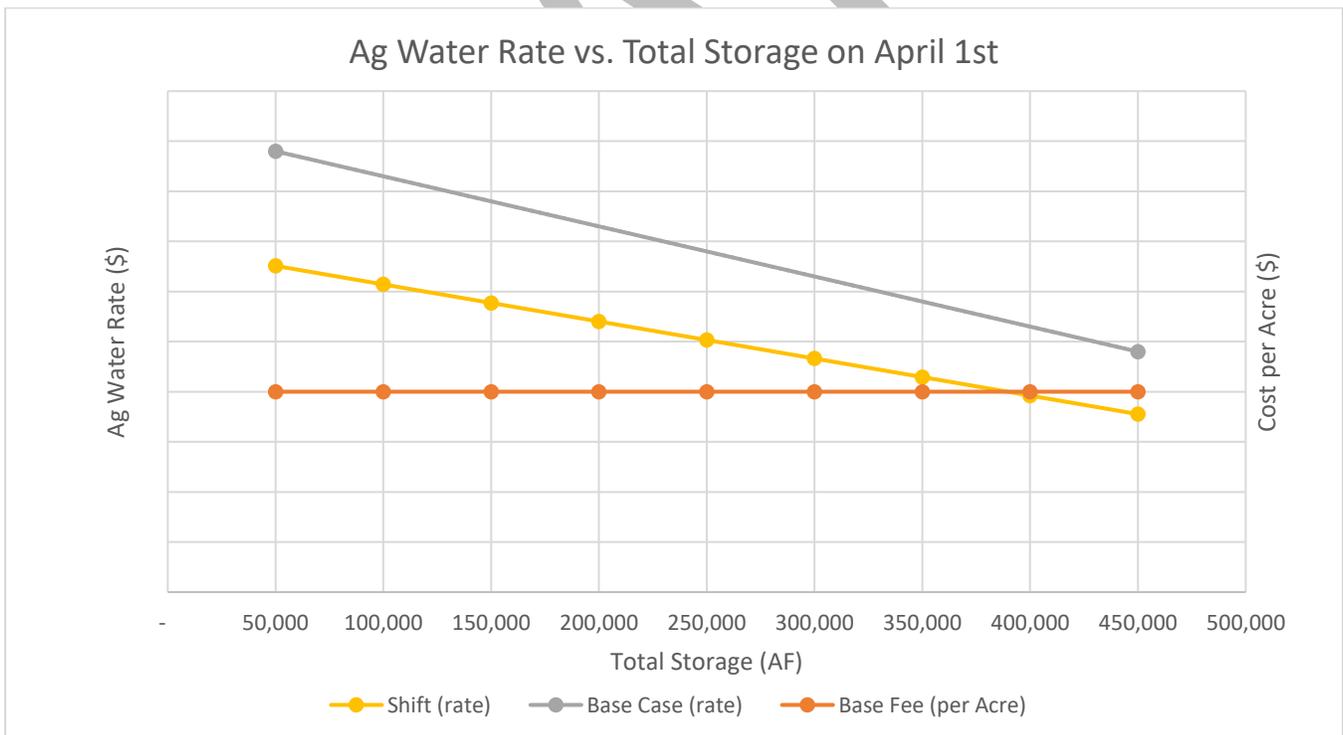
Cons:

- May require additional explanation to growers/stakeholders because rate adjustments could differ along the range of storage availability.
- Does not account for groundwater use by growers
- Legal review of drought contingency charge as a separate line item
- Ultimately, financial stability still a concern when water availability is very low.
- Increase in rate may seem large given no recent historical increases in rates.
- Even with a drought contingency, the rates during very low water years would still create revenue uncertainty, especially during periods of prolonged, multi-year droughts.

Option 4: Combined Fixed Amount and Water Toll

This revenue option would be generated to cover a base set of District expenses to maintain the system under two charges: a set fixed fee and a water toll for water usage. The fixed fee would likely be charged as a cost per acre of irrigatable land. The water toll charge could then follow any of the options described above, based on total available upstream storage on April 1st, but the rates per acre-foot would be significantly reduced because of the fixed charge. This would allow the payors to know the fixed cost to have the system available for their use and understand the incremental cost when using water. This would keep the water toll incremental cost relatively low but would necessitate a base fee regardless of usage. The fixed fee could be designed in several ways, such as charging a one-time-use fee as part of the water application based on irrigatable acreage or charging it to all growers based on irrigatable acreage in the District’s geographical jurisdiction. A graphical example of the fixed fee with Option 1 water rate structure is show in **Chart 7**.

This proves to be a bit more complicated and would require further data analysis to determine a minimal base fee charge and legal review for its permissibility. This approach requires segregating the District’s base operational costs, which remain relatively high, even in years where little water is available for sale. Further, this approach may not be as legally defensible for those years where water is not available. As such, under this approach, the District may need to consider implementing not just fees, but assessments or special taxes.



<i>Pros:</i>	<i>Cons:</i>
<ul style="list-style-type: none"> • If approach falls under a Prop 218 fee, implementation could be relatively quick • Approach keeps water toll low because spreads the base costs across beneficiaries whether utilize surface water or not. Captures revenue from those benefitting from groundwater. • Provides more stability during years of low water availability • Stakeholder support may be achievable because incremental cost of water would be lower 	<ul style="list-style-type: none"> ○ If approach falls under a Prop 218 special benefit assessment, implementation requires a 50% approval threshold which is higher than a fee thus requiring more extensive outreach. ○ If approach requires use of a special tax, implementation requires two-thirds approval threshold and may not be achievable. ○ Requires further analysis to define base fee and water toll; may require more complicated methodology and engineer’s report. ○ Approach requires payment of a base fee which may be seen as unfair to those not utilizing surface water ○ Legal risk could be higher given 218 requirements to only pay for services provided

Option 5: Impose Special Taxes

Another option would be to charge a special tax, which provides the most flexibility to the District in terms of funding structure and funding usage. However, this may not be as fair as the direct charge for water use as done today. Also, the regulatory hurdle of two-thirds approval may be unattainable.

The structure of the fees could vary widely from a use-fee to a special parcel tax on those within the District.

<i>Pros:</i>	<i>Cons:</i>
<ul style="list-style-type: none"> • Approach doesn’t require as much analytical rigor and data is easily obtainable from county assessors • Benefits provided support the entire population, even if only indirectly, given economic necessity of agriculture in Yolo County. • Provides the highest level of financial stability 	<ul style="list-style-type: none"> ○ Implementation requires a much higher approval threshold, requiring extensive outreach ○ Charges for non-water users and/or non-irrigatable land would be met with resistance ○ Less fair approach due to broad charges ○ Higher taxes for all may be unaffordable

- Surface water users and current payors would benefit because costs are distributed across a larger payor base
- Low legal risk under constitutional requirements set forth under Prop 218

Other fees and charges

Other fees and charges could be implemented in conjunction with any of the above approaches or as a separate charge. A qualitative summary of these options is listed below.

SGMA Groundwater Charges

Other approaches can be further evaluated that directly pertain to charges for groundwater use. These include charging regulatory fees in compliance with Proposition 26 or charging a groundwater extraction fee in compliance with Proposition 26 and/or Proposition 218. It should be noted that the District is not a SGMA GSA and lacks the authorities granted by SGMA to impose fees to finance SGMA-related activities. This requires further alignment with the groundwater sustainability agency – Yolo Subbasin Groundwater Agency (YSGA) to determine their intentions with respect to future funding for compliance with the Sustainable Groundwater Management Act (SGMA), whether that be updates to the Groundwater Sustainability Plan (GSP) or implementation of projects as identified in the GSP. Funding mechanisms for YSGA’s work to comply with SGMA and update the GSP could fall under a regulatory fee in compliance with Proposition 26 while project-based work to implement GSP actions would require YSGA (or YCFC&WCD) to impose special assessments or property-related fees in compliance with Proposition 218. So far, the investments to form a Groundwater Sustainability Agency and develop the GSP have been a relatively small part of the District’s budget; implementation of Subbasin-wide programs and projects could be substantial, but are likely to be led by YSGA, which may undergo its own fee or assessment study. Projects that benefit the District of the District’s constituency will be led by the District. As part of this memorandum, the **Section 7** discusses some interconnectedness between the District and YSGA for future implementation and funding alignment.

Groundwater Extraction Fees

The District has the authority to charge groundwater extraction fees for use of groundwater within the District boundaries. If implemented, the District would have to consider the costs to monitor extraction quantities or otherwise estimate usage charges (i.e., based on irrigable acreage and/or crop type). The benefits of these fees would be that the District could re-capture lost revenue due to surface water seepage; the District could secure revenue from groundwater-only users who do not have access to or refuse to utilize available surface water; surface water becomes relatively more affordable; groundwater use is disincentivized when there is available surface water. Implementing this fee would require more study, data analysis, and process implementation.

Funding Approach Comparison

The following graphic compares the different funding options to the base option, which is to increase all rates by a fixed percentage and continue utilizing the same methodology to determine rates on April 1 of each year depending on the total available upstream storage.

Chart 7: Funding Approaches Comparison

		Parameters						
		Implementation Timeline	Revenue Administration	Equity	Financial Stability	Affordability	Stakeholder Support	Legal Risk [2]
Funding Approaches	Option 1: Increase Current Water Toll Structure (Base Case)							
	Option 2: Single Water Toll / Steepend Rate Line	o	o	o	o/+	(-)	(-)	o
	Option 3: Single Water Toll / Flatten Rate Curve	o	o	o	o/+	o	(-)	o
	Option 4: Fixed Amount & Water Toll (218 Fee)	o	(-)	+	+	+	(-)	(-)
	Option 4: Fixed Amount & Water Toll (218 Assessment)	(-)	(-)	+	+	+	(-)	+
	Option 5: Special Property Tax (218)	(-)	(-)	(-)	+	+	(-)	+

[1] Scale Compared to Base Case: + (more advantageous), o (neutral), (-) (less advantageous), o/+ (slightly more advantageous)

[2] Subject to methodology and legal coordination

7. Groundwater Considerations

The District's surface water operations contribute to groundwater aquifer recharge through surface water seepage along its canal system. In fact, the District empirically estimates this groundwater infiltration in its annual water deliveries. At 250,000 AF or more of storage in the District's upstream reservoirs, estimated losses are 25%; at 50,000 AF or less, losses are estimated at 50%. Between these total storage values, delivery losses to groundwater fall on a linear relationship with lower storage accounting for more losses and higher storage accounting for fewer losses, as a percentage of total. These losses directly benefit groundwater levels and thus provide a benefit to those who pump groundwater for irrigation or domestic purposes and for those who are regulated by the groundwater sustainability agency. Further, these losses should be considered as lost carryover storage in the upstream reservoir.

Over time, the District estimates actual groundwater losses based on the difference between water supply released for sales and water deliveries provided each year. It values groundwater losses based on the surface water delivery rates. The most recent (FY2020/21) data suggests that 28,786 AF were lost to groundwater at a value of \$921,175 (\$32/AF).

Although the District would not necessarily recover these losses through surface water sales each year, losses are most impactful to the budget and region during periods of low water upstream storage availability. This corresponds to fewer surface deliveries due to limited availability and occur when surface water losses to groundwater are more severe.

The District has considered infrastructure improvement options to reduce system-wide seepage, but those options, currently, prove uneconomical. Therefore, the District is considering other options for cost recovery, which may include a groundwater extraction fee or charge.

Groundwater Extraction Charge

As presented in the prior section of this report, the District has the authority to charge extraction fees. The District may consider extraction fees as a necessary element of its funding structure, in addition to other water use fees and assessments.

YSGA Groundwater Sustainability Plan

It's notable that the YSGA has prepared a list of management actions and projects as part of its GSP. Yet, the implementation of the GSP is distinct and separate from groundwater extraction fees that the District may impose in the future. However, any YSGA implementation plans should be closely coordinated with District plans for implementing charges and fees related to groundwater. But any recommendations associated with implementing projects in the GSP may require longer-term alignment with the YSGA, and are not part of this report or its recommended next steps.

YSGA member agencies and affiliated parties identified 12 management actions and 77 projects in the Yolo Subbasin Groundwater Sustainability Plan (GSP), of which the District submitted 19 projects (Appendix B). Several of these projects propose utilizing the existing canal system during winter months to provide groundwater recharge. GSP projects cover sustainability indicators (groundwater levels, groundwater quality, land subsidence and surface water-groundwater interactions) to meet the Subbasin’s sustainability goals. Future coordination with the YSGA is required to determine if implementation of these projects require new or different funding mechanisms. The information presented here is for informational purposes and not part of the District’s current identification and development of funding mechanisms for its agricultural water delivery services.

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8. Recommendations (**WORKING DRAFT/ANNOTATED OUTLINE**)

{The following draft outline of recommendations is subject to change based on input received from District Directors at the August 2, 2022 Board meeting.}

- Improve revenue stability through three-pronged structure:
 - Fixed annual charge on irrigable acres served by the District
 - Variable water rate fee based on current rate structure
 - Groundwater augmentation charge
- Implementation approach
 - Agricultural water revenue must be increased to cover current cost of services regardless of which rate structure is chosen.
 - Propose new agricultural water rate based on current rate structure (Option 1)
 - Prepare cost of service study (Fall 2022) and conduct Prop 218 protest hearing (Fall/Winter 2022)
 - Can adopt if there is not a majority protest
 - Propose standby/assessment with reduced agricultural water rate (Option 4)
 - Prepare Engineer’s Report (Fall/Winter 2022) and conduct Prop 218 ballot proceedings (Winter/Spring 2023)
 - Can adopt if weighted votes approve
 - Adopt new agricultural water rate based on grower approvals (March 2023)
 - Groundwater augmentation charge (Defer until after March 2023)
 - Perform further analyses and develop basis for charge
 - Consider adoptions by March 2024

Appendix A – Expense Detail

No.	Description	Category [1]	Pro Forma Year	2023	2024	2025	2026	2027
OPERATING EXPENSES								
<u>SOURCE OF SUPPLY</u>								
51100	SOS - CACHE CREEK DAM	W	\$ 91,091	\$ 93,824	\$ 96,639	\$ 99,538	\$ 102,524	\$ 105,600
51200	SOS - INDIAN VALLEY DAM & RESERVOIR	W	\$ 455,641	\$ 469,310	\$ 483,390	\$ 497,891	\$ 512,828	\$ 528,213
51300	SOS - I.V. WATER TREATMENT PLANT	W	\$ 14,104	\$ 14,527	\$ 14,963	\$ 15,412	\$ 15,874	\$ 16,350
51400	SOS - I.V. RECREATION	R	\$ 14,523	\$ 14,959	\$ 15,407	\$ 15,870	\$ 16,346	\$ 16,836
51500	SOS - GROUND WATER REPLENISHMENT	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total		\$ 575,359	\$ 592,620	\$ 610,399	\$ 628,711	\$ 647,572	\$ 666,999
<u>HYDROELECTRIC EXPENSE</u>								
52100	CACHE CREEK DAM HYDRO EXPENSES	W	\$ 5,668	\$ 5,838	\$ 6,013	\$ 6,194	\$ 6,380	\$ 6,571
52200	INDIAN VALLEY HYDRO EXPENSES	W	\$ 43,019	\$ 44,310	\$ 45,639	\$ 47,008	\$ 48,418	\$ 49,871
	Total		\$ 48,687	\$ 50,148	\$ 51,652	\$ 53,202	\$ 54,798	\$ 56,442
<u>WATER RESOURCES</u>								
53100	GROUNDWATER LEVEL MONITORING	G	\$ 10,350	\$ 10,661	\$ 10,980	\$ 11,310	\$ 11,649	\$ 11,998
53200	GROUNDWATER QUALITY MONITORING	G	\$ 438	\$ 451	\$ 464	\$ 478	\$ 493	\$ 507
53300	WATER FLOW MEASUREMENTS	W	\$ 56,893	\$ 58,600	\$ 60,358	\$ 62,169	\$ 64,034	\$ 65,955
53400	SURFACE WTR QUALITY MONITORING	W	\$ 10,780	\$ 11,103	\$ 11,437	\$ 11,780	\$ 12,133	\$ 12,497
53500	STORM WATER MANAGEMENT PLAN	F	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56970	SGMA (SUSTAINABLE GROUNDWATER MANAGEMENT ACT)	G	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56971	YSGA (YOLO SUBBASIN GROUNDWATER AGENCY)	G	\$ 261,067	\$ 268,899	\$ 276,966	\$ 285,275	\$ 293,833	\$ 302,648
56713	SCADA	W	\$ 216,074	\$ 222,556	\$ 229,233	\$ 236,110	\$ 243,193	\$ 250,489
	Total		\$ 555,602	\$ 572,270	\$ 589,438	\$ 607,122	\$ 625,335	\$ 644,095
55000	ENVIRONMENTAL RESOURCES	A	\$ 48,927	\$ 50,395	\$ 51,907	\$ 53,464	\$ 55,068	\$ 56,720
	Total		\$ 48,927	\$ 50,395	\$ 51,907	\$ 53,464	\$ 55,068	\$ 56,720
<u>TRANSMISSION / DISTRIBUTION</u>								
54100	T & D OPERATIONS	W	\$ 356,368	\$ 367,059	\$ 378,071	\$ 389,413	\$ 401,096	\$ 413,129
54200	T & D MAINTENANCE	W	\$ 956,798	\$ 985,502	\$ 1,015,067	\$ 1,045,519	\$ 1,076,885	\$ 1,109,191
54260	T & D FLOODING / STORM EVENTS	F	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total		\$ 1,313,166	\$ 1,352,561	\$ 1,393,138	\$ 1,434,932	\$ 1,477,980	\$ 1,522,320
54500	MERCESA ACTIVITIES	W	\$ 47,218	\$ 48,635	\$ 50,094	\$ 51,596	\$ 53,144	\$ 54,739
	Total		\$ 47,218	\$ 48,635	\$ 50,094	\$ 51,596	\$ 53,144	\$ 54,739
54470	FLOODSAFE YOLO 2.0 ACTIVITIES & FLOOD CONTROL	F	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total		\$ -					
<u>ADMINISTRATIVE & GENERAL</u>								
56100	ADMINISTRATIVE SALARIES & BENEFITS	A	\$ 568,626	\$ 585,685	\$ 603,255	\$ 621,353	\$ 639,994	\$ 659,193
56200	OFFICE EXPENSE	A	\$ 13,000	\$ 13,390	\$ 13,792	\$ 14,205	\$ 14,632	\$ 15,071
56300	INSURANCE EXPENSE	A	\$ 83,410	\$ 85,912	\$ 88,490	\$ 91,144	\$ 93,879	\$ 96,695
56410	EMPLOYEE BENEFITS	A	\$ 603,329	\$ 621,429	\$ 640,072	\$ 659,274	\$ 679,052	\$ 699,424
56600	INFORMATION TECHNOLOGY SYSTEMS	A	\$ 87,167	\$ 89,782	\$ 92,475	\$ 95,249	\$ 98,107	\$ 101,050
56720	COMMUNICATIONS & UTILITIES	A	\$ 52,000	\$ 53,560	\$ 55,167	\$ 56,822	\$ 58,526	\$ 60,282
56810	ACCOUNTING AND AUDIT	A	\$ 16,500	\$ 16,995	\$ 17,505	\$ 18,030	\$ 18,571	\$ 19,128
56820	LEGAL EXPENSE	A	\$ 55,000	\$ 56,650	\$ 58,350	\$ 60,100	\$ 61,903	\$ 63,760
56830	ENGINEERING	A	\$ 88,192	\$ 90,837	\$ 93,562	\$ 96,369	\$ 99,260	\$ 102,238
56920	BAD DEBT EXPENSE	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
56840	FERC	W	\$ 24,346	\$ 25,076	\$ 25,829	\$ 26,604	\$ 27,402	\$ 28,224
56910	RENTALS AND LEASES	A	\$ 47,000	\$ 48,410	\$ 49,862	\$ 51,358	\$ 52,899	\$ 54,486
56950	PUBLIC EDUCATION	A	\$ 2,000	\$ 2,060	\$ 2,122	\$ 2,185	\$ 2,251	\$ 2,319
56960	MEMBERSHIPS & DUES	A	\$ 241,000	\$ 248,230	\$ 255,677	\$ 263,347	\$ 271,248	\$ 279,385
56980	SYSTEM PLANNING & ADMIN	A	\$ 7,000	\$ 7,210	\$ 7,426	\$ 7,649	\$ 7,879	\$ 8,115
56990	OTHER GENERAL & ADMIN EXPENSE	A	\$ 12,526	\$ 12,902	\$ 13,289	\$ 13,688	\$ 14,099	\$ 14,521
	Total		\$ 1,901,096	\$ 1,958,128	\$ 2,016,872	\$ 2,077,378	\$ 2,139,700	\$ 2,203,891
<u>GENERAL PLANT / FACILITIES MAINTENANCE</u>								
56730	GP - TRANSPORTATION EQUIPMENT	W	\$ 135,616	\$ 139,684	\$ 143,875	\$ 148,191	\$ 152,637	\$ 157,216
56740	GP - CONSTRUCTION EQUIPMENT	W	\$ 92,019	\$ 94,780	\$ 97,623	\$ 100,552	\$ 103,568	\$ 106,675
56750	GP - SHOP / YARD / BUILDING MAINTENANCE	W	\$ 151,435	\$ 155,978	\$ 160,657	\$ 165,477	\$ 170,441	\$ 175,555
	Total		\$ 379,070	\$ 390,442	\$ 402,155	\$ 414,220	\$ 426,647	\$ 439,446

	OTHER OPERATING EXPENSES								
59100	DEPRECIATION AND AMORTIZATION	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
59200	REAL ESTATE TAXES (LAKE COUNTY)	A	\$ 268,500	\$ 276,555	\$ 284,852	\$ 293,397	\$ 302,199	\$ 311,265	\$ 311,265
59210	YOLO COUNTY TAXES / ASSESSMENTS	A	\$ 100	\$ 103	\$ 106	\$ 109	\$ 113	\$ 116	\$ 116
59300	OTHER OPERATING EXPENSES	A	\$ 1,000	\$ 1,030	\$ 1,061	\$ 1,093	\$ 1,126	\$ 1,159	\$ 1,159
59400	EXPENSE CREDITS	W	\$ (248,765)	\$ (256,228)	\$ (263,915)	\$ (271,832)	\$ (279,987)	\$ (288,387)	\$ (288,387)
	Total		\$ 20,835	\$ 21,460	\$ 22,104	\$ 22,767	\$ 23,450	\$ 24,153	\$ 24,153
	NEW EXPENSES								
NEW	CIP Expense	W	\$ 1,400,000	\$ 1,442,000	\$ 1,485,260	\$ 1,529,818	\$ 1,575,712	\$ 1,622,984	\$ 1,622,984
NEW	Drought Contingency Reserve	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total		\$ 1,400,000	\$ 1,442,000	\$ 1,485,260	\$ 1,529,818	\$ 1,575,712	\$ 1,622,984	\$ 1,622,984
TOTAL OPERATING EXPENSES			\$ 6,289,961	\$ 6,478,660	\$ 6,673,020	\$ 6,873,210	\$ 7,079,407	\$ 7,291,789	\$ 7,291,789
NON-OPERATING EXPENSES									
61000	INTEREST ON LONG-TERM DEBT	W	\$ 131,015	\$ 134,945	\$ 138,994	\$ 143,164	\$ 147,459	\$ 151,882	\$ 151,882
61500	OTHER INTEREST EXPENSE	W	\$ 500	\$ 515	\$ 530	\$ 546	\$ 563	\$ 580	\$ 580
61900	LOAN FEES (COST OF FINANCING)	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62000	LOSS ON DISPOSAL FIXED ASSETS	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63000	PRIOR PERIODS' EXPENSE	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64000	COUNTY ADMINISTRATION CHARGE	A	\$ 13,000	\$ 13,390	\$ 13,792	\$ 14,205	\$ 14,632	\$ 15,071	\$ 15,071
66000	SHARED SERVICES	A	\$ 70,947	\$ 73,075	\$ 75,268	\$ 77,526	\$ 79,851	\$ 82,247	\$ 82,247
69720	YOLO SUBBASIN GSP PLANNING & PREPARATION GRANT	G	\$ 158,741	\$ 163,503	\$ 168,408	\$ 173,460	\$ 178,664	\$ 184,024	\$ 184,024
69000	MISCELLANEOUS NON-OPERATING EXPENSE	A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
75100	IRWMP	A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
75200	DROUGHT GRANT ADMIN COSTS (Labor & Benefits)	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
75400	DROUGHT MITIGATION (GAP)	W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL NON-OPERATING EXPENSES			\$ 374,203	\$ 385,429	\$ 396,991	\$ 408,901	\$ 421,168	\$ 433,803	\$ 433,803
TOTAL EXPENSES			\$ 6,664,164	\$ 6,864,089	\$ 7,070,011	\$ 7,282,112	\$ 7,500,575	\$ 7,725,592	\$ 7,725,592
[1]	Categories: (W) water - ag or non-ag; (F) flood control; (G) groundwater; (A) allocated across all categories								

Appendix B – YSGA Projects with YCFCWCD Listed as Implementing Agency

Project/MA Number	MA Name	Description
P 9	Modernization Project: Integrated Precision Water Management	YCFC&WCD will modernize 16 miles of its main canal. Automatic water control gates will allow the YCFC&WCD to operate its main system with more flexibility.
P11	Flood Monitoring Network Project	This project would install flow monitoring stations at canals and sloughs in order to optimize conveyance capacity for both agricultural operations and during rain events, which could occur at the same time. It is not known how much flow sloughs contribute to the canal systems during rain events.
P 13	Zamora area winter recharge from Cache Creek via China Slough	This project would be the development of groundwater recharge capacity by utilizing China Slough and conveying water to the Zamora area. Utilizing existing YCFC&WCD infrastructure would allow for water to reach China Slough and be conveyed to the Zamora area. This project is related to another proposed project - West Adams Canal Renovation and China Slough Rehabilitation. The rehabilitation of China Slough would likely need to occur prior to any successful groundwater recharge events occurring.
P 14	Dunnigan Hills Winter Runoff Capture for Recharge	Runoff water in Dunnigan Hills and Hungry Hollow could be diverted into N Adams canal and sent to Yolo-Zamora for winter recharge. This project would utilize excess water in Dunnigan Hills and Hungry Hollow and send it east towards the Yolo Zamora area.
P 15	Winter Diversioos from Tehama-Colusa Canal	This project would divert excess winter water from the Tehama Colusa Canal to the Yolo-Zamora area for winter recharge.
P 24	Add real time static level monitoring equipment to Washington Street well in Yolo	This project would help to better react to changes in available water and provide constant historical data that is shared directly to the GSA.
P 25	Add real time static level monitoring equipment to Ridgecut well in Knights Landing	This project would help to better react to changes in available water and provide constant historical data that is shared directly to the GSA.
P 28	Forbes Ranch Regulating Pond	This project would develop and construct a 200-acre-foot regulating pond to reduce drainage and flood waters through the town of Madison and District canal system. Divert stormwater flows to the pond through the existing conveyance. The regulating pond would provide storm water retention during the winter and would allow for groundwater recharge in the spring and summer when capacity and water is available. The regulating pond would provide water quality benefits
P 29	West Adams Canal Renovation and China Slough Rehabilitation.	This project would result in the enlargement and improvement of the YCFC&WCD's West Adams, East Adams, and Acacia Canal system, and rehabilitation and improvement of China Slough (a natural storm drainage channel). YCFC&WCD's canal system could be modernized to allow for a "demand" system and to ensure no spills. China Slough would need to be cleaned, an operating road constructed, and installation of about eight check structures. Improvement of this system would increase capacity for groundwater recharge, both in-lieu and actual.
P 30	Diaz in-line reservoir	The Diaz in-line reservoir project would include the creation of an in- line reservoir on Clover Canal. This would help with water use efficiencies and encourage increased conjunctive use by making surface water easier to utilize. This location could also possibly used for increased groundwater recharge.
P 31	Magnolia Canal Loss Reduction and Extension Project	This is a proposed 1.5 miles of pipeline to extend and reduce loss in the Magnolia Canal system. This project might increase surface water usage in this area, and thus reduce groundwater demand. Currently, Magnolia Canal has high losses to groundwater, so this loss reduction project would likely decrease the current amount of surface water to groundwater recharge. Extending the canal, however, may allow for decreased reliance on groundwater at the end of Magnolia Canal. A cost-benefit analysis will be conducted prior to project implementation. Quantification of the changes in groundwater recharge will need to be made to determine the benefits of this proposed project.

P 32	Demand Delivery on Yolo Central and Pleasant Prairie Canals	This project would Increase surface water usage by making it easier and more convenient for water users to use surface water on the Yolo Central and Pleasant Prairie Canals. This project should result in lower groundwater demands and lower reliance on groundwater. Infrastructure would need to be developed on these canals to allow water users to more easily utilize surface water supplies.
P 33	North of Winters multi-use, stormwater, and water storage pond, Winters North Area Stormwater Pond	This project proposes developing and constructing a 5,000 acre-feet storm water retention pond in the north area of Winters to reduce drainage and flood waters from the Chickahominy Slough. The retention pond would also be used for groundwater recharge in times when the capacity and water was available. The retention pond would provide water quality benefits by allowing the sediments in the runoff to settle and lessening the transfer of pollutants and chemicals downstream. The surrounding area would have native vegetation that would promote benefits for wildlife habitat, and the property would allow for groups to visit and learn about the multi-beneficial, multi-agency partnership. Similar to the District's Chapman Reservoir, the project would install automated gates and monitoring devices at the retention pond that would be connected to the District's SCADA system for real-time management
P 37	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge	YCFC&WCD proposes to manage high flows from Lamb Valley, Cottonwood and S. Fork Willow Sloughs using the existing canal system as well as other means such as upstream check dams. During storm events Willow Slough floods the Town of Madison. The Canal system can be used to convey water away from the Town of Madison and reduce flood levels while also managing peak flows through use of check dams, particularly in Lamb Valley Slough. This project would increase groundwater recharge during winter storm events
P 47	YCFCWCD Winter Recharge	This project increases winter recharge by utilizing YCFC&WCD sloughs and canals. This is an ongoing project and can only be conducted under certain circumstances. The water diverted into unlined district canals varies on an annual basis between a minimum of 0 AFY and a maximum of around 30,000 AFY
P 49	Citrona Ditch Pressurization Project	This project would increase the adoption of surface water over groundwater when available. This is a 10-15 (cubic feet per second) cfs supply, for four customers on 10 fields
P 60	Rumsey and Guinda Ditch Winter Recharge	Development of groundwater recharge capacity by utilizing Rumsey and Guinda ditch and conveying water to the Capay Valley
P 61	Guinda Ditch summer irrigation and pipelines from Cache Creek to other side of HWY16	Guinda ditch could be reactivated to provide additional Cache Creek water during the irrigation season to Capay Valley.
P 73	O'Halloran off-stream reservoir site	A proposed off-stream reservoir that would improve surface water delivery efficiency and conjunctive use. This project would also likely be utilized to generate peak-hour electricity

*From GSP and GSP Appendix J. Proposed List of Projects and Management Actions -Yolo Subbasin