Yolo County Flood Control &
Water Conservation District

Board Meeting
34274 State Highway 16
Woodland, CA 95695
Tuesday, July 5, 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 June 7, 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: Utilizing Excess Storm Flows for Groundwater Recharge on Agricultural Lands
7:35	5.	Presentation: USDA Agricultural Research Service Sustainable Agricultural Water Systems Unit

8:05 6. Director's Report: Report on meetings and conferences attended during the prior month on behalf of the District

8:10 7. Attorney's Report: Report on legal matters of concern to the District

8:15 8. 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 9. General Discussion: Opportunity for clarification or additional information request

8:40 10. Consideration: Consider the approval and the payment of bills

8:45 11. 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 12. 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 1, 2022.

By:

_____

Kristin Sicke, General Manager

YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

AGENDA REPORT

MEETING DATE: July 5, 2022 ITEM #: 1

SUBJECT: Consideration: Adoption of the June 7, 2022 Regular Board Meeting Minutes

INITIATED OR REQUESTED BY: [ ] BOARD [X] STAFF [ ] OTHER _____

COORDINATED OR APPROVED BY: Kristin Sicke

ATTACHMENT [X] YES [ ] NO

[ ] DIRECTION

[ ] INFORMATION

[X] ACTION: [X] 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, June 7, 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, June 7, 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
Tom Barth
Mary Kimball
Jim Mayer

District Staff
Kristin Sicke, General Manager

Members of the Public

1. CONSIDERATION: Approval of Minutes
M/S/C approved the minutes of the May 3, 2022 regular Board meeting.
Ayes: Directors Barth, Kimball, Mayer, and Vink
Noes: None
Absent: Director Tucker
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. CONSIDERATION: Response to the 2021-2022 Yolo County Grand Jury Report Findings and Recommendations

General Manager Sicke reviewed the process of the Yolo County Grand Jury's investigation of the District. The 2021-2022 Yolo County Grand Jury Report *Flooding Issues in the Yolo County Flood Control and Water Conservation District* "notes the lack of a complaint or grievance system for reporting emergency flood problems and for use in identifying recurring flooding issues". The Report provided the following recommendations:

1. The District, solely or in coordination with County administration, create and implement a procedure to receive and record complaints, grievances, and service requested related to flooding issues. The process should clearly identify the responsible agency.
2. The District document all complaints and outcomes regarding flooding, making them accessible to the public, by September 1, 2022.
3. The District revise its mission statement to include flood control responsibilities under the District Act by September 1, 2022.

Sicke provided the Directors with a draft response to the Yolo County Grand Jury for consideration. The draft response established that the District has no flood control responsibility beyond its own facilities and flows, has no obligation to serve as a clearinghouse for flood complaints, and does not need to revise its mission statement. The draft response concluded that the District disagreed wholly with the three findings included in the Grand Jury's Report and that the three recommendations would not be implemented.

M/S/C approved the District's response to the 2021-2022 Yolo County Grand Jury regarding the *Flooding Issues in the Yolo County Flood Control and Water Conservation District* Report.

Ayes: Directors Barth, Kimball, Mayer, and Vink
Noes: None
Absent: Director Tucker
Abstain: None

5. DIRECTORS' REPORTS

Director Mayer reported on participating in NCWA's Groundwater Managers' and Groundwater Management Task Force meetings.

Director Barth reported on participating in the special May YSGA Board of Directors meeting.

Directors Kimball and Vink had nothing to report.

6. 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 May 31, 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. YCFB / YSGA Workshop (June 9)
    3. YSGA: Hungry Hollow Area Groundwater Subcommittee Meeting (June 9)
    4. WRA / YSGA Executive Committees' Meetings (June 13)
    5. NCWA: Groundwater Task Force Meeting (June 13)
    6. NCWA's Coordination Task Force Meeting (June 14)
    7. WRA / YSGA Board of Directors Meetings (June 20)
    8. YSGA: Hungry Hollow Area Community Town Hall Meeting (June 22)
    9. YCFB / YSGA SGMA Public Workshop (June 28)
    10. RD 108's 150th Celebration (June 29)
    11. County / Farm Bureau Coordination Meeting (July 5)

7. GENERAL DISCUSSION

There was no general discussion.

8. CONSIDERATION: Payment of Bills

M/S/C approved the following claims for payment – Yolo County Flood Control & Water Conservation District Checks # 61254-61260.

Ayes: Directors Barth, Kimball, Mayer, and Vink
Noes: None
Absent: Director Tucker
Abstain: None

9. 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 and General Manager Sicke participated in the closed session item and that there was nothing to report.

10. <u>ADJOURNMENT</u>

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: July 5, 2022 ITEM #: 4

SUBJECT: Presentation: Utilizing Excess Storm Flows for Groundwater Recharge on Agricultural Lands

INITIATED OR REQUESTED BY: [ ] BOARD [X] STAFF [ ] OTHER _____

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

ATTACHMENT [X] YES [ ] NO
[ ] DIRECTION

[X] INFORMATION
[ ] ACTION: [ ] MOTION
[ ] RESOLUTION

BACKGROUND:
Eaton Drilling (Eaton) is interested in partnering with the District to expand the District's winter recharge activities to agricultural properties within the District's service area, which would enhance or increase water recharged into the groundwater aquifer. Eaton would like to partner with the District in obtaining grant funding for completion of a groundwater recharge pilot project. For additional information, a summary of this collaborative approach is provided as an attachment.

District staff and Eaton's Chief of Operations, Chris Ott, will provide a presentation on the potential private-public-partnership opportunity.

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

Yolo County Flood Control & Water Conservation District's Flood-MAR Initiative

(Yolo Subbasin Groundwater Recharge Project)

California agricultural lands, including wine grape vineyards, can act as groundwater recharge sites while producing valuable crops. Projects that intentionally flood agricultural lands during winter are in various stages of implementation throughout California, including Sonoma, San Joaquin, and Fresno counties. As examples:

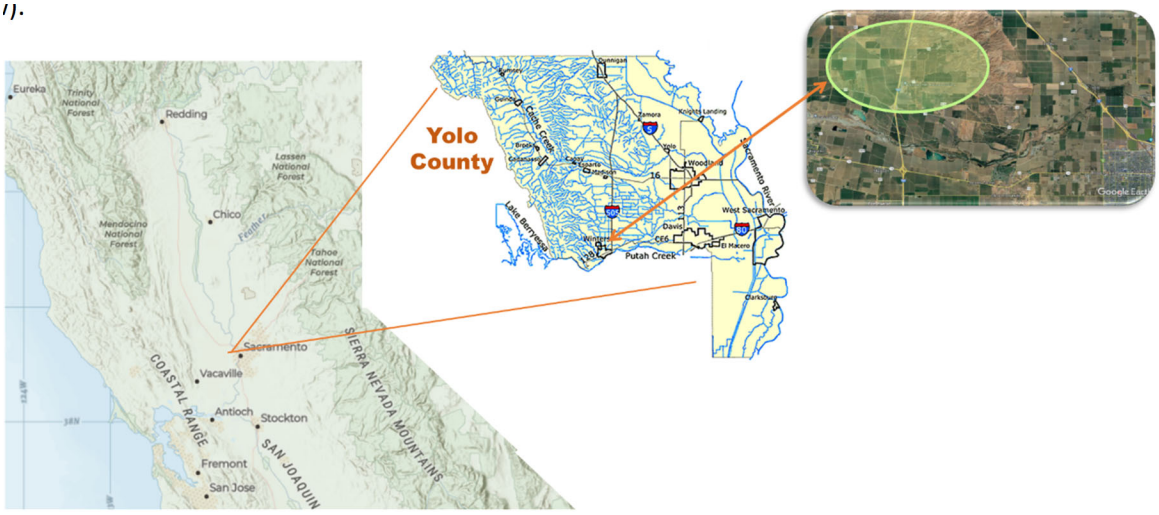
- In the iconic Alexander Valley, a new effort is underway to divert peak flows from the Russian River onto agricultural property. Ultimately, the project will mound shallow groundwater, encouraging baseflow connectivity with the Russian River in the late summer when salmon and downstream communities need it most.
- In the McMullin Area, the Kings River Conservation District and Terranova are diverting high flows onto farmland for groundwater recharge. This project essentially stores flood water in the local aquifer that otherwise would be 'lost' or cause downstream damage.
- In northern California, UC Davis and UC Davis Cooperative Extension are working with growers to evaluate groundwater banking potential via flooding of agricultural fields. Existing irrigation infrastructure is used to move water from surface water conveyance systems to farmland.

YOLO COUNTY FLOOD-MANAGED AQUIFER RECHARGE (FLOOD-MAR) INITIATIVE, *A COLLABORATIVE APPROACH*

Yolo County Flood Control & Water Conservation District (YCFC&WCD), in collaboration with Eaton Drilling, Dr. Phillip Bachand, the Yolo Subbasin Groundwater Agency (YSGA), Yolo County, local landowners, and environmental community representatives are working to improve the reliability of water in the Yolo Subbasin through on-farm managed aquifer recharge (Flood-MAR).

Similar to other Flood-MAR initiatives and in coordination with YCFC&WCD, Yolo County landowners – Sutter Home (Trinchero Family Estates), Boundary Bend Olives (Cobram Estate), and other farmers – will divert excess surface water from canals onto their properties in the winter months. Existing water delivery infrastructure will be used to apply water to the land and ultimately, the excess surface water will infiltrate to groundwater.

This new initiative builds on YCFC&WCD's existing winter recharge efforts in utilizing a temporary water right for diverting excess Cache Creek storm flows into the YCFC&WCD canal system at the Capay Dam. The canal system acts as a temporary retention basin for excess surface water to percolate into the aquifer. Groundwater monitoring has demonstrated a positive change in groundwater levels during recharge events. The proposed Yolo Subbasin Flood-MAR initiative will increase recharge area available by adding 10,000 acres of farmland (see figure below).



GOAL

To use excess surface water for groundwater recharge on agricultural lands in Yolo County.

OBJECTIVES & BENEFITS

Objective	Description of Issue	Benefits of Yolo Subbasin Flood-MAR
Address sustainability indicators, or SGMA's undesirable results as defined by the water code.	Mitigate and prevent undesirable results including: (1) groundwater level declines, (2) groundwater storage reductions, (3) water quality degradation, and (4) interconnected surface water depletions.	• The Flood-MAR initiative will recharge the underlying aquifer with flood waters, raise the water table, and ensure adequate supply for new and existing groundwater users. • Raising the water table will promote interconnectivity of instream baseflows to surface water bodies.
Respond to Governor's Executive Order N-7-22 & resulting regulations	New well permits are prohibited without demonstrating that new wells are: (1) consistent with sustainable groundwater management programs (2) not likely to interfere with existing wells or result in subsidence	Properties participating in the Flood-MAR initiative will recharge groundwater at a volume equal to, or greater than, their withdrawals.
Support the YSGA / Yolo Subbasin GSP	Managed Aquifer Recharge is a key project for the Yolo Subbasin.	• The Flood-MAR initiative implements an important project identified in the GSP.
Support FloodSAFE Yolo 2.0	Yolo County is undertaking projects to reduce flood risk in Western Yolo County.	• The Flood-MAR initiative takes water off the channel during high-flow events, reducing flood risks. • Flood-MAR lowers reservoir storage levels, reducing flood risks below the reservoir.
Promote Net Zero Water	Water use is offset with an alternative, and water returned to the original water source.	• Properties participating in the Flood-MAR initiative will match or exceed their withdrawals with recharge.
Support the Yolo County IRWMP	Undertaking aquatic and riparian enhancement actions to improve conditions for native and endangered fish species.	• The Flood-MAR initiative will raise groundwater levels, thereby boosting instream baseflows to surface water and reducing water temperature.
Promote climate change resiliency	Climate change will cause fewer, but more intense, storms as well as result in longer periods of drought.	• The Flood-MAR initiative uses water from intense rain events to recharge the underlying aquifer, thereby mitigating against drought conditions.
Improve water reliability	Ensure adequate water supplies to support agricultural and urban users, while protecting groundwater-dependent ecosystems.	• Higher groundwater levels from the Flood-MAR initiative will help reduce groundwater pumping costs and prevent the need to deepen wells.
Augment groundwater quality	Protect and promote high quality water to support beneficial uses and safe drinking water.	• Increasing the amount of water in storage, will potentially dilute salts and nutrients.
Preserve agricultural lands	Conversion of agriculture land to urban and other uses consumes about 40,000 acres a year of prime farmland.	• The Flood-MAR initiative keeps farmland in production while ensuring land is available for recharge.
Provide basis for potential water trading/marketing program	Allow landowners, who do not use all their water allocation, to sell the water to others in the Yolo Subbasin.	• Lands undergoing Flood-MAR may avoid groundwater pumping and have excess water to trade.

YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

AGENDA REPORT

MEETING DATE: July 5, 2022 ITEM #: 5

SUBJECT: Presentation: USDA Agricultural Research Service Sustainable Agricultural Water Systems Unit

INITIATED OR [ ] BOARD
REQUESTED BY: [X] STAFF
[ ] OTHER _____

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

ATTACHMENT [X] YES [ ] NO
[ ] DIRECTION

[X] INFORMATION
[ ] ACTION: [ ] MOTION
[ ] RESOLUTION

BACKGROUND:

The mission of the United States Department of Agriculture (USDA) Agricultural Research Service (ARS) Sustainable Agricultural Water Systems (SAWS) unit is to increase the efficiency and sustainability of irrigated agriculture in California under changing environmental conditions, with a special focus on vine and tree orchard crops in the Central Valley. Among other agricultural research projects, the SAWS unit is interested in partnering with the District to implement a pilot project for studying the feasibility of using small diameter drywells in or adjacent to the District's canal system to enhance recharge. As an example, a draft proposal is attached. Lessons learned from a pilot project like this could aid in the design and implementation of larger scale recharge projects that are economically viable and facilitate groundwater sustainability.

USDA, ARS, SAWS Research Leader Dr. Scott Alan Bradford will provide a presentation on the pilot project concept along with other SAWS unit research activities.

RECOMMENDATION:

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

Draft Proposal to Yolo County Flood Control & Water Conservation District

Enhancing Recharge in Irrigation Canals with Drywells

Scott Alan Bradford [1], Salini Sasidharan [2], and Gordon Osterman[1]

USDA, ARS, SAWS unit, Davis, CA

Department of Biological & Ecological Engineering, Oregon State University, Corvallis, OR 97331-3906, USA

Overview

Yolo County, CA has an extensive network of unlined irrigation canals that is used to deliver surface water to farms and to recharge excess stormwater supplies during wet years. Numerical simulations indicate that large volumes of stormwater could be infiltrated and recharged (e.g., 1e+8 to 2e+8 m^3 per year) if drywells were extensively incorporated (every 70 m) into the 160 miles of irrigation canals in Yolo County. The use of drywells in the irrigation canal system has a number of advantages over flooding agricultural fields. For example, drywells do not adversely impact crop health, leach contaminants from the root zone, lose significant amounts of water to evaporation, can bypass low permeability layers, and have quicker recharge times. In addition, infiltration can easily be stopped or started by simply closing or opening a valve on the entrance of drywells. Furthermore, the use of the canal system removes the burden of groundwater sustainability from individual farmers and places it in the hands of groups like irrigation districts, flood control agencies, and/or groundwater sustainability agencies that have resources to address regulatory, installation, and maintenance issues.

Below we propose a pilot project to study the feasibility of using small diameter drywells in or adjacent to irrigation canals to enhance recharge. This pilot study will monitor water quantity and quality parameters from 5 small diameter drywells and a monitoring well to assess potential impacts on drywell performance and groundwater quality. Lessons learned from this study will aid in the design and implementation of larger scale recharge projects that are economically viable and facilitate groundwater sustainability.

Pilot Scale Study Plan

This pilot-scale study will investigate the feasibility of using small diameter (10 to 20 cm) drywells in or near irrigation canals to enhance recharge. Below we outline the proposed steps and responsibilities of individuals in this pilot-scale study.

1. Representatives of the USDA, ARS, SAWS unit and the Yolo County Flood Control and Water Conservation District will jointly meet with members of the State Water Resources Control Board or the Department of Water Resources to gain approval to conduct pilot-scale research to study the feasibility of using small diameter drywells in or near irrigation canals to enhance recharge. These smaller diameter drywells would fall under a similar approval process as conventional drywells.
2. If approval is obtained, then the Yolo County Flood Control and Water Conservation District would cover the following tasks or costs associated with the implementation of the pilot-scale study:
    a. Providing access to a surface water or stormwater source for the pilot study over at least several months.
    b. Arranging for a section of an irrigation canal where drywells can be installed.
    c. Arranging and installing drywells and associated fittings and valves at the pilot site.
    d. Arranging and/or installing a monitoring well at the pilot site.
    e. Purchasing sensors and cables, water sample collection instruments, a flowmeter, dataloggers, and cellular service to monitor the performance of the drywells and monitoring well remotely.
3. If approval is obtained, the USDA, ARS, SAWS unit and Oregon State University will provide research support for the pilot-scale study in the following ways:
    a. We will aid the Yolo County Flood Control and Water Conservation District in designing and implementing the pilot-scale study, including providing a small diameter drywell design based on preliminary studies conducted in Davis, CA.

b. We will instrument drywells and a monitoring well using the water quantity and quality sensors, water sample collection instruments, flowmeters, dataloggers, and cellular service provided by the Yolo County Flood Control and Water Conservation District.
c. We will remotely monitor the sensors.
d. Incorporate a sand filter into the canal to minimize clogging and contaminants before entering the drywells.
e. We will collect and analyze samples of the source water in the canal, drywell, and monitoring well at least four times during the pilot-study. Constituents that will be monitored include water level, electrical conductivity, turbidity, fecal coliforms, nitrate, and arsenic.
f. We will collect and analyze soil samples and/or logs from the installation of drywells and the monitoring well.
g. We will conduct a falling head test in drywells at the beginning and end of the pilot study using water level sensors.
h. The drywells will be simulated using the HYDRUS 2D/3D software during the falling head tests, and soil hydraulic properties will be inversely determined.
i. Drywell infiltration will be quantified as a function of time using an electronic flowmeter at the drywell entrance and measurements of water level in the drywell.
j. Borehole geophysical techniques may be deployed in the drywells and/or monitoring well to better characterize subsurface heterogeneity and water flow during the pilot study.
k. Surface geophysical techniques (electrical resistivity tomography, towed time-domain electromagnetics, and available aerial electromagnetic survey data) may be deployed and/or analyzed to better characterize subsurface heterogeneity and water flow during the pilot study, and to study how electrical resistivity measurements can be upscaled.
l. Recharge from drywells will be simulated using estimated hydraulic properties, infiltration measurements, water level measurements in the monitoring well, and geophysical information.

m. Other numerical simulations may examine the fate of measured contaminants at the site.

n. A report will be prepared and submitted to the Yolo County Flood Control and Water Conservatoin District after completion of the pilot-study. This report will summarize the results of the study and may serve as a basis for subsequent scientific publications about this pilot-project to support the mission and objective of the SAWS unit and OSU. In addition, the Yolo County Flood Control and Water Conservation District and Yolo Subbasin Groundwater Agency will get an opportunity to review and comment on scientific publications that employ data from this pilot study.