LAS VIRGENES - TRIUNFO
JOINT POWERS AUTHORITY
AGENDA

4232 Las Virgenes Road, Calabasas, CA 91302

July 6, 2021, 5:00 PM

Public Participation for Meetings of Las Virgenes - Triunfo Joint Powers Authority in Response to COVID-19

On March 4, 2020, Governor Newsom proclaimed a State of Emergency in California as a result of the threat of COVID-19. On March 17, 2020, Governor Newsom issued Executive Order N-29-20 (superseding the Brown Act-related provisions of Executive Order N-25-20 issued on March 12, 2020), which allows a local legislative body to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body. Pursuant to Executive Order N-29-20, please be advised that members of the Las Virgenes - Triunfo Joint Powers Authority Board of Directors will participate in meetings via teleconferencing.

PUBLIC PARTICIPATION: Pursuant to Executive Order N-29-20 and given the current health concerns, this meeting is being conducted via Zoom Webinar and all attendees are muted by default. To join via computer, please use the following Zoom Webinar ID:

Webinar ID: **https://us06web.zoom.us/j/89590322925**
To join by telephone, please dial (669) 900-6833 or (346) 248-7799 and enter Webinar ID: **895 9032 2925**

For members of the public wishing to address the Board during Public Comment or during a specific agenda item, please press "Raise Hand" if you are joining via computer, or press *9 if you are joining via phone.

Members of the public can also access and request to speak at meetings live on-line, with audio and limited video, at www.LVMWD.com/JPALiveStream. In addition, members of the public can submit written comments electronically for consideration at www.LVMWD.com/JPALiveStream. To ensure distribution to the members of the Las Virgenes - Triunfo Joint Powers Authority Board of Directors prior to consideration of the agenda, please submit comments 24 hours prior to the day of the meeting. Those comments, as well as any comments received after 5:00 P.M., will be distributed to the members of the Board of Directors and will be made part of the official public record of the meeting. Contact Josie Guzman, Executive Assistant/Clerk of the Board at (818) 251-2123 or jguzman@lvmwd.com with any questions.

ACCESSIBILITY: If requested, the agenda and backup materials will be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. Any person who requires a disability-related modification or accommodation, in order to observe and/or offer public comment may request such reasonable modification, accommodation, aid, or service by contacting the Executive Assistant/Clerk of the Board by telephone at (818) 251-2123 or via email to jguzman@lvmwd.com no later than 8:00 AM on the day of the scheduled meeting.

Members of the public wishing to address the Las Virgenes-Triunfo Joint Powers Authority (JPA) Board of Directors are advised that a statement of Public Comment Protocols is available from the Clerk of the Board. Prior to speaking, each speaker is asked to review these protocols, complete a speakers' card, and hand it to the Clerk of the Board. Speakers will be recognized in the order the cards are received.

The Public Comments agenda item is presented to allow the public to address the Board on matters not on the agenda. The public may also present comments on matters on the agenda; speakers for agendized items will be recognized at the time the item is called up for discussion.

Materials prepared by the JPA in connection with the subject matter on the agenda are available for public inspection at 4232 Las Virgenes Road, Calabasas, CA 91302. Materials prepared by the JPA and distributed to the Board during this meeting are available for public inspection at the meeting or as soon thereafter as possible. Materials presented to the Board by the public will be maintained as part of the records of these proceedings and are available upon request to the Clerk of the Board.

PLEDGE OF ALLEGIANCE

1 CALL TO ORDER AND ROLL CALL

2 APPROVAL OF AGENDA

3 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

4 CONSENT CALENDAR

Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on an item, that item will be removed from the Consent Calendar for separate action.

A Minutes: Regular Meeting of June 7, 2021 and Special Meeting of June 16, 2021 (Pg. 4)

Approve.

5 ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A State and Federal Legislative Update (Pg. 16)

B Pure Water Project Las Virgenes-Triunfo: Update (Pg. 53)

C Update on Proposed Landscape Transformation Initiative (Pg. 59)

6 ACTION ITEMS

A Proposed JPA Operating and Capital Improvements Budget for Fiscal Year 2021-22: Adoption (Pg. 61)

Adopt the proposed JPA Operating and Capital Improvements Budget for Fiscal Year 2021-22.

B Pure Water Project Las Virgenes-Triunfo: Updated Baseline Cost Estimate (Pg. 80)

Review and provide feedback on the updated baseline cost estimate for the Pure Water Project Las Virgenes-Triunfo.

C Pure Water Project Las Virgenes-Triunfo: Adoption of Program Implementation Plan (Pg. 94)

Approve and adopt the Program Implementation Plan for the Pure Water Project Las Virgenes-Triunfo.

D Tapia Summer Season TMDL Compliance and Meter Replacement Projects: CEQA Determination and Call for Bids (Pg. 187)

Find that the Tapia Meter Replacement Project is exempt from the provisions of California Environmental Quality Act and authorize the issuance of a call for bids for the Tapia Summer Season TMDL Compliance and Meter Replacement Projects.

7 BOARD COMMENTS

8 ADMINISTERING AGENT/GENERAL MANAGER REPORT

9 FUTURE AGENDA ITEMS

10 INFORMATION ITEMS

A Saddle Peak and Cordillera Tanks Rehabilitation Projects: Final Acceptance (Pg. 193

11 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

12 ADJOURNMENT

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

LAS VIRGENES – TRIUNFO
JOINT POWERS AUTHORITY
MINUTES
REGULAR MEETING

5:00 PM June 7, 2021

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Len Polan.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Chair Tjulander in-person and via teleconference in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. The meeting was conducted in-person and via teleconference pursuant to the provisions of the Governor's Executive Order, N-29-20, which suspended certain requirements of the Ralph M. Brown Act to support social distancing guidelines associated with response to the coronavirus (COVID-19) outbreak. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Caspary, Lewitt, Lo-Hill, Nye, Orkney (via teleconference), Polan, Renger (via teleconference), Shapiro (arrived at 5:11 p.m. via teleconference), Tjulander, and Wall (via teleconference).
Absent: None.

2. APPROVAL OF AGENDA

Director Orkney moved to approve the agenda. Motion seconded by Director Polan. Motion carried by the following roll call vote:

AYES: Caspary, Lewitt, Lo-Hill, Nye, Orkney, Polan, Renger, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Shapiro

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

A Minutes: Regular Meeting of May 3, 2021: Approve

Director Caspary moved to approve the Consent Calendar. Motion seconded by Director Polan. Motion carried by the following roll call vote:

AYES: Caspary, Lewitt, Lo-Hill, Nye, Orkney, Polan, Renger, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Shapiro

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A State and Federal Legislative Update

Director Orkney reported that she participated in the JPA Virtual Washington D.C. lobbying trip and that it went very well. She stated that the participants gained the Congressional representatives' attention and there were less distractions. She commended Ana Schwab, federal lobbyist for the JPA with Best Best & Krieger LLP (BBK), for representing the JPA in Washington D.C.

Ana Schwab, federal lobbyist for the JPA with BBK, stated that she was pleased that the Legislative Director for Congresswoman Julia Brownley was engaged in the discussions, as well as Congressman Ted Lieu and Congressman Brad Sherman who expressed interest in assisting the JPA.

Director Lewitt reported that he also participated in the JPA Virtual Washington D.C. lobbying trip, and he acknowledged Ms. Schwab for organizing the virtual meetings.

Ms. Schwab noted that BBK staff followed-up with the Congressional representatives and U.S. Bureau of Reclamation officials following the virtual meetings and received positive feedback. She noted that one of the asks was related to the Alternative Water Source Pilot Program that was included in S. 914, the Senate State Revolving Fund (SRF) Reauthorization Bill, which was not currently included in H.R. 1915, the House version of the SRF Reauthorization Bill. She noted that previously H.R. 1497 was the House version of the SRF Reauthorization Bill, and BBK and many others worked to seek an amendment for the Alternative Water Source Pilot Program to allow those who received Title XVI Feasibility Study funds to also be eligible for the Alternative Water Source Pilot Program. She also reported that the President's proposed budget was released, which included funding for the U.S. Environmental Protection Agency and portions for the U.S. Bureau of Reclamation; however, it did not include U.S. Bureau of Reclamation Title XVI Infrastructure Improvements for the Nation Act (WIIN) funding because this program would be sunsetting this year. She stated that BBK would advocate on the JPA's behalf to ensure that the program continues.

Director Caspary acknowledged Ms. Schwab for coordinating the preparation meeting held before the meetings with the Congressional representatives. He stated that the engagement from Congressman Lieu and Congressman Sherman was outstanding, and that they appeared to be very interested in assisting the JPA.

Director Shapiro connected to the teleconference at 5:11 p.m.

Lowry Crook, federal lobbyist for the JPA with BBK, responded to a question regarding H.R. 2660, Withstanding Attempts to Encroach on our Resources (WATER) Act, by stating that the previous Administration narrowed the protections of the Clean Water Act in July 2020 for a large percentage of wetlands that were not connected to traditional streams of navigable waters and for all ephemeral streams. He noted that this was not an issue in California due to abundant protections. He stated that the new Administration would likely reverse the previous Administration's rules, restore some protections for isolated wetlands and ephemeral streams, and expand the protections of the Clean Water Act.

Syrus Devers, state lobbyist for the JPA with Best Best & Krieger LLP (BBK), presented the state legislative update, and reported that the Senate Budget Subcommittees would be presenting their reports to the full Budget Committees. He noted that BBK advocated for the Senate's Draft Drought Relief Plan and the draft budget bill for $3.457 billion for future negotiations with the Assembly and the Governor's Office. He stated that it was likely that the details for the proposed $3.457 billion budget bill would be resolved in trailer bills. He also stated that the Association of California Water Agencies (ACWA) and the California Municipal Utilities Association (CMUA) would hold regular calls with lobbyists regarding the budget process. He noted that Governor Gavin Newsom expressed an interest in low-income rate relief through the State Water Resources Control Board, and there was concern with possible limits and delays. He noted that there was concern with time constraints to hire new staff or create programs to administer the rate relief funds, which must be administered through existing channels. He also noted that BBK was providing suggestions for low-income rate relief to be disbursed directly to agencies rather than to customers whose accounts were in arrears. He also reported that ACWA and CMUA were seeking funds for Integrated Regional Water Management Programs. He noted that although there was much discussion regarding low-income rate relief, there were many people from all income levels who suffered financial impacts due to the COVID-19 pandemic, and impacts from the COVID-19 pandemic needed to be the triggering language for rate relief funds.

Ms. Schwab responded to a question regarding seeking COVID-19 relief funds that were distributed to cities for special districts by stating that it would be up to the individual cities to transfer funds to a special district. She stated that BBK staff would be available to draft letters to cities to ask for distribution of Coronavirus State and Local Fiscal Recovery Funds, established by the American Rescue Plan Act of 2021, for capital improvement projects.

B Pure Water Project Las Virgenes-Triunfo: Update

Joe McDermott, Director of Engineering and External Affairs, reported that the *Taste the Water, Tour the Garden* events began in May with 27 attendees. He noted that staff had received positive responses, and attendees appeared to be optimistic about the Pure Water Project Las Virgenes-Triunfo (Pure Water Project). He stated that people may register for tours at www.ourpureh2o.com, and staff would monitor COVID-19 social gathering restrictions by the Los Angeles County Department of Public Health to determine when tours may be given inside of the Pure Water Demonstration Facility. He also reported that recruitment would take place for a new Engineering Program Manager position, who would take the lead in managing the Pure Water Project. He responded to questions regarding the number of people who have registered for tours; outreach efforts through social media, the newspaper, and through emails sent to individuals identified in the Influential People Outreach Program (iPOP); and cross-training operators at the Pure Water Demonstration Facility.

Director Orkney expressed an interest in reviewing the iPOP list to ensure that it was up-to-date. Mr. McDermott responded that he would share the list with the Board.

Eric Schlageter, Principal Engineer, noted that a workshop for the Pure Water Project Program Implementation Plan would be held during the special JPA Board meeting scheduled on June 16th from 9:00 a.m. to 12:00 p.m. He stated that staff would bring back the final Program Implementation Plan at the July 6th JPA meeting for approval based on feedback received at the workshop. He noted that the Program Implementation Plan would consist of the project delivery approach, regulatory permitting strategies, environmental compliance, cost estimate, baseline cost-loaded schedule, and outreach plan.

6. ACTION ITEMS

A Financial Review: Third Quarter of Fiscal Year 2020-21

Receive and file the financial review for the third quarter of Fiscal Year 2020-21.

Don Patterson, Director of Finance and Administration, presented the report.

Angela Saccareccia, Finance Manager, provided a PowerPoint presentation and reviewed the Fiscal Year 2020-21 budget versus actuals, comparison to prior year and budget, and share of net uses of funds.

Eric Schlageter, Principal Engineer, responded to questions regarding the net uses of funds budget of $26 million versus actual budget of $17 million by stating that this was mostly due to delays with capital projects, such as the Summer Season

TMDL Compliance Project and the contract expenses not yet met or exceeded for Jacobs Engineering Group. Administering Agent/General Manager David Pedersen added that the Summer Season TMDL Compliance Project to build a pipeline from Piuma Road to the Tapia Water Reclamation Facility was delayed because staff had anticipated coordinating this project with the County of Los Angeles bridge replacement project on Malibu Canyon Road Bridge over Malibu Creek.

Ms. Saccareccia responded to questions regarding the increase in operating expenses in Fiscal Year 2020-21 compared to Fiscal 2019-20, which was due to increased labor hours for the Pure Water Demonstration Facility, increased energy costs, increased pumping costs due to increased recycled water sales, and a delay in solar energy savings. Mr. Patterson added that labor costs had increased due to cross-training at the Pure Water Demonstration Facility, increased overtime in response to the COVID-19 pandemic, and increased focus on sanitation projects.

Director Lo-Hill moved to receive and file Item 6A. Motion seconded by Director Polan. Motion carried unanimously by roll call vote.

B Fiscal Year 2021-22 JPA Budget: Review of Proposed Changes

Review and provide feedback on the proposed changes for the Fiscal Year 2021-22 JPA Budget

Angela Saccareccia, Finance Manager, presented the report and PowerPoint presentation, and reviewed the proposed changes to the operating budget and to the Capital Improvement Projects budget. She responded to questions regarding additional lab sampling at the Pure Water Demonstration Facility and deferral of certain Capital Improvement Projects.

Administering Agent/General Manager responded to a question regarding the increase for lighting improvements at the Pure Water Demonstration Facility chemical storage area and control room.

The report was received and filed.

C Financial Advisor Services for Pure Water Project Las Virgenes-Triunfo: Award

Authorize the Administering Agent/General Manager to execute an initial five-year agreement with Piper Sandler, in an amount not to exceed $100,000, with the option to extend for up to five additional years for financial advisor services related to the Pure Water Project Las Virgenes-Triunfo.

Don Patterson, Director of Finance and Administration, presented the report.

Director Renger lost connection to the teleconference during the presentation.

Greg Swartz, representing Piper Sandler, responded to a question regarding seeking financing for the JPA as a whole and as individual agencies depending on the funding source.

Director Caspary moved to approve Item 6C. Motion seconded by Director Polan. Motion carried by the following roll call vote:

AYES: Caspary, Lewitt, Lo-Hill, Nye, Orkney, Polan, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Renger

D Rancho Las Virgenes Composting Facility Centrifuge No. 1 Repairs: Award of Purchase Order

Accept the quotation from CentriTEK and authorize the Administering Agent/General Manager to issue a purchase order, in the amount of $69,732.50, for repairs to Centrifuge No. 1 at the Rancho Las Virgenes Composting Facility.

Brett Dingman, Water Reclamation Manager, presented the report, and responded to questions regarding centrate treatment.

Director Renger reconnected to the teleconference at 6:31 p.m.

Director Caspary moved to approve Item 6D. Motion seconded by Director Polan. Motion carried unanimously by roll call vote.

E Rancho Las Virgenes Composting Facility Woolsey Fire Repairs: Approval of Change Order No. 4

Authorize the Administering Agent/General Manager to approve Change Order No. 4 to Pacific Hydrotech Corporation, in the amount of $10,439.70, for additional electrical repairs at the Rancho Las Virgenes Composting Facility.

Oliver Slosser, Senior Engineer, presented the report.

A discussion ensued regarding the reason the work for this project was done through the issuance of change orders to companies that held construction contracts for work at the Rancho Las Virgenes Composting Facility in order to expedite the completion of repairs and restore the operation to the facility caused by the Woolsey Fire.

Director Caspary moved to approve Item 6E. Motion seconded by Director Orkney. Motion carried unanimously by roll call vote.

7. BOARD COMMENTS

Chair Tjulander inquired regarding the date and time for the Pure Water Project Program Implementation Plan workshop and whether the meeting would be held in-person. Administering Agent/General Manager David Pedersen responded that the workshop was scheduled for June 16th from 9:00 a.m. to 12:00 p.m. as an in-person meeting with the option to participate virtually.

8. ADMINISTERING AGENT/GENERAL MANAGER REPORT

Administering Agent/General Manager David Pedersen reported that the flow in Malibu Creek was measuring 4.4 cubic feet per second, and there was no need for water augmentation. He also reported that one-hundredth of an inch of rain was reported earlier in the day at the Tapia Water Reclamation Facility (Tapia). He also reported that the filter media replacement at Tapia was completed. He responded to a question regarding the status of Las Virgenes Municipal Water District's response to the COVID-19 pandemic by stating that the District prepared a multi-phased return to on-site work plan, and staff were spending 50 percent of their time in the office on average. He noted that Cal/OSHA was in the process of developing new rules on the use of facemasks, and legal counsel had advised that employees be encouraged to be vaccinated and voluntarily inform Human Resources whether they had been vaccinated.

Don Patterson, Director of Finance and Administration, stated that under the current County of Los Angeles guidelines every participant attending an in-person meeting must wear a facemask regardless of vaccination status. He also stated that under the proposed Cal/OSHA rules a facemask would not be required if everyone in a room was vaccinated. He also stated that the District would wait on which rule the County of Los Angeles would propagate after Cal/OSHA issues its new rule, and employees would be asked to voluntarily demonstrate that they were vaccinated by showing proof of vaccination.

9. FUTURE AGENDA ITEMS

None.

10. PUBLIC COMMENTS

None.

11. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **6:47 p.m**.

Ray Tjulander, Chair

ATTEST:

Jay Lewitt, Vice Chair

LAS VIRGENES – TRIUNFO
JOINT POWERS AUTHORITY
MINUTES
SPECIAL MEETING

9:00 AM June 16, 2021

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Leon Shapiro.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **9:00 a.m.** by Chair Tjulander in-person and via teleconference in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. The meeting was conducted in-person via teleconference pursuant to the provisions of the Governor's Executive Order, N-29-20, which suspended certain requirements of the Ralph M. Brown Act to support social distancing guidelines associated with response to the coronavirus (COVID-19) outbreak. Josie Guzman, Clerk of the Board, conducted the roll call.

Present in the Board Room:	Directors Lewitt, Lo-Hill, and Renger
Present via Teleconference:	Directors Caspary, Nye, Orkney, Polan, Shapiro, Tjulander, and Wall
Absent:	None.

2. APPROVAL OF AGENDA

Director Renger moved to approve the agenda. Motion seconded by Director Polan. Motion carried unanimously by roll call vote.

3. PUBLIC COMMENTS

None.

4. PURE WATER PROJECT LAS VIRGENES-TRIUNFO PROGRAM IMPLEMENTATION PLAN WORKSHOP

Administering Agent/General Manager David Pedersen provided introductory remarks.

Rich Nagel, Principal from Jacobs Engineering Group (Jacobs), the Pure Water Program Manager and Owner-Advisor Team, introduced Jennifer Phillips, Program Manager, and Renee Groskreutz, Deputy Program Manager. Ms. Phillips introduced Paul Swaim, Tom Richardson, Erica Wolski, Michael Welch, John Schoonover, and Camille Stephens.

The Jacobs Team and consultants provided a PowerPoint presentation with an overview of the Program Implementation Plan and baseline cost estimate update.

The Board engaged in discussion regarding the Program Implementation Plan and provided feedback. The Board also expressed concerns regarding the updated baseline cost estimate. Administering Agent/General Manager Pedersen suggested that the JPA Board hold a special meeting to discuss funding and financing, and to move forward with consideration of adopting the Program Implementation Plan at the July 6, 2021 JPA Board meeting, along with receiving additional information regarding the cost estimates and financing.

5. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **12:12 p.m**.

Ray Tjulander, Chair

ATTEST:

Jay Lewitt, Vice Chair

BEST BEST & KRIEGER
ATTORNEYS AT LAW

To: Las Virgenes-Triunfo JPA Board of Directors and Staff
From: John Freshman, Ana Schwab, and Lowry Crook
Date: June 21, 2021
RE: Federal Report

Legislation

Future Western Water Infrastructure and Drought Resiliency Act

Rep. Jared Huffman (D-CA) reintroduced his Future Western Water Infrastructure and Drought Resiliency Act, H.R. 3404. The bill includes more than $1 billion for various water projects, including $750 million for multi-benefit water storage projects, $500 million for water recycling and reuse, and $260 million for water desalinization projects. It also provides federal support for water education activities, collaborative water management efforts, and training and professional development support for the water sector workforce.

Low-Income Customer Assistance Programs Act of 2021

Representatives Lisa Blunt Rochester (D-DE) and John Katko (R-NY) introduced H.R. 3293, Low-Income Customer Assistance Programs Act of 2021. This bill would create a grant program at the Environmental Protection Agency (EPA) in which awards would be made to water utilities or states to assist low-income customers with paying water bills. The grant program would allow water and wastewater utilities to provide an array of assistance programs including direct assistance for ratepayers, special hardship relief, bill discounts, and water efficiency assistance. On June 16, the House Energy and Commerce Subcommittee on Climate Change held a markup and passed the bill.

PFAS Action Act

On June 16, the House Energy and Commerce Subcommittee on Climate Change passed the PFAS Action Act, H.R. 2467. The legislation, led by Rep. Debbie Dingell (D-MI), would create a national drinking water for PFOS and PFOA, designates PFAS as a hazardous substance, and authorizes $200 million for publicly owned treatment works to implement new water quality standards. In the 116th Congress, the House of Representatives passed a similar bill, also titled the PFAS Action Act, by a vote of 247 to 159.

Water Quality Protection and Job Creation Act of 2021

The House Transportation and Infrastructure Committee passed H.R. 1915, Water Quality Protection and Job Creation Act of 2021, with bipartisan support. The legislation will provide billions of dollars in federal funding for water and wastewater infrastructure throughout the country and reauthorize the Clean Water State Revolving Fund (SRF). Importantly, the Committee adopted an amendment that would expand the eligibility for the Alternative Water Source Pilot Program, which the JPA was an early leader and key stakeholder in its promotion and passage. Without the amendment, projects that previously received any Title XVI funding would be ineligible applicants. However, this amendment expanded the eligibility to allow projects that have received Title XVI feasibility study funds to be eligible applicants. With this amendment, the Pure Water Project is now an eligible project to compete for construction funds once the bill finishes the legislative process and is signed into law. The bipartisan support is a positive indication of potential passage on the House floor, or incorporating the bill's provisions in a larger infrastructure package. The bill does not yet have a full House vote date.

Western Water Focus in Congress

On May 26, the Committee on Natural Resources Subcommittee on Water, Oceans, and Wildlife Subcommittee held a hearing on the status of drought conditions in the Western United States. Members were concerned with the Bureau of Reclamation's involvement, federal funding, groundwater supply, forest fire management, and tribal rights.

Additionally, members were concerned with funding levels for water infrastructure. Rep. Napolitano shared concern that there is not enough funding for federal water programs. Elizabeth Klein, Senior Counselor at the Department of Interior, used the American Jobs Plan as a demonstration of the Administration's support of water infrastructure and indicated the budget will include significant investments. Rep. Napolitano pushed back and shared that while budget includes $60 million, at least $1 billion is needed to maintain already authorized projects of water recycling.

Many members expressed concerns over the problems that certain ESA protections cause on other water flows and species. The Department shared it is continuing to work with stakeholders to create smart environmental solutions.

Infrastructure Package Negotiations Continue

President Biden is continuing to negotiate with Senate GOP leaders on an infrastructure package. Although both sides have stated they want a bipartisan bill, they are not close on a spending amount or how to pay for the package. President Biden has not set a deadline for a negotiation to be reached by, which may push back talks to late July as the Senate is about to go on recess.

This past week, a bipartisan group of 10 senators pitched a $1.2 trillion eight-year infrastructure spending package to President Biden. The proposal is backed by Sens. Rob Portman (R-OH), Mitt Romney (R-UT), Kyrsten Sinema (D-AZ), and Joe Manchin (D-WV). The package includes $579 billion in net new spending beyond outlays that Congress was planning to enact. The details of the package have not yet been released, but it has been reported that the package invests in "traditional infrastructure."

Senate Majority Leader Chuck Schumer (D-NY) and House Speaker Nancy Pelosi (D-CA) have stated they want to move forward with an infrastructure package in July. In the Senate, lawmakers have passed the water infrastructure bill, S.914, with robust bipartisan support. The House has yet taken up S. 914 or H.R. 1915, the House counterpart. In addition, the Senate Environment and Public Works Committee unanimously passed the Surface Transportation Reauthorization Act of 2021.

In addition to the cost of the President's proposal, Republicans do not want to revise or remove provisions of the 2017 Tax Cut and Jobs Act to pay for the package. One of the proposals to pay for the package by the Administration is to raise the corporate tax rate to 25 or 28 percent. The Republicans have proposed the infrastructure package is to be paid for using some of the $350 billion that was appropriated to state and local governments in the American Rescue Plan Act and unspent funds from other COVID-19 packages.

In an effort to keep negotiations on an infrastructure package from collapsing, the President indicated that he would consider a minimum 15 percent corporate tax rate. During the G7 Conference in Cornwall, England, the United States, Britain, France, Germany, Italy, Japan and Canada converged on a minimum tax rate of 15 percent for multinational corporations. Republicans have voiced opposition to the 15 percent tax for corporations, but have not said it is a non-starter.

Appropriations Timeline

House Appropriations Chair Rosa DeLauro (D-CT) released the mark up schedule for the 12 FY2022 spending bills. Subcommittee markups will begin on June 24 and full committee markups will begin June 29. House Majority Leader Steny Hoyer has said leadership wants the House to pass all 12 fiscal 2022 appropriations bills before the August recess. July is expected to be a busy month with the impending deadline of the surface transportation bill on September 30 and the deadline for appropriations. Cabinet members and agency heads have been testifying before House and Senate committees on the administration's proposed budget.

The Senate has not yet announced when it will unveil its appropriations bills or when markups will begin.

Low Income Household Assistance Program

On June 3, the Department of Health and Human Services (HHS), through the Administration for Children and Families (ACF), announced the official launch of the Low-Income Household Water Assistance Program (LIHWAP). Currently, HHS has made $166.6 million in LIHWAP funding available, which is 15 percent of the total allocated LIHWAP funding (from the FY 2021 Consolidated appropriations and ARPA). These grants are immediately available to LIHWAP grantees to support the establishment of the program on the state and local level. States, tribes, and territories are in the process of setting up program rules and guidelines that best serve their communities. California has not yet established its LIHWAP office, but the new program should be finalized soon. Once the program is established on the state level, including partnerships with sub-grantees, families and individuals will be able to begin requesting water and wastewater utility bill assistance.

Navigable Waters Protection Rule Change

On June 9, EPA and the Army Corps of Engineers announced they will revise the Clean Water Act to change the definition of waters of the United States. This will involve the repeal and revision of the Navigable Waters Protection Rule issued under the Trump administration.

Below is BB&K's legal alert on the EPA and Army Corps announcement published on June 10:

The U.S. Environmental Protection Agency and Army Corps of Engineers announced their intent to revise the reach of the federal Clean Water Act by changing the definition of "waters of the United States." This move, announced yesterday, would reverse the Navigable Waters Protection Rule adopted during the Trump administration, which itself replaced a 2015 revision by the Obama administration.

The timeline for initiating the revisions is still not clear, but the Department of Justice did take a first step yesterday by filing a motion in the U.S. District Court of Massachusetts asking the court to return the Trump administration rule to the agencies for revision. Currently, there are several lawsuits against the EPA over the Trump-era rule. The Justice Department is likely to file similar motions in each of those cases. Significantly, the Biden administration did not ask the court to vacate the rule, meaning it is asking the court to leave the Trump-era rule in place for the coming months or years while the agencies complete their rulemaking processes.

The agencies' announcement indicated that they intend to first reverse the Trump rule and restore the protections that were in place before the Obama administration's 2015 Clean Water Rule. The Trump administration adopted a definition that removed federal regulation of all ephemeral streams and a significant portion of wetlands that the agencies had said were covered by the Clean Water Act for decades. After restoring pre-2015 protections, the Biden administration appears ready to chart its own course in developing its own definition, rather than simply trying

to restore the 2015 Rule's broader standard. The final product of this process is almost certain to face court challenges.

LAS VIRGENES-TRIUNFO - HIGH PRIORITY LEGISLATION IN THE 117TH CONGRESS
THROUGH JUNE 16, 2021

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.202 SALT Fairness Act of 2021	To amend the Internal Revenue Code of 1986 to repeal the limitation on deduction for State and local taxes, and for other purposes.	Introduced by Rep. Mike Garcia (R-CA) – January 5, 2021	
S.29 Local Water Protection Act	A bill to amend the Federal Water Pollution Control Act to reauthorize certain programs relating to nonpoint source management, and for other purposes.	Introduced by Sen. Amy Klobuchar (D-MN) – January 22, 2021	
S.Res.17 A resolution expressing the sense of the Senate that clean water is a national priority and that the April 21, 2020, Navigable Waters Protection Rule should not be withdrawn or vacated.	Expressing the sense of the Senate that clean water is a national priority and that the April 21, 2020, Navigable Waters Protection Rule should not be withdrawn or vacated.	Introduced by Sen. Joni Ernst (R-IA) – January 27, 2021	
H.R.616 Emergency Water is a Human Right Act	To prohibit water shutoffs during the COVID-19 emergency period, provide drinking and waste water assistance to households, and for other purposes.	Introduced by Rep. Rashida Tlaib (D-MI) – January 28, 2021	
S.85 SALT Deductibility Act	To amend the Internal Revenue Code of 1986 to repeal the limitation on the deduction for certain taxes, including State and local property and income taxes.	Introduced by Sen. Chuck Schumer (D-NY) – January 28, 2021	
H.R.613 SALT Deductibility Act	*(Companion bill to S.85).*	Introduced by Rep. Thomas Suozzi (R-NY) – January 28, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.101 Environmental Justice Mapping and Data Collection Act of 2021	To establish the Environmental Justice Mapping Committee, and for other purposes.	Introduced by Sen. Edward Markey (D-MA) – January 28, 2021	
H.R.516 Environmental Justice Mapping and Data Collection Act of 2021	*(Companion bill to S.101).*	Introduced by Rep. Cori Bush (D-MO) – January 28, 2021	
H.R.535 Special District Provide Essential Services Act	The bill would require the state's to direct at least five percent of future Coronavirus Relief Fund (CRF) allocations to special districts within their state.	Introduced by Rep. John Garamendi (D-CA) – January 28, 2021	*SUPPORT*
S.91 Special Districts Provide Essential Services Act	*(Companion bill to H.R. 535)*	Introduced by Sen. Kyrsten Sinema (D-AZ) – January 28, 2021	*SUPPORT*
H.R.737 RENEW WIIN Act	The RENEW WIIN Act would extend the general and operations provisions of Subtitle J of the WIIN Act and extend the provision requiring consultation on coordinated operations of the Central Valley Project and State Water Project. The legislation would also extend the authorization of appropriations for water storage projects that the Secretary of the Interior finds feasible.	Introduced by Rep. David Valadao (R-CA) – February 2, 2021	*SUPPORT*
H.R. 692 Recognition of Local Interests in NEPA Decision Making	To amend the National Environmental Policy Act of 1969 to provide a rule to determine venue for a proceeding for judicial review of certain agency actions.	Introduced by Rep. Liz Cheney (R-WY) – February 2, 2021	
H.R.848 GREEN Act of 2021	To amend the Internal Revenue Code of 1986 to provide incentives for renewable energy and energy efficiency, and for other purposes.	Introduced by Rep. Mike Thompson (D-CA) – February 4, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.Res.104 Recognizing the duty of the Federal Government to implement an agenda to Transform, Heal, and Renew by Investing in a Vibrant Economy ("THRIVE")	Recognizing the duty of the Federal Government to implement an agenda to Transform, Heal, and Renew by Investing in a Vibrant Economy ("THRIVE").	Introduced by Rep. Debbie Dingell (D-MI) – February 5, 2021	
S.Res.43 A resolution recognizing the duty of the Federal Government to implement an agenda to Transform, Heal, and Renew by Investing in a Vibrant Economy ("THRIVE")	Recognizing the duty of the Federal Government to implement an agenda to Transform, Heal, and Renew by Investing in a Vibrant Economy ("THRIVE").	Introduced by Rep. Edward Markey (D-MA) – February 8, 2021	
H.R.946 SALT Act	To amend the Internal Revenue Code of 1986 to repeal the dollar limitation on deduction of State and local taxes, and for other purposes.	Introduced by Rep. Bill Pascrell (D-NJ) – February 8, 2021	
H.R.1015 Water Recycling Investment and Improvement Act	To extend the authorization of the Bureau of Reclamation – Title XVI competitive grants program and increase the authorized funding level from $50 million to $500 million. Further, the legislation expands the geographic scope requirement that projects be located in sustained drought or disaster areas. The legislation also removes the requirement that Congress sign-off on each selected project, and modernizes the individual program funding cap from $20 million to $30 million.	Introduced by Rep. Grace Napolitano (D-CA) – February 11, 2021	*SUPPORT*
H.R.988 Recreational Lands Self-Defense Act of 2021	To protect the right of individuals to bear arms at water resources development projects administered by the Secretary of the Army, and for other purposes.	Introduced by Rep. Bob Gibbs (R-OH) – February 11, 2021	
H.R.1066 Wildfire Recovery Act	To amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act to provide flexibility with the cost share for fire management assistance, and for other purposes.	Introduced by Rep. Joe Neguse (D-CO) – February 15, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.421 Western Tribal Water Infrastructure Act of 2021	To amend the America's Water Infrastructure Act of 2018 to expand the Indian reservation drinking water program, and for other purposes.	Introduced by Sen. Ron Wyden (D-OR) – February 24, 2021 Ordered to be reported by the Committee on Indian Affairs– March 24, 2021	
H.R.1319 American Rescue Plan Act of 2021	To provide for reconciliation pursuant to title II of S. Con. Res. 5.	Introduced by Rep. John Yarmuth (D-KY) – February 24, 2021 Became Public Law No: 117-2 – March 11, 2021	*SUPPORT*
H.R.1352 Water Affordability, Transparency, Equity, and Reliability Act of 2021	To establish a trust fund to provide for adequate funding for water and sewer infrastructure, and for other purposes.	Introduced by Rep. Brenda Lawrence (D-MI) – February 25, 2021	
S.479 Lifting Our Communities through Advance Liquidity for Infrastructure (LOCAL Infrastructure) Act of 2021	A bill to amend the Internal Revenue Code of 1986 to reinstate advance refunding bonds.	Introduced by Sen. Roger Wicker (R-MS) – February 25, 2021	*SUPPORT*
H. R. 1438 FLOODS Act	To establish a national integrated flood information system within the National Oceanic and Atmospheric Administration, and for other purpose	Introduced by Rep. Mikie Sherrill (D-NJ) – February 26, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.498 A bill to amend title 54, United States Code, to limit the authority to reserve water rights in designating a national monument	To amend title 54, United States Code, to limit the authority to reserve water rights in designating a national monument.	Introduced by Sen. Mike Lee (R-UT) – March 1, 2021	
S.558 FLOODS Act	To establish a national integrated flood information system within the National Oceanic and Atmospheric Administration, and for other purposes.	Introduced by Sen. Roger Wicker (R-MS) – March 3, 2021	
H.R.1563 To extend the authorities under the Water Infrastructure Improvements for the Nation Act of 2016 providing operational flexibility, drought relief, and other benefits to the State of California	To extend the authorities under the Water Infrastructure Improvements for the Nation Act of 2016 providing operational flexibility, drought relief, and other benefits to the State of California.	Introduced by Rep. Mike Garcia (R-CA) – March 3, 2021	
H.R.1679 To prohibit the Secretary of the Interior and the Secretary of Agriculture from conditioning any permit, lease, or other use agreement on the transfer of any water right to the United States, and for other purposes	To prohibit the Secretary of the Interior and the Secretary of Agriculture from conditioning any permit, lease, or other use agreement on the transfer of any water right to the United States, and for other purposes.	Introduced by Rep. Lauren Boebert (R-CO) – March 9, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.1804 Community Cleanup Act	To amend the public participation requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and for other purposes.	Introduced by Rep. Earl Carter (R-GA) – March 11, 2021	
H.R.1844 STOP CSO Act of 2021	To amend the Federal Water Pollution Control Act to ensure that publicly owned treatment works monitor for and report sewer overflows, and for other purpose.	Introduced by Rep. Seth Moulton (D-MA) – March 11, 2021	
S.715 NEPA Data Transparency and Accountability Act	To amend the National Environmental Policy Act of 1969 to require the submission of certain reports, and for other purposes.	Introduced by Sen. Mike Lee (R-UT) – March 11, 2021	
S.716 NEPA Legal Reform Act	To amend the National Environmental Policy Act of 1969 to provide for legal reform, and for other purposes.	Introduced by Sen. Mike Lee (R-UT) – March 11, 2021	
S.717 UNSHACKLE Act	To amend the National Environmental Policy Act of 1969 to impose time limits on the completion of certain required actions under the Act, and for other purposes.	Introduced by Sen. Mike Lee (R-UT) – March 11, 2021	
S.718 NEPA Agency Process Accountability Act	To amend the National Environmental Policy Act of 1969 to reform agency process requirements, and for other purposes.	Introduced by Sen. Mike Lee (R-UT) – March 11, 2021	
S.719 NEPA State Assignment Expansion Act	To amend the National Environmental Policy Act of 1969 to provide for project delivery programs, and for other purposes.	Introduced by Sen. Mike Lee (R-UT) – March 11, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.1848 Leading Infrastructure for Tomorrow's America Act	To rebuild and modernize the Nation's infrastructure to expand access to broadband and Next Generation 9-1-1, rehabilitate drinking water infrastructure, modernize the electric grid and energy supply infrastructure, redevelop brownfields, strengthen health care infrastructure, create jobs, and protect public health and the environment, and for other purposes.	Introduced by Rep. Frank Pallone (D-NJ) – March 11, 2021 Committee on Energy and Commerce held a hearing – March 22, 2021	
H.R.1820 RETROACTIVE Policy Act	To amend the Federal Water Pollution Control Act to clarify when the Administrator of the Environmental Protection Agency has the authority to prohibit the specification of a defined area, or deny or restrict the use of a defined area for specification, as a disposal site under section 404 of such Act, and for other purposes.	Introduced by Rep. Bob Gibbs (R-OH) – March 11, 2021	
H.R.1881 To amend the Federal Water Pollution Control Act with respect to permitting terms, and for other purposes	To amend the Federal Water Pollution Control Act with respect to permitting terms, and for other purposes.	Introduced by Rep. John Garamendi (D-CA) – March 12, 2021	*SUPPORT*
H.R. 1821 RURAL Act	To amend the Federal Insecticide, Fungicide, and Rodenticide Act and the Federal Water Pollution Control Act to clarify Congressional intent regarding the regulation of the use of pesticides in or near navigable waters, and for other purposes.	Introduced by Rep. Bob Gibbs (R-OH) – March 11, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.1889 Environmental Justice for Coronavirus Affected Communities Act	To require the Administrator of the Environmental Protection Agency to continue to carry out certain programs relating to environmental justice, and for other purposes.	Introduced by Rep. Raul Ruiz (D-CA) – March 12, 2021	
H.R.1915 Water Quality Protection and Job Creation Act of 2021	To amend the Federal Water Pollution Control Act to reauthorize certain water pollution control programs, and for other purposes.	Introduced by Rep. Peter DeFazio (D-OR) – March 16, 2021 Passed the Committee on Transportation and Infrastructure – June 9, 2021	*SUPPORT*
S.804 SALT Deduction Fairness Act	To amend the Internal Revenue Code of 1986 to increase the limitation on the amount individuals filing jointly can deduct for certain State and local taxes.	Introduced by Rep. Susan Collins (D-ME) – March 17, 2021	
H.R.2021 Environmental Justice For All Act	To restore, reaffirm, and reconcile environmental justice and civil rights, and for other purposes.	Introduced by Rep. Raul Grijalva (D-AZ) – March 18, 2021	
S.855 Water Rights Protection Act of 2021	To prohibit the conditioning of any permit, lease, or other use agreement on the transfer of any water right to the United States by the Secretary of the Interior and the Secretary of Agriculture, and for other purposes.	Introduced by Sen. John Barrasso (R-WY) – March 18, 2021	
S.872 Environmental Justice For All Act	*(Companion bill to H.R.2021)*	Introduced by Sen. Tammy Duckworth (D-IL) – March 18, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.2095 To require the Secretary of the Army to conduct a study to determine the costs for the Corps of Engineers to ensure that certain project activities authorized under Nationwide Permit 14 comply with public safety conditions, and for other purposes.	To require the Secretary of the Army to conduct a study to determine the costs for the Corps of Engineers to ensure that certain project activities authorized under Nationwide Permit 14 comply with public safety conditions, and for other purposes.	Introduced by Rep. Billy Long (R-MO) – March 22, 2021	
S.914 Drinking Water and Wastewater Infrastructure Act of 2021	To amend the Safe Drinking Water Act and the Federal Water Pollution Control Act to reauthorize programs under those Acts, and for other purposes.	Introduced by Sen. Tammy Duckworth (D-IL) – March 24, 2021 Passed in the Senate. Report filed by Sen. Tom Carper (D-DE) - May 10, 2021	
H.R.2008 Local Water Protection Act	To amend the Federal Water Pollution Control Act to reauthorize certain programs relating to nonpoint source management, and for other purposes.	Introduced by Rep. Angie Craig (D-MN) – March 24, 2021 Placed on the Union Calendar – March 28, 2021	
H.R.2173 Wastewater Workforce Investment Act	To amend the Federal Water Pollution Control Act with respect to wastewater infrastructure workforce development, and for other purposes.	Introduced by Rep. Greg Stanton (D-AZ) – March 23, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.939 IMAGINE Act	To encourage the research and use of innovative materials and associated techniques in the construction and preservation of the domestic transportation and water infrastructure system, and for other purposes.	Introduced by Sen. Sheldon Whitehouse (D-RI) – March 24, 2021	
S.953 Water for Conservation and Farming Act	To provide for drought preparedness and improved water supply reliability.	Introduced by Sen. Ron Wyden (D-OR) – March 24, 2021	
H.R.2197 IMAGINE Act	*(Companion bill to S.939).*	Introduced by Rep. David Cicilline (D-RI) – March 26, 2021	
H.R.2288 Investing in Our Communities Act	To amend the Internal Revenue Code of 1986 to reinstate advance refunding bonds.	Introduced by Rep. Dutch Ruppersberger (D-MD) – March 29, 2021	
H.R.2397 Protection from Cumulative Emissions and Underenforcement of Environmental Law Act of 2021	To advance environmental justice by addressing cumulative impacts and underenforcement, and for other purposes.	Introduced by Diana DeGette (D-CO) – April 8, 2021	
H.R.2434 Environmental Justice Act of 2021	To require Federal agencies to address environmental justice, to require consideration of cumulative impacts in certain permitting decisions, and for other purposes.	Introduced by Rep. Raul Ruiz (D-CA) – April 8, 2021	
H.R.2442 Climate Justice Grants Act	To require the Administrator of the Environmental Protection Agency to carry out a grant program for projects and activities to address climate justice concerns of environmental justice communities, and for other purposes.	Introduced by Rep. Nanette Diaz Barragan (D-CA) – April 12, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.2467 PFAS Action Act of 2021	To require the Administrator of the Environmental Protection Agency to designate per- and polyfluoroalkyl substances as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.	Introduced by Rep. Debbie Dingell (D-MI) – April 13, 2021 Passed the House Commerce and Energy Subcommittee on Climate Change – June 16, 2021	
H.R.2468 Made in America Act of 2021	To ensure that certain materials used in carrying out Federal infrastructure aid programs are made in the United States, and for other purposes.	Introduced by Rep. John Garamendi (D-CA) – April 13, 2021	
S.1094 Made in America Act of 2021	*(Companion bill to H.R.2468).*	Introduced by Sen. Tammy Baldwin (D-WI) – April 13, 2021	
H.Res.318 Expressing the sense of the House of Representatives that clean water is a national priority and that the April 21, 2020, Navigable Waters Protection Rule should not be withdrawn or vacated.	Expressing the sense of the House of Representatives that clean water is a national priority and that the April 21, 2020, Navigable Waters Protection Rule should not be withdrawn or vacated.	Introduced by Rep. Mariannette Miller-Meeks (R-IA) – April 14, 2021	
S.1121 PFAS Registry Act of 2021	To require the Secretary of Veterans Affairs to establish and maintain a registry for certain individuals who may have been exposed to per- and polyfluoroalkyl substances due to the environmental release of aqueous film-forming foam on military installations.	Introduced by Sen. Jeanne Shaheen (D-NH) – April 14, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.2660 WATER Act	To amend the Federal Water Pollution Control Act to codify the definition of the term "waters of the United States", and for other purposes.	Introduced by Rep. Robert Latta (R-OH) – April 19, 2021	
H.Res.320 Recognizing the critical importance of access to reliable, clean drinking water for Native Americans and Alaska Natives and confirming the responsibility of the Federal Government to ensure such water access.	Recognizing the critical importance of access to reliable, clean drinking water for Native Americans and Alaska Natives and confirming the responsibility of the Federal Government to ensure such water access.	Introduced by Rep. Joe Neguse (D-OH) – April 15, 2021	
S.Res.166 A resolution recognizing the duty of the Federal Government to create a Green New Deal	Recognizing the duty of the Federal Government to create a Green New Deal.	Introduced by Sen. Ed Markey (D-MA) – April 20, 2021	
H.Res.332 Recognizing the duty of the Federal Government to create a Green New Deal	Recognizing the duty of the Federal Government to create a Green New Deal.	Introduced by Rep. Alexandria Ocasio-Cortez (D-NY) – April 21, 2021	
H.R.2673 CERCLA Liability Expansion and Accountability for Negligent and Unjust Pollution Act	To amend the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 to include certain landlocked releases of petroleum, and for other purposes.	Introduced by Earl Blumenauer (D-OR) – April 20, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.1239 A bill to amend the Internal Revenue Code of 1986 to provide an exclusion from gross income for certain waste water management subsidies	To amend the Internal Revenue Code of 1986 to provide an exclusion from gross income for certain waste water management subsidies.	Introduced by Sen. Kirsten Gillibrand (D-NY) – April 20, 2021	
H.R.2674 Superfund Reinvestment Act	To amend the Internal Revenue Code of 1986 to provide for the use of funds in the Hazardous Substance Superfund for the purposes for which they were collected, to ensure adequate resources for the cleanup of hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and for other purposes.	Introduced by Rep. Earl Blumenauer (D-OR) – April 21, 2021	
H.R.2742 PFAS Registry Act of 2021	To require the Secretary of Veterans Affairs to establish and maintain a registry for certain individuals who may have been exposed to per- and polyfluoroalkyl substances due to the environmental release of aqueous film-forming foam on military installations.	Introduced by Rep. Chris Pappas (D-OH) – April 21, 2021	
S.1334 PFAS Accountability Act of 2021	A bill to amend the Toxic Substance Control Act to codify a Federal cause of action and a type of remedy available for individuals significantly exposed to per- and polyfluoroalkyl substances, to encourage research and accountability for irresponsible discharge of those substances, and for other purposes**.**	Introduced by Sen. Kirsten Gillibrand (D-NY) – April 22, 2021	
H.R.2751 PFAS Accountability Act of 2021	*(Companion legislation to S. 1334).*	Introduced by Rep. Madeleine Dean (D-PA) – April 22, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.1341 Water Resources Research Amendments Act	To amend the Water Resources Research Act of 1984 to reauthorize grants for and require applied water supply research regarding the water resources research and technology institutes established under that Act.	Introduced by Sen. Ben Cardin (D-MD) - April 22, 2021	
S.1303 Build America, Buy America Act	To ensure that certain Federal infrastructure programs require the use of materials produced in the United States, and for other purposes.	Introduced by Sen. Sherrod Brown (D-OH) – April 22, 2021	
H.R.2781 Water Resources Research Amendments Act	*(Companion bill to S.1341).*	Introduced by Rep Josh Harder (D-CA) – April 22, 2021	
H.R.2810 To ensure that certain Federal infrastructure programs require the use of materials produced in the United States, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Tim Ryan (D-OH) – April 22, 2021 Committee on Natural Resources hearing – May 4, 2021	
H.R.2895 To facilitate efficient investments and financing of infrastructure projects and new, long-term job creation through the establishment of an Infrastructure Financing Authority, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Scott Peters (D-CA) – April 28, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.2952 To amend the Federal Water Pollution Control Act to require a certain percentage of funds appropriated for revolving fund capitalization grants be used for green projects, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Nikema Williams (R-GA) – April 30, 2021	
H.R.2979 To amend the Water Infrastructure Finance and Innovation Act of 2014 with respect to the final maturity date of certain loans, and for other purposes	*Text is not yet available.*	Introduced by Rep. John Garamendi (D-CA) – May 4, 2021	
H.R.3023 To amend the Water Infrastructure Finance and Innovation Act of 2014 with respect to budgetary treatment of certain amounts of financial assistance, and for other purposes	*Text is not yet available.*	Introduced by Rep. Jim Costa (D-CA) – May 10, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3112 To amend the Reclamation Wastewater and Groundwater Study and Facilities Act to authorize certain recycled water projects, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Jerry McNerney (D-CA) – May 11, 2021	
H.R.3113 To require the Secretary of the Interior, the Secretary of Agriculture, and the Assistant Secretary of the Army for Civil Works to digitize and make publicly available geographic information system mapping data relating to public access to Federal land and waters for outdoor recreation, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Blake Moore (R-UT) – May 11, 2021 House Natural Resources Subcommittee on National Parks, Forests, and Public Lands hearing held – June 8, 2021	
H.R.3218 To amend the Federal Water Pollution Control Act to reauthorize certain water pollution control programs, and for other purposes.	*Text is not yet available.*	Introduced by Rep. David Rouzer (R-NC) – May 13, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3228 To direct the Secretary of Commerce, acting through the Administrator of the National Oceanic and Atmospheric Administration, to improve science, data, and services that enable sound decision-making in response to coastal flood risk, including impacts of sea level rise, storm events, changing Great Lakes water levels, and land subsidence.	*Text is not yet available.*	Introduced by Rep. Nydia Velazquez – May 13, 2021	
H.R.3267 To amend the Safe Drinking Water Act to require the Administrator of the Environmental Protection Agency to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total per- and polyfluoroalkyl substances, and for other purposes.	*Text is not yet available*	Introduced by Rep. Brendan Boyle (D-PA) – May 17, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3282 To reauthorize funding for drinking water programs under the Safe Drinking Water Act and America's Water Infrastructure Act of 2018, and for other purposes.	*Text is not yet available.*	Introduced by Rep. David McKinley (R-WV) – May 17, 2021	
H.R.3293 To amend the Safe Drinking Water Act and the Federal Water Pollution Control Act to establish programs to assist low-income households in maintaining access to drinking water and wastewater services, and for other purposes**.**	*Text is not yet available.*	Introduced by Rep. Lisa Blunt Rochester – (D-DE) – May 18, 2021 Passed the House Commerce and Energy Subcommittee on Climate Change – June 16, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3291 To amend the Safe Drinking Water Act to provide assistance for States, territories, areas affected by natural disasters, and water systems and schools affected by PFAS or lead, and to require the Environmental Protection Agency to promulgate national primary drinking water regulations for PFAS, microcystin toxin, and 1,4-dioxane, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Paul Tonko (D-NY) – May18, 2021	
H.R.3292 To require the Administrator of the Environmental Protection Agency to carry out a residential emergency relief program to provide payment assistance for households to retain water service, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Debbie Dingell (D-MI) – May 18, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3339 To facilitate efficient investments and financing of infrastructure projects and new job creation through the establishment of a National Infrastructure Bank, and for other purposes**.**	*Text is not yet available.*	Introduced by Rep. Danny Davis (D-IL) – May 19, 2021	
S.1761 Water Quality Certification Improvement Act of 2021	To amend the Federal Water Pollution Control Act to make changes with respect to water quality certification, and for other purposes.	Introduced by Sen. John Barrasso (R-WY) – May 20, 2021	
H.R.3404 To provide drought preparedness and improved water supply reliability to the Nation.	*Text is not yet available.*	Introduced by Rep. Jared Huffman (D-CA) – May 20, 2021	
H.R.3422 To amend the Federal Water Pollution Control Act to make changes with respect to water quality certification, and for other purposes.	*Text is not yet available.*	Introduced by Rep. David McKinley (R-WV) – May 20, 2021	
S.1726 21st Century Buy American Act	To amend chapter 83 of title 41, United States Code (popularly referred to as the Buy American Act) and certain other laws with respect to certain waivers under those laws, to provide greater transparency regarding exceptions to domestic sourcing requirements, and for other purposes.	Introduced by Sen. Chris Murphy (D-CT) – May 20, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3473 To establish an expansive infrastructure program to create local jobs and raise the quality of life in every community, to launch middle class career pathways in infrastructure, and to invest in high-quality American jobs, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Karen Bass (D-CA) – May 25, 2021	
S.1827 Build Local, Hire Local Act	To establish an expansive infrastructure program to create local jobs and raise the quality of life in every community, to launch middle class career pathways in infrastructure, and to invest in high-quality American jobs, and for other purposes.	Introduced by Sen. Kirsten Gillibrand (D-NY) – May 25, 2021	
S.1907 A bill to require the Administrator of the Environmental Protection Agency to develop effluent limitations guidelines and standards and water quality criteria for PFAS under the Federal Water Pollution Control Act, to provide Federal grants to publicly owned treatment works to implement such guidelines and standards, and for other purposes.	*Text is not yet available.*	Introduced by Sen. Kirsten Gillibrand (D-NY) – May 27, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
S.1855 Wildfire Emergency Act of 2021	To direct the Secretary of Agriculture to select and implement landscape-scale forest restoration projects, to assist communities in increasing their resilience to wildfire, and for other purposes.	Introduced by Sen. Dianne Feinstein (D-CA) – May 26, 2021	
H.R.3622 To require the Administrator of the Environmental Protection Agency to develop effluent limitations guidelines and standards and water quality criteria for PFAS under the Federal Water Pollution Control Act, to provide Federal grants to publicly owned treatment works to implement such guidelines and standards, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Chris Pappas (D-NH) – May 28, 2021	
H.R.3684 INVEST in America Act	To authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes.	Introduced by Rep. Peter DeFazio (D-OR) – June 4, 2021 Passed the Committee on Transportation and Infrastructure – June 10, 2021	

LEGISLATION	SUMMARY	STATUS	POSITION
H.R.3691 – To amend the Federal Water Pollution Control Act to establish a smart wastewater infrastructure technology grant program, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Carolyn Bourdeux (D-GA) – June 4, 2021	
H.R.3722 To establish the 21st Century American Infrastructure Bank, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Sean Maloney (D-NY) – June 4, 2021	
H.R.3701 To establish water infrastructure grant programs.	*Text is not yet available.*	Introduced by Rep. Antonio Delgado (D-NY) – June 4, 2021	
H.R.3751 To amend the Federal Water Pollution Control Act to establish a program to make grants to eligible entities to increase the resilience of publicly owned treatment works to natural disasters, and for other purposes.	*Text is not yet available.*	Introduced by Rep. Salud Carbajal (D-CA) – June 8, 2021	

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

To:	Las Virgenes - Triunfo JPA
From:	Syrus Devers, Best Best & Krieger
Date:	July 6th, 2021
Re:	State Legislative Report

Last month's report began with, "2021 is on track to be a good year for the water industry as far as legislation goes." BB&K staff will not make that mistake again. Shortly after the June JPA meeting new opposition developed to SB 323 (Caballero) from the California Realtors Association, one of the largest political contributors in California. This is the bill to protect water agencies when they adopt new rates by imposing a 120-day statute of limitations on lawsuits to challenge the rates. After several rushed meetings and a lot of work by ACWA members (including BB&K staff) and the Irvine Ranch Water District (the sponsor), the issues were worked out and the bill is back on track to receive bipartisan support.

The main news this month is the budget. After months of work supporting the Senate's drought relief package by the water industry, what was agreed to so far in the budget was a disappointment to some. To recap, the Senate came out early with a robust proposal to use over $2B of the budget surplus to prepare California for the coming drought. Part of the proposal was $300M for water recycling and groundwater projects. The first minor letdown came when the Legislature decided to punt on the details and just put a dollar amount in the Budget of $3.475B with no details. More unfortunate, once the Legislature finally got to some of the details in SB 129 (Skinner: the "Jr. Budget Bill"[1]), the promised funds for recycling were not included. A paltry $85M was divided between recycling and groundwater cleanup, and of that $50M goes to San Diego. But it is not over yet. A different section of the bill created a placeholder of $730M that can be used for recycling, but it requires further legislation to appropriate the funds. This will be the focus of the next round of advocacy. In addition, according to WateReuse, Assembly leadership supports another round of water funding later in the process.

The brevity of this report belies the amount of work involved in getting to this point, which is typical of the budget process. BB&K staff will provide additional comments during the presentation to the JPA.

[1] BB&K staff can explain what that means if any Board members are interested

Las Virgenes-Triunfo JPA

Bill Matrix

Prepared by BB&K, June 29th, 2021

A. Priority Support/Oppose

Measure	Author	Topic	Status	Location	Brief Summary	Position
AB 59	Gabriel D	Mitigation Fee Act: fees: notice and timelines.	4/30/2021-Failed Deadline pursuant to Rule 61(a)(2). (Last location was L. GOV. on 1/11/2021)(May be acted upon Jan 2022)	4/30/2021-A. 2 YEAR	Current law authorizes any party to protest the imposition of a fee, dedication, reservation, or other exactions imposed on a development project within 90 or 120 days of the imposition of the fee, as applicable, and specifies procedures for those protests and actions. The Mitigation Fee Act imposes the same requirements on a local agency for a new or increased fee for public facilities. Current law, for specified fees, requires any judicial action or proceeding to attack, review, set aside, void, or annul an ordinance, resolution, or motion adopting a new fee or service charge or modifying an existing fee or service charge to be commenced within 120 days of the effective date of the ordinance, resolution, or motion. Current law also provides that, if an ordinance, resolution, or motion provides for an automatic adjustment in a fee or service charge and the adjustment results in an increase in the fee or service charge, that any action to attack, review, set aside, void, or annul the increase to be commenced within 120 days of the increase. This bill would increase, for fees and service charges and for fees for specified public facilities, the time for mailing the notice of the time and place of the meeting to at least 45 days before the meeting.	Opposition
AB 377	Rivas, Robert D	Water quality: impaired waters.	5/25/2021-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/19/2021)(May be acted upon Jan 2022)	5/25/2021-A. 2 YEAR	Would require, by January 1, 2023, the State Water Resources Control Board and regional boards to prioritize enforcement of all water quality standard violations that are causing or contributing to an exceedance of a water quality standard in a surface water of the state. The bill would require the state board and regional boards, by January 1, 2025, to evaluate impaired state surface waters and report to the Legislature a plan to bring all water segments into attainment by January 1, 2050. The bill would require the state board and regional boards to update the report with a progress summary to the Legislature every 5 years. The bill would create the Waterway Recovery Account in the Waste Discharge Permit Fund and would make moneys in the Waterway Recovery Account available for the state board to	Opposition

					expend, upon appropriation by the Legislature, to bring impaired water segments into attainment in accordance with the plan.	
AB 442	Mayes I	Surface Mining and Reclamation Act of 1975: exemption: Metropolitan Water District of Southern California: single master reclamation plan.	6/9/2021-Referred to Com. on N.R. & W.	6/9/2021-S. N.R. & W.	The Surface Mining and Reclamation Act of 1975 exempts certain activities from the provisions of the act, including, among others, emergency excavations or grading conducted by the Department of Water Resources or the Central Valley Flood Protection Board for the specified purposes; surface mining operations conducted on lands owned or leased, or upon which easements or rights-of-way have been obtained, by the Department of Water Resources for the purpose of the State Water Resources Development System or flood control; and surface mining operations on lands owned or leased, or upon which easements or rights-of-way have been obtained, by the Central Valley Flood Protection Board for the purpose of flood control. This bill would additionally exempt from the provisions of the act emergency excavations or grading conducted by the Metropolitan Water District of Southern California (MWD) for its own operations and infrastructure for specified purposes.	Support
AB 818	Bloom D	Solid waste: premoistened nonwoven disposable wipes.	6/14/2021-From committee: Do pass and re-refer to Com. on JUD. with recommendation: To Consent Calendar. (Ayes 7. Noes 0.) (June 14). Re-referred to Com. on JUD.	6/14/2021-S. JUD.	Would require, except as provided, certain premoistened nonwoven disposable wipes manufactured on or after July 1, 2022, to be labeled clearly and conspicuously with the phrase “Do Not Flush” and a related symbol, as specified. The bill would prohibit a covered entity, as defined, from making a representation about the flushable attributes, benefits, performance, or efficacy of those premoistened nonwoven disposable wipes, as provided. The bill would establish enforcement provisions, including authorizing a civil penalty not to exceed $2,500 per day, up to a maximum of $100,000 per violation, to be imposed on a covered entity who violates those provisions.	Support
AB 1434	Friedman D	Urban water use objectives: indoor residential water use.	5/25/2021-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. on 4/27/2021)(May be acted upon Jan 2022)	5/25/2021-A. 2 YEAR	Would establish, beginning January 1, 2023, until January 1, 2025, the standard for indoor residential water use as 48 gallons per capita daily. The bill would establish, beginning January 1, 2025, the standard as 44 gallons per capita daily and, beginning January 1, 2030, 40 gallons per capita daily.	Opposition
AB 1500	Garcia, Eduardo D	Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, and	5/20/2021-Joint Rule 62(a), file notice suspended. From committee: Do pass and re-refer to Com. on RLS. (Ayes 12. Noes 3.) (May	5/20/2021-A. RLS.	Would enact the Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, and Workforce Development Bond Act of 2022, which, if approved by the voters, would authorize the issuance of bonds in the amount of $7,080,000,000 pursuant to the State General Obligation Bond Law to	Support if amended

		Workforce Development Bond Act of 2022.	20). Re-referred to Com. on RLS.		finance projects for safe drinking water, wildfire prevention, drought preparation, flood protection, extreme heat mitigation, and workforce development programs.	
SB 45	Portantino D	Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2022.	6/1/2021-Ordered to inactive file on request of Senator Portantino.	6/1/2021-S. INACTIVE FILE	Would enact the Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2022, which, if approved by the voters, would authorize the issuance of bonds in the amount of $5,595,000,000 pursuant to the State General Obligation Bond Law to finance projects for a wildfire prevention, safe drinking water, drought preparation, and flood protection program.	Support if amended
SB 222	Dodd D	Water Rate Assistance Program.	6/17/2021-From committee with author's amendments. Read second time and amended. Re-referred to Com. on U. & E.	6/16/2021-A. U. & E.	This bill would establish the Water Rate Assistance Fund in the State Treasury to help provide water affordability assistance, for both drinking water and wastewater services, to low-income ratepayers and ratepayers experiencing economic hardship in California. The bill would require the Department of Community Services and Development to develop and administer the Water Rate Assistance Program established by the bill.	Out for Analysis
SB 223	Dodd D	Discontinuation of residential water service.	5/25/2021-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/17/2021)(May be acted upon Jan 2022)	5/25/2021-S. 2 YEAR	Current law requires an urban and community water system to have a written policy on discontinuation of residential service for nonpayment, including, among other things, specified options for addressing the nonpayment. Current law requires an urban and community water system to provide notice of that policy to customers, as provided. This bill would apply those provisions, on and after July 1, 2022, to a very small community water system, defined as a public water system that supplies water to 200 or fewer service connections used by year long residents.	Out for Analysis
SB 230	Portantino D	State Water Resources Control Board: Constituents of Emerging Concern Program.	5/25/2021-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. on 3/15/2021)(May be acted upon Jan 2022)	5/25/2021-S. 2 YEAR	Would require the State Water Resources Control Board to establish, maintain, and direct an ongoing, dedicated program called the Constituents of Emerging Concern Program to assess the state of information and recommend areas for further study on, among other things, the occurrence of constituents of emerging concern (CEC) in drinking water sources and treated drinking water. The bill would require the state board to convene, by an unspecified date, the Science Advisory Panel to review and provide recommendations to the state board on CEC for further action, among other duties. The bill would require the state board to provide an annual report to the Legislature on the ongoing work conducted by the panel.	Support
SB 273	Hertzberg D	Water quality: municipal wastewater agencies.	6/21/2021-From committee with author's amendments.	6/9/2021-A. E.S. & T.M.	Would authorize a municipal wastewater agency, as defined, to enter into agreements with entities responsible for stormwater management for the purpose of managing	Support

			Read second time and amended. Re-referred to Com. on E.S. & T.M.		stormwater and dry weather runoff, as defined, to acquire, construct, expand, operate, maintain, and provide facilities for specified purposes relating to managing stormwater and dry weather runoff, and to levy taxes, fees, and charges consistent with the municipal wastewater agency's existing authority in order to fund projects undertaken pursuant to the bill. The bill would require the exercise of any new authority granted under the bill to comply with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. The bill would require a municipal wastewater agency that enters into or amends one of these agreements after January 1, 2022, to file a copy of the agreement or amendment with the local agency formation commission in each county where any part of the municipal wastewater agency's territory is located, but would exempt those agreements and amendments from local agency formation commission approval except as required by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.	
SB 323	Caballero D	Local government: water or sewer service: legal actions.	6/24/2021-Read second time. Ordered to third reading. Re-referred to Com. on APPR. pursuant to Joint Rule 10.5.	6/24/2021-A. APPR.	Current law prohibits a local agency from imposing fees for specified purposes, including fees for water or sewer connections, as defined, that exceed the estimated reasonable cost of providing the service for which the fee is charged, unless voter approval is obtained. Existing law provides that a local agency levying a new water or sewer connection fee or increasing a fee must do so by ordinance or resolution. Current law requires, for specified fees, including water or sewer connection fees, any judicial action or proceeding to attack, review, set aside, void, or annul an ordinance, resolution, or motion adopting a new fee or service charge or modifying an existing fee or service charge to be commenced within 120 days of the effective date of the ordinance, resolution, or motion according to specified procedures for validation proceedings. This bill would require any judicial action or proceeding to attack, review, set aside, void, validate, or annul an ordinance, resolution, or motion adopting, modifying, or amending water or sewer service fees or charges adopted after January 1, 2022, to be commenced within 120 days of the date of final passage, adoption, or approval of the ordinance, resolution, or motion, except as provided.	Support
SB 403	Gonzalez D	Drinking water: consolidation.	6/16/2021-From committee: Do pass and re-refer to Com. on L. GOV. (Ayes 6.	6/16/2021-A. L. GOV.	The California Safe Drinking Water Act authorizes the State Water Resources Control Board to order consolidation with a receiving water system where a public water system or a state small water system, serving	Out for Analysis

			Noes 3.) (June 16). Re-referred to Com. on L. GOV.		a disadvantaged community, consistently fails to provide an adequate supply of safe drinking water or where a disadvantaged community is substantially reliant on domestic wells that consistently fail to provide an adequate supply of safe drinking water. This bill would authorize the state board to also order consolidation where a water system serving a disadvantaged community is an at-risk water system, as defined, or where a disadvantaged community is substantially reliant on at-risk domestic wells, as defined.	

B. Watch

Measure	Author	Topic	Status	Location	Brief Summary	Position
AB 100	Holden D	Drinking water: endpoint devices: lead content.	6/24/2021-From committee chair, with author's amendments: Amend, and re-refer to committee. Read second time, amended, and re-referred to Com. on E.Q.	6/9/2021-S. E.Q.	The California Safe Drinking Water Act requires the State Water Resources Control Board to administer provisions relating to the regulation of drinking water to protect public health. Current law prohibits, with certain exceptions, the use of any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead free in the installation or repair of any public water system or any plumbing in a facility providing water for human consumption. Current law defines "lead free" for purposes of conveying or dispensing water for human consumption to mean not more than 0.2% lead when used with respect to solder and flux and not more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes and pipe fittings, plumbing fittings, and fixtures.This bill would, commencing January 1, 2023, prohibit a person from manufacturing, and offering for sale in the state, an endpoint device, as defined, that does not meet a certain lead leaching standard. The bill would, commencing July 1, 2023, prohibit a person from introducing into commerce or offering for sale in the state an endpoint device that does not meet that lead leaching standard.	Watch
AB 339	Lee D	Local government: open and public meetings.	6/25/2021-From committee chair, with author's amendments: Amend, and re-refer to committee. Read second time, amended, and re-referred to Com. on GOV. & F.	6/16/2021-S. GOV. & F.	The Ralph M. Brown Act requires, with specified exceptions, that all meetings of a legislative body of a local agency, as those terms are defined, be open and public and that all persons be permitted to attend and participate. Under existing law, a member of the legislative body who attends a meeting where action is taken in violation of this provision, with the intent to deprive the public of information that the member knows the public is entitled to, is guilty of a crime. This bill would require local agencies to conduct meetings subject to the act consistent with applicable state and federal civil rights laws, as specified.	
AB 361	Rivas, Robert D	Open meetings: local agencies:	5/27/2021-Referred to Coms. on	5/27/2021-S. GOV. & F.	Would authorize a local agency to use teleconferencing without complying with the	Watch

		teleconferences.	GOV. & F. and JUD.		teleconferencing requirements imposed by the Ralph M. Brown Act when a legislative body of a local agency holds a meeting for the purpose of declaring or ratifying a local emergency, during a declared state of emergency or local emergency, as those terms are defined, when state or local health officials have imposed or recommended measures to promote social distancing, and during a declared local emergency provided the legislative body determines, by majority vote, that meeting in person would present imminent risks to the health or safety of attendees.	
AB 703	Rubio, Blanca D	Open meetings: local agencies: teleconferences.	5/7/2021-Failed Deadline pursuant to Rule 61(a)(3). (Last location was L. GOV. on 2/25/2021)(May be acted upon Jan 2021)	5/7/2021-A. 2 YEAR	Current law, by Executive Order N-29-20, suspends the Ralph M. Brown Act's requirements for teleconferencing during the COVID-19 pandemic, provided that notice requirements are met, the ability of the public to observe and comment is preserved, as specified, and that a local agency permitting teleconferencing have a procedure for receiving and swiftly resolving requests for reasonable accommodation for individuals with disabilities, as specified. This bill would remove the notice requirements particular to teleconferencing and would revise the requirements of the act to allow for teleconferencing subject to existing provisions regarding the posting of notice of an agenda, provided that the public is allowed to observe the meeting and address the legislative body directly both in person and remotely via a call-in option or internet-based service option, and that a quorum of members participate in person from a singular physical location clearly identified on the agenda that is open to the public and situated within the jurisdiction.	Watch
SB 55	Stern D	Very high fire hazard severity zone: state responsibility area: development prohibition: supplemental height and density bonuses.	4/30/2021-Failed Deadline pursuant to Rule 61(a)(2). (Last location was GOV. & F. on 3/3/2021)(May be acted upon Jan 2022)	4/30/2021-S. 2 YEAR	Would, in furtherance of specified state housing production, sustainability communities strategies, greenhouse gas reduction, and wildfire mitigation goals, prohibit the creation or approval of a new development, as defined, in a very high fire hazard severity zone or a state responsibility area unless there is substantial evidence that the local agency has adopted a comprehensive, necessary, and appropriate wildfire prevention and community hardening strategy to mitigate significant risks of loss, injury, or death, as specified. By imposing new duties on local governments with respect to the approval of new developments in very high fire hazard severity zones and state responsibility areas, this bill would impose a state-mandated local program.	Watch
SB 274	Wieckowski D	Local government	6/24/2021-From committee: Do	6/24/2021-A. APPR.	The Ralph M. Brown Act requires meetings of the legislative body of a local agency to	Watch

		meetings: agenda and documents.	pass and re-refer to Com. on APPR. (Ayes 8. Noes 0.) (June 23). Re-referred to Com. on APPR.		be open and public and also requires regular and special meetings of the legislative body to be held within the boundaries of the territory over which the local agency exercises jurisdiction, with specified exceptions. Current law authorizes a person to request that a copy of an agenda, or a copy of all the documents constituting the agenda packet, of any meeting of a legislative body be mailed to that person. This bill would require a local agency with an internet website, or its designee, to email a copy of, or website link to, the agenda or a copy of all the documents constituting the agenda packet if the person requests that the items be delivered by email. If a local agency determines it to be technologically infeasible to send a copy of the documents or a link to a website that contains the documents by email or by other electronic means, the bill would require the legislative body or its designee to send by mail a copy of the agenda or a website link to the agenda and to mail a copy of all other documents constituting the agenda packet, as specified.	
SB 351	Caballero D	Water Innovation Act of 2021.	5/25/2021-Failed Deadline pursuant to Rule 61(a)(5). (Last location was APPR. SUSPENSE FILE on 5/10/2021)(May be acted upon Jan 2022)	5/25/2021-S. 2 YEAR	Current law establishes the State Water Resources Control Board for the purposes of providing for the orderly and efficient administration of the water resources of the state. This bill, the Water Innovation Act of 2021, would create the Office of Water Innovation at the California Water Commission for the furtherance of new technologies and other innovative approaches in the water sector. The bill would require the office, by December 31, 2023, to take specified measures to advance innovation in the water sector. The bill would make findings and declarations regarding the need for water innovation.	Watch
SB 552	Hertzberg D	Drought planning: small water suppliers: nontransient noncommunity water systems.	6/21/2021-Read second time and amended. Re-referred to Com. on L. GOV.	6/17/2021-A. L. GOV.	Would require small water suppliers, as defined, and nontransient noncommunity water systems that are schools, no later than December 31, 2022, to develop and maintain an abridged Water Shortage Contingency Plan that includes specified drought-planning elements. The bill would require these water systems to report annually specified water supply condition information to the state board through the state board's Electronic Annual Reporting System or other reporting tool, as directed by the state board, and to include water system risk and water shortage information in the water systems' consumer confidence reports, as provided.	
SB 559	Hurtado D	Department of Water Resources: water conveyance systems: Canal	6/14/2021-From committee with author's amendments. Read second time	6/3/2021-A. W.,P. & W.	Would establish the Canal Conveyance Capacity Restoration Fund in the State Treasury to be administered by the Department of Water Resources. The bill would require all moneys deposited in the	Watch

		Conveyance Capacity Restoration Fund.	and amended. Re-referred to Com. on W.,P., & W.		fund to be expended, upon appropriation by the Legislature, in support of subsidence repair costs, including environmental planning, permitting, design, and construction and necessary road and bridge upgrades required to accommodate capacity improvements. The bill would require the department to expend from the fund, upon appropriation by the Legislature, specified monetary amounts to restore the capacity of 4 specified water conveyance systems, as prescribed, with 2 of those 4 expenditures being in the form of a grant to the Friant Water Authority and to the San Luis and Delta-Mendota Water Authority. The bill would make operation of these provisions contingent on specified conditions being met. The bill would make these provisions inoperative on July 1, 2030, and would repeal the provisions as of January 1, 2031.	
Total Measures: 22 **Total Tracking Forms: 22**						

ITEM 5B

INFORMATION ONLY

July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: General Manager

Subject : Pure Water Project Las Virgenes-Triunfo: Update

SUMMARY:

On August 1, 2016, the JPA Board selected Scenario No. 4, use of Las Virgenes Reservoir for indirect potable reuse, as the preferred alternative for the Recycled Water Seasonal Storage Basis of Design Report. The selected alternative was subsequently renamed the *Pure Water Project Las Virgenes-Triunfo*. Staff was also directed to report back to the Board on the next steps for implementation of the project.

Staff released a request for proposals (RFP) for Owner's Advisor/Program Manager services for the Pure Water Project Las Virgenes-Triunfo on May 8, 2020. The selection of an Owner's Advisor/Program Manager to support the effort was an important next step to begin implementation of the Pure Water Program. Utilization of an Owner's Advisor/Program Manager is consistent with the approach taken by other public agencies pursuing potable reuse projects of similar scope and complexity. Among the critical elements of the proposed scope are completion of the preliminary design and environmental documentation in support of the Pure Water Program. The scope of work under the contract includes program management, preparation of preliminary design and/or alternative delivery bridging documents, preparation of all environmental studies and documentation for compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), preparation of studies and documents necessary to secure all required regulatory permits, and support of efforts to secure grant funding or low-interest loans.

On September 8, 2020, the JPA Board accepted a proposal from Jacobs Engineering Group, Inc., and authorized the Administering Agent/General Manager to execute a professional services agreement for Owner's Advisor/Program Manager services for the Pure Water Project Las Virgenes-Triunfo. This report serves to provide a summary of the progress to-date on the work performed by Jacobs Engineering Group, Inc., including major monthly milestones, key program accomplishments, key considerations and a look-ahead of upcoming activities.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

Prepared by: Eric Schlageter, Principal Engineer

ATTACHMENTS:

Monthly Update on Pure Water Project Las Virgenes-Triunfo

To: Las Virgenes-Triunfo JPA Board of Directors

From: Jennifer Phillips, Jacobs Engineering Group Inc.

Date: June 25, 2021

Re: Pure Water Project JPA Board Monthly Update

Pure Water Project Overview

The Pure Water Project (PWP) is an opportunity to proactively address three major challenges facing the Las Virgenes-Triunfo JPA:

- comply with more stringent regulatory requirements for discharging to Malibu Creek,
- balance seasonal variation of recycled water demand, and
- create a valuable resource to supplement the region's water supplies, enabled by California's cutting-edge reservoir water augmentation program.

By 2030, the innovative plan is to have an operational advanced water purification facility (AWPF) to treat tertiary effluent from the Tapia Water Reclamation Facility for indirect potable reuse, and convey the product water to the Las Virgenes Reservoir, where it will be blended with Metropolitan Water District (MWD) supply. The current phase (Phase 1) of the project provides the programmatic process to manage such a large, complicated project, focusing on the technical, regulatory, environmental, financial, and procurement strategies to provide a foundation with more cost and project delivery clarity. Each month the Project team will provide a status report to communicate major milestones, accomplishments for the previous month, planned work for the next month, and potential challenges.

Monthly Major Milestones

- Prepared a draft and final Program Implementation Plan (PIP) that summarizes the roadmap to implement the technical, regulatory, environmental, financial, procurement, and public outreach strategies of the Pure Water Project.
- Held a Water Augmentation workshop on June 14th to review preliminary ranking of potential sources.
- Held a Direct Potable Reuse (DPR) presentation on June 14th to discuss draft regulations.
- Presented the Program Implementation Plan to the JPA Board during an informational presentation at the June 16th Special Session Workshop.

Key Program Accomplishments Last Month

Following is a summary of key June 2021 program accomplishments. Many PWP team meetings occurred in June to plan, coordinate and implement the following activities:

June Accomplishments:

Programmatic:

- **Finalized the Program Implementation Plan.** The PIP sets the PWP's delivery execution roadmap that considers and implements Readiness Assessment Recommendations, project delivery approaches, regulatory permitting strategy, environmental compliance strategy, financial cash flow needs scenarios, baseline cost-loaded schedule, and proposed public outreach communication plan. This provides a clear path forward for PWP delivery and management over the next 16 months. This is a key milestone deliverable for the PWP and was finalized after the Special Session for approval at the JPA Board Meeting on July 6th.
- **Cost-Loaded Schedule.** The Jacobs Team developed a preliminary schedule aligned with an independent Class 4 cost estimate for the PWP to include capital costs, soft costs, and O&M costs, considering the recommendations from the Readiness Assessment.

Technical:

- Participated in LVMWD-Triunfo JPA Pure Water Demo: Water Quality Module Workshop on May 26th and planned next Module Workshop end of June to review **Demonstration Facility results**. The existing Demonstration Facility will be leveraged to better define and supply data for specific treatment needs that supports specific real-time data and information required by regulators to meet PWP goals, permitting requirements and demonstrate compliance. Reviewed focused results and additional sampling on June 23rd.
- Presented the **Water Augmentation** evaluation on June 14th to identify recommended sources to supplement Tapia WRF effluent.
- Prepared a draft technical memorandum of the "*Tapia Water Reclamation Facility and new AWPF Flow Management"* for overall operating considerations. Workshop will be scheduled in July to review the results and discuss operating scenarios.
- Provided additional insights into the assumptions and process in developing the PWP's **cost estimates**, including considering reliability and process modifications, upgrades or new considerations to meet regulatory requirements and operational goals.
- Presented an overview of the draft **direct potable reuse** regulations to LVMWD staff at a workshop on June 14th.
- Finalized the technical strategy and summarized the technical considerations that were identified in the Readiness Assessment in the PIP.

Regulatory/Environmental:

- Finalized the regulatory strategy and the programmatic CEQA environmental strategy that are included in the PIP.

Financial:

- Presented an updated independent project cost estimate based on the Readiness Assessment, along with the baseline estimate from the Title XVI Plan, to the JPA Board on June 16th. To increase understanding and clarity around these updated costs, the JPA Board requested additional details and clarifications during the July 6th board meeting.

Public Outreach:

- Conducted biweekly calls to update the stakeholder list and provide clarity on CEQA focused support efforts.
- Finalized the Public Outreach communication strategy that is included in the PIP.

Main Considerations

- **Reservoir Operation** – assessing approaches to mitigate algal blooms to allow the reservoir to operate closer to anticipated flows.
- **Water Augmentation and Integration Plan** – finding and securing viable supplemental water sources, and establishing MOUs/Agreements with regional parties and partners over the life of the project.
- **Minimizing disinfection byproducts** – developing cost effective treatment strategies to mitigate formation and achieve regulatory compliance using the Demonstration Plant over the next year.
- **Conveyance Coordination** – initiating early discussions with cities and agencies in the alignment corridors to understand desire to work together to minimize schedule impacts. Looking to propose Memorandums of Understanding (MOUs), JPAs, or other commitment-level approaches as conveyance alignment is finalized and developed over the next year.
- **Brine Management** – establishing MOUs/Agreements with regional parties and partners for brine disposal to the Calleguas Regional Salinity Management Pipeline over the next 16 months.
- **Review of budgetary costs for the Pure Water Project** – addressing total costs to deliver the PWP as envisioned by the JPA in today's market, supply chain, regulatory requirements, escalation considerations, and optimized project delivery for conveyance alignments and treatment approaches.

Look Ahead

The Project Team will clarify the independent cost estimate of the PWP at the JPA Board Meeting on July 6th. These cost estimates will be updated and validated over the next 16 months (through technical evaluation, performance results of the Demonstration Facility, and discussions with the regulatory agencies) and will be presented at the completion of this phase of work in October 2022 for approval by the JPA Board to establish the PWP budget.

Upcoming Project Team workshops and meetings planned for July and August:

a. Site Visit for Program Team to view the two potential sites (Agoura Road and Las Virgenes Reservoir sites), Tapia Water Reclamation Facility, Reservoir-2, Las Virgenes Reservoir, and Westlake Filtration Plant. This site visit will begin the AWPF siting evaluation, which includes developing architectural themes, evaluating power availability at each site, specific geotechnical considerations, and preliminary hydraulic evaluations.

b. Workshop on the “Tapia Water Reclamation Facility and New AWPF Flow Management” task that identifies emergency diversion scenarios and operating approaches.

c. Workshop on Water Augmentation Nonmonetary Weighting Factors.

d. Kick-off Meetings for Technical Assessments.

e. Preparation for Meetings with the Division of Drinking water (DDW) and Regional Water Quality Control Board (RWQCB).

f. Preparation to coordinate environmental, technical, and public outreach efforts for CEQA Notice of Preparation (scheduled for August).

Upcoming JPA Board Meetings:

a. July 6, 2021 – Presentation of Planning Level Cost Estimate

ITEM 5C

INFORMATION ONLY

July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: Engineering and External Affairs

Subject : Update on Proposed Landscape Transformation Initiative

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SUMMARY:

In order to comply with emerging state water conservation regulations, LVMWD develops a Comprehensive Water Conservation Plan every two years. The plan provides a framework for the District's conservation activities that focus on six different program areas: a Smart Irrigation Controller Program, one-on-one consultations with customers to enhance water-use efficiency, rain barrel giveaways, water use tracking software, education and outreach, and a Landscape Transformation Initiative. The current version of the Comprehensive Water Conservation Plan can be viewed at www.lvmwd.com/conservation.

The Landscape Transformation Initiative is a collection of activities intended to assist homeowners with transitioning their landscape from high water use landscaping to more water efficient landscaping options. Central to this effort is the development of regional partnerships to provide consistent messaging on water conservation and landscape transformation in the Conejo/Las Virgenes Valleys. The work includes elevating the profile of native and climate-appropriate plants for use in efficient landscaping. Regional programs will also allow for broader outreach and education opportunities and sharing of regional resources. The effort includes coordinating with local nurseries and implementation of the Calscape Nursery Program developed by a collection of agencies in Orange County and the Metropolitan Water District of Southern California. Also included in the initiative is the development of a customer assistance program and projects intended to elevate the profile of native plants so that they are used more broadly in the community.

As part of these efforts, staff has been working with TreePeople to develop an approach to regional coordination and construction of a greenhouse facility to propagate plants for use in the District's service area and potentially more broadly within the JPA's joint service area (LVMWD and TWSD). The work could also include opportunities for environmental restoration projects and implementation of a native plant kit program as part of pre-designed gardens available to JPA customers.

Staff will provide a presentation to further update the JPA Board on the status of the Landscape Transformation Initiative, including interactions that staff has had with local nurseries to gauge their level of interest, support for the program and the possible siting of the greenhouse facility at the Rancho Las Virgenes Composting Facility.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

Prepared by: Dave Roberts, Resource Conservation Manager

July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Proposed JPA Operating and Capital Improvements Budget for Fiscal Year 2021-22: Adoption

SUMMARY:

The total proposed JPA budget is $29.5 million for Fiscal Year FY 2021-22, which is the second year of the Two-Year Budget Plan. The budget for operating expenses in Fiscal Year 2021-22 is $18.5 million, which is partially offset by $2.6 million in revenue for a net operating expense of $15.9 million. The capital improvements budget includes new appropriations of $11.0 million. The estimated actuals in the budget document reflect the Fiscal Year 2020-21 trends discussed during the presentation of the Third Quarter Financial Report, including the impacts of COVID-19 on overtime expenses and staffing, higher energy costs due to a 12% increase by Southern California Edison and the operation of the Pure Water Demonstration Plant. The proposed Fiscal Year 2021-22 Budget reflects an anticipated return to the JPA's pre-COVID operating plan.

RECOMMENDATION(S):

Adopt the proposed JPA Operating and Capital Improvements Budget for Fiscal Year 2021-22.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

The Budget Process:

In June 2020, the JPA Board adopted the Fiscal Year 2020-21 Budget and approved the Fiscal Years 2020-22 Budget Plan. The budget process for Fiscal Year 2021-22 began in February 2021. Staff identified significant changes between the approved Fiscal Years 2020-22 Budget Plan and the proposed Fiscal Year 2021-22 Budget. On June 16, 2021, the JPA Board reviewed a summary of the significant changes to the proposed Fiscal Year 2021-22 Budget

for operating revenues and expenses, and capital improvement projects.

JPA Operating Budget:

The total budget for operating expenses in Fiscal Year 2021-22 is $18.5 million. The net operating expense is $15.8 million based on estimated operating revenue of $2.6 million. Operating expenses increased from the budget plan by $572,000, which includes $300,000 for additional lab testing and sampling at the Pure Water Demonstration Facility, $35,000 for building maintenance costs at the Tapia Water Reclamation Facility and $237,000 for the addition of an Engineering Program Manager for the Pure Water Project Las Virgenes-Triunfo. It is estimated that the Engineering Program Manager will charge 80% of his or her time to the JPA.

Capital Improvements Budget:

The JPA capital improvements budget includes carryover amounts of $15.3 million and new appropriations of $11.0 million. Staff deferred a number of projects to later fiscal years and reduced the Fiscal Year 2021-22 budget for the Pure Water Project Las Virgenes-Triunfo by $2 million to reflect the anticipated spending. These actions resulted in total capital improvement project reductions of $2.9 million as reflected in the chart on page 2.

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Proposed JPA Operating and Capital Improvements Budget for Fiscal Year 2021-22

Las Virgenes – Triunfo Joint Powers Authority

FY 2021-22

Budget Addendum

Las Virgenes – Triunfo
Joint Powers Authority

Fiscal Year 2021-22

Triunfo Water and Sanitation District
James Wall
Raymond Tjulander - Chair
Jane Nye
Janna Orkney
Leon Shapiro

Mark Norris – General Manager

Las Virgenes Municipal Water District
Jay Lewitt - Vice Chair
Leonard Polan
Charles Caspary
Lynda Lo-Hill
Lee Renger

David Pedersen – Administering Agent/General Manager

Administering Agency:
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302-1994
818.251.2100
www.lvmwd.com

JPA 2021-22 BUDGET OVERVIEW

In June 2020, the JPA Board adopted the Fiscal Year (FY) 2020-21 budget and approved the FY 2021-22 Budget Plan. The purpose of preparing a two-year budget is to improve long-range and strategic planning, financial management, and program monitoring over a multi-year period. The Fiscal Year 2021-22 budget addendum provides estimated actuals for fiscal year 2020-21 and reflects any updates from the approved fiscal year 2021-22 approved budget plan.

The Fiscal Year 2021-22 JPA budget for operating expenses is $18.5 million with net operating expense of $15.9 million. Operating expenses increased from the budget plan by $572.6 thousand for the addition of a Pure Water Program Manager, 80% of salary to be charged to JPA; additional lab testing and building maintenance costs at the Pure Water Demonstration and Tapia facilities. Increases are detailed in table below:

Summary of Operational Changes
Fiscal Year 2021-22

Pure Water Demonstration Program Manager	$237,600
Pure Water Demonstration lab testing	250,000
Pure Water Demonstration building maintenance	50,000
Tapia Facility building maintenance	35,000
	$572,600

The JPA Capital Budget for new appropriations is $11 million. This represents a reduction of $2.9 million in Fiscal Year 2021-22. The JPA expects to receive an offset of $3.7 million which includes grant and insurance proceeds. Several projects were deferred to later budget years and $2 million was reduced in the Pure Water Project. Significant Changes to the Capital Improvements Project Budget is detailed in the table below:

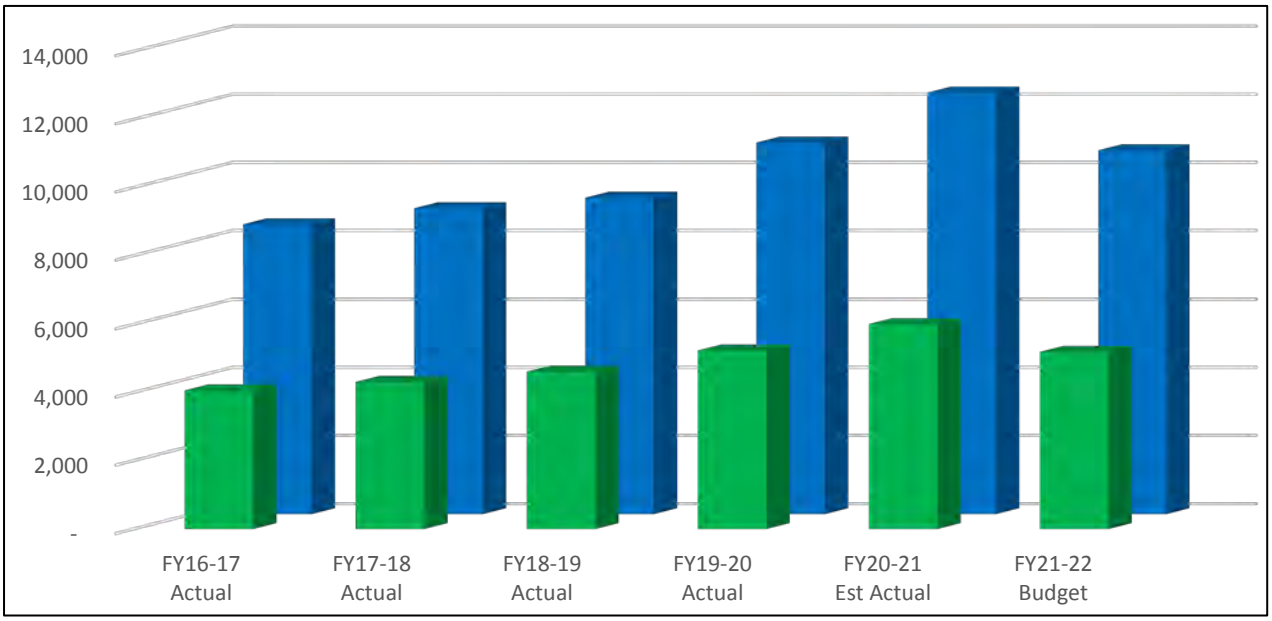
Summary of Significant Changes
Capital Improvement Projects
Fiscal Year 2021-22

	Budget Plan	Proposed	Adjustments
10635-Pure Water Project	8,249,514	6,249,514	(2,000,000)
10667-Tapia Headworks White Room	-	13,948	13,948
10668-Rancho Storm Water Diversion	264,402	-	(264,402)
10739-Rancho Generator Study	275,340	206,840	(68,500)
10742-Lift Station Improvements	1,110,000	960,000	(150,000)
10745-003 Discharge Rehabilitation	100,000	-	(100,000)
10749-Tapia Influent Pump Replacement	396,000	-	(396,000)
10754-Rancho Valve in Street Replacement	253,500	-	(253,500)
10767-Rancho Solar and Battery	-	218,500	218,500
10768-Refurbish Centrifuge #1	-	100,000	100,000
	$ 10,648,756	$ 7,748,802	$ (2,899,964)

Combined, the Operating and Capital budgets for Fiscal Year 2021-22 total $29.5 million with Operating representing 41.1% and Capital representing 58.9% of that total.

Las Virgenes - Triunfo
Joint Powers Authority
Operations Summary
(Dollars in Thousands)

	FY16-17 Actual	FY17-18 Actual	FY18-19 Actual	FY19-20 Actual	FY20-21 Est Actual	FY21-22 Budget
JPA Revenues	2,168	2,346	2,115	2,444	2,547	2,608
JPA Expenses	14,755	15,679	15,990	18,559	20,905	18,457
Net Operating Expense	12,587	13,333	13,875	16,115	18,358	15,849
Non-Operating Revenue (Expense)	45	69	-	-	-	-
Net Expense	12,542	13,264	13,875	16,115	18,358	15,849
LVMWD	8,483	8,954	9,263	10,882	12,350	10,657
TSD	4,059	4,310	4,612	5,233	6,008	5,192
	12,542	13,264	13,875	16,115	18,358	15,849



FY 2021-22
Operating Budget

Las Virgenes - Triunfo
Joint Powers Authority
Operations Summary

	FY 16-17 Actual	FY 17-18 Actual	FY 18-19 Actual	FY 19-20 Actual	FY 20-21 Budget	FY 20-21 Est. Actual	FY 21-22 Budget
OPERATING REVENUES							
4235 RW Sales - LVMWD	$1,369,024	$1,603,106	$1,503,857	$1,799,462	$1,838,192	$1,892,315	$1,954,050
4240 RW Sales - TWSD	688,676	678,150	564,870	597,313	540,397	601,243	573,984
4245 MWD Incentive - Local Projects	0	0	0	0	0	0	0
4505 Other Income from Operations	96,197	55,595	45,736	47,367	65,000	48,210	65,000
4510 Compost Sales	14,161	8,882	811	0	15,000	4,890	15,000
TOTAL OPERATING REVENUES	**$2,168,058**	**$2,345,733**	**$2,115,274**	**$2,444,142**	**$2,458,589**	**$2,546,658**	**$2,608,034**
SOURCE OF SUPPLY							
5115 Purchased Water - Potable Suppl	34,124	0	0	30,020	0	0	0
	$34,124	$0	$0	$30,020	$0	$0	$0
OPERATIONS DIVISION EXPENSE							
5400 Labor	1,986,771	1,972,298	2,201,788	2,384,522	2,346,619	2,333,847	2,397,826
5405.1 Electricity	2,101,399	2,270,433	1,895,554	2,027,222	1,737,800	2,243,173	1,915,300
5405.2 Telephone	52,977	20,075	31,719	55,841	33,000	45,264	32,000
5405.3 Natural Gas	21,443	16,244	15,712	16,780	21,400	21,460	21,400
5405.4 Water	7,956	11,493	11,949	19,485	12,500	92,473	12,300
5410 Supplies/Material	72,756	80,218	81,596	91,889	80,950	147,728	80,950
5410.1 Fuel	26,208	20,065	17,805	14,394	30,050	23,461	30,100
5410.5 Ferric Chloride	42,204	37,853	35,505	61,227	60,000	55,024	60,000
5410.6 Defoamer/Deodorant	6,082	7,079	3,981	2,090	4,120	2,787	4,120
5410.7 Polymer	120,588	117,798	149,870	102,998	147,000	69,534	147,000
5410.8 Amendment	142,893	101,919	48,336	28,026	135,000	301,030	135,000
5410.9 Alum	6,864	6,917	11,127	19,543	12,000	21,459	12,000
5410.10 Sodium Hypochlorite	212,248	184,319	297,177	355,165	230,000	357,563	230,000
5410.11 Sodium Bisulfite	77,498	98,766	91,143	108,663	115,936	133,521	115,936
5410.13 Aqua Ammonia	31,675	27,657	30,616	27,685	31,699	28,574	31,699
5415 Outside Services	57,168	58,373	335,694	400,273	555,650	377,158	246,650
5417 Odor Control	143,703	141,619	75,610	41,624	185,000	70,813	185,000
5420 Permits and Fee	193,347	174,028	182,576	205,366	220,100	291,528	220,200
5425 Consulting Services	0	96,515	46,286	37,603	180,000	0	90,000
5430 Capital Outlay	23,994	0	98,630	83,841	155,000	0	155,000
Sub-total	$5,327,774	$5,443,669	$5,662,674	$6,084,237	$6,293,824	$6,616,397	$6,122,481
MAINTENANCE DIVISION EXPENSE							
5500 Labor	1,211,888	1,228,843	1,231,514	1,123,389	1,252,844	1,068,221	1,274,732
5510 Supplies/Material	396,570	380,410	431,805	421,998	294,000	421,105	304,000
5515 Outside Services	437,628	350,741	362,045	397,807	374,450	688,641	537,450
5518 Building Maintenance	88,631	105,941	130,815	204,603	282,177	170,421	368,645
5520 Permits and Fee	580	1,211	0	0	500	2,159	500
5525 Consulting Services	2,252	0	0	0	0	0	0
5530 Capital Outlay	45,774	161,552	26,094	772	65,000	109,661	70,000
Sub-total	$2,183,323	$2,228,698	$2,182,273	$2,148,569	$2,268,971	$2,460,209	$2,555,327
INVENTORY EXPENSES							
5536 Inventory Adjustment	(2,393)	6,134	153,421	0	5,000	0	5,000
Sub-total	($2,393)	$6,134	$153,421	$0	$5,000	$0	$5,000
PUBLIC INFORMATION							
6602 School Education Program	22,535	14,394	2,586	0	20,000	0	20,000
6604 Public Education Program	70,275	45,330	29,554	16,267	20,069	39,869	20,842
6606 Community Group Outreach	1,182	2,911	0	0	8,000	0	8,000
6608 Intergovernmental Coordination	4,146	1,098	411	0	5,000	0	5,000
Sub-total	$98,138	$63,733	$32,551	$16,267	$53,069	$39,869	$53,842
RESOURCE CONSERVATION							
6788 District Sprayfield	251,449	283,186	314,316	269,119	270,000	307,378	275,000
6789 005 Discharge	277	387	10,917	13,019	400	179	400
6785 Watershed Programs	60,773	17,097	1,800	431	20,000	0	20,000
Sub-total	$312,499	$300,670	$327,033	$282,569	$290,400	$307,557	$295,400

Las Virgenes - Triunfo
Joint Powers Authority
Operations Summary

	FY 16-17 Actual	FY 17-18 Actual	FY 18-19 Actual	FY 19-20 Actual	FY 20-21 Budget	FY 20-21 Est. Actual	FY 21-22 Budget
SPECIALTY EXPENSES							
5700 SCADA Services	49,624	38,646	56,005	72,348	62,104	131,166	62,786
5710.2 Technical Services	0	0	1,313	14,179	13,763	0	16,164
5712 Compost Sales/Use Tax	2,922	3,246	2,989	0	4,000	6,206	4,000
5715.2 Other Lab Services	141,224	154,291	158,532	151,424	184,000	250,291	334,000
5715.3 Tapia Lab Sampling	125,705	130,352	131,436	117,611	187,269	82,142	193,001
7202 Allocated Lab Expense	378,015	399,644	441,847	560,914	529,280	594,272	531,736
Sub-total	$697,490	$726,179	$792,122	$916,475	$980,416	$1,064,078	$1,141,687
ADMINISTRATIVE EXPENSES							
6872 Litigation/Outside Services*	83,990	49,115	206,946	100,472	0	0	0
6874 Litigation/District Costs*	0	0	0	0	0	0	0
6516 Other Professional Services	95,007	167,843	266,417	182,895	156,600	242,307	156,600
6517 Audit Fees	3,395	3,395	3,377	6,000	6,000	0	6,000
7110 Travel/Misc Staff Expense	248	0	0	0	0	0	0
7135.1 Property Insurance**	56,955	69,614	79,858	113,262	0	124,440	0
7135.4 Earthquake Insurance**	91,466	110,557	117,389	119,864	0	123,198	0
7145 Claims Paid	122,451	21,000	0	685,000	0	0	0
7153 TWSD Staff Services	0	0	0	0	6,000	0	6,000
7155 Other Expense	54,029	9,000	0	0	0	0	0
6260 Rental Charge - Facility Repl	371,357	351,674	377,618	355,452	363,316	357,482	363,316
6350 Allocated Insurance**	0	0	0	0	175,131	0	183,888
6351 Allocated Legal Services*	0	0	0	0	135,000	6,117	135,000
7203 Allocated Building Maint	83,651	89,824	153,010	102,595	115,392	147,151	96,642
7225 Allocated Support Services	3,528,201	4,099,146	3,906,942	5,069,084	4,825,693	6,171,537	5,146,037
7226 Allocated Operations Services	1,613,325	1,938,958	1,728,380	2,346,373	2,133,047	3,244,565	2,189,680
Sub-total	$6,104,075	$6,910,126	$6,839,937	$9,080,998	$7,916,179	$10,416,798	$8,283,163
TOTAL EXPENSES	**$14,755,030**	**$15,679,209**	**$15,990,011**	**$18,559,136**	**$17,807,859**	**$20,904,908**	**$18,456,900**
NET OPERATING EXPENSE	**$12,586,972**	**$13,333,476**	**$13,874,737**	**$16,114,993**	**$15,349,269**	**$18,358,249**	**$15,848,866**

*Litigation was moved to Allocated Legal Services
**Property and Liability Insurance was moved to Allocated Insurance

FY 2021-22 Capital Improvement Budget

Capital Improvement Project Detail, FY 2021-22

SCADA System Communications Upgrade-10520

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	32,447	93,100	60,653

Migration of the existing communication system from a serial radio network to an ethernet based radio network. Provide redundant data paths for uninterrupted communication. Eliminate need to rely on telephone company equipment. Carryforward deferred to future year.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-		527,943	
TWSD Share Amount (29.4%)			219,851	
Project Totals	-	-	747,794	840,894

Tapia Programmable Logic Controller Upgrades-10567

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	1,439,825	2,500,000	1,060,175

This project replaces programmable logic controllers (PLC's) with newer PLCs and provides necessary equipment upgrades (fiber optics, network switches and programming) to complete the installation. This is a program project which addresses Tapia in the first two years and centrate treatment in the third year. Design will occur in the first year for all facilities.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	748,484	-	
TWSD Share Amount (29.4%)	-	311,691	-	
Project Totals	-	1,060,175	-	2,500,000

Summer Season TMDL Compliance-10619

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	444,390	2,937,375	2,492,985

In February 2017 the SWRCB adopted the Implementation Plan for the 2013 TMDL. The plan provides for compliance with summer time limits within five years. The options for compliance include a "side stream" treatment plant, the use of potable water and nutrient trading in the watershet. This CIP funds the selection, preliminary studies, outreach, CEQA analysis, preliminary design and final design for summer time compliance. Project 10611 (Duct Bank Infrastructure Upgrade) was added to this program for the FY19-20 planning period. Construction of a 1 MGD "side stream" treatment facility at Tapia to treat potable water for stream flow augmentation.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	1,760,047	-	
TWSD Share Amount (29.4%)	-	732,938	-	
Project Totals	-	2,492,985	-	2,937,375

Pure Water Project-10635

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	1,604,978	7,648,650	6,043,672

This project funds preliminary studies, outreach, CEQA analysis, preliminary design and final design. The 2018 cost estimate ($121M) was updated using an annual inflationary factor of 3%. The District anticipates 25% of cost of FY20-21 and FY21-22 will be offset by grants.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	4,412,157	8,678,989	-	
TWSD Share Amount (29.4%)	1,837,357	3,614,197	-	
Project Totals	6,249,514	12,293,186	242,021,047	256,000,000
Project Offset			(1,424,537)	
			Net Project	254,575,463

Capital Improvement Project Detail, FY 2021-22

A/B Bus Electrical Modification-10661

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	10,491	100,000	89,509

Study the feasibility of reconfiguring the Tapia electrical switch gear and then hire electrical team to make the modifications. Construction cost estimates will be developed following the completion of the feasibility study.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	63,193	-	
TWSD Share Amount (29.4%)	-	26,316	-	
Project Totals	-	89,509	-	100,000

Tapia Headworks White Room-10667

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	435,886	421,938	-13,948

Study the feasibility of reconfiguring the Tapia electrical switch gear and then hire electrical team to make the modifications. Construction cost estimates will be developed following the completion of the feasibility study.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	9,847	-	-	
TWSD Share Amount (29.4%)	4,101	-	-	
Project Totals	13,948	-	-	435,886

Rancho Las Virgenes Storm Water Diversion-10668

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	143,056	143,056

Replacement of two storm water diversion structures at the Rancho Las Virgenes Composting Facility. Structures have lifted and need to be addressed. The drainage from the V-ditch goes to a discharge point in Las Virgenes Creek. There is a concern that sludge and/or reclaimed water entering into the V-ditch could enter the creek via the drainage from the V-ditch. An open/close valve should be installed at the drainage area so taht operators control the contents of the V-ditch. A sump pump system with discharge piping should also be included so that the contents can be pumped either to the field or offsite. Carryforward deferred to future year.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	-	186,668	
TWSD Share Amount (29.4%)	-	-	77,734	
Project Totals	-	-	264,402	264,402

Develop Seating Area at Tapia-10669

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	14,035	25,000	10,965

Develop tour seating area and climate appropriate landscaping at Tapia adjacent to the control building.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	7,741	-	
TWSD Share Amount (29.4%)	-	3,224	-	
Project Totals	-	10,965	-	25,000

Centrate 24" Valve Replacement-10670

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	13,496	289,000	275,504

Replace two (2) buried 24-inch Miliken valves at the centrate facility.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	194,506	-	
TWSD Share Amount (29.4%)	-	80,998	-	
Project Totals	-	275,504	-	289,000

Capital Improvement Project Detail, FY 2021-22

Rancho Las Virgenes Digester Cleaning and Repair-10680

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	2,733,877	2,856,488	122,611

Rehabilitation and repair of Digester No. 2 at Rancho Compost Facility.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	86,563	-	
TWSD Share Amount (29.4%)	-	36,048	-	
Project Totals	-	122,611	-	2,856,488

Rancho Fire Repair- Woolsey Fire-10689

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	817,793	2,167,055	1,349,262

Repair compost and cure building, fire damaged windows and roofing, mechanical equipment, irrigation system, electrical, architectural façade, biofilter and other damaged items. This project has been submitted to the agency's insurance carrier for reimbursement.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	952,579	-	
TWSD Share Amount (29.4%)	-	396,683	-	
Project Totals	-	1,349,262	-	2,167,055
Project Offset		-	(2,167,055)	
			Net Project	-

JPA Facility Repairs-Woolsey Fire-10692

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	3,864	878,612	874,748

Repair JPA owned fire damaged facilities, property and equipment. Damage includes irrigation systems at Rancho Compost Facility and Reservoir 2. Budget for design is under CIP# 10691.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	617,572	-	
TWSD Share Amount (29.4%)	-	257,176	-	
Project Totals	-	874,748	-	878,612

Tapia Effluent Pump Station-10702

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	6,491	100,000	93,509

Remove or abandon in place existing 4160 volt feeders currently suspended from the top slab of the Effluent Pump Station wet well, underneath the existing MCCs. Perform electrical design and replace the overhead 4160 volt feeders. Ensure coordination with 480 volt switch gear improvements.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	279,576	345,593	-	
TWSD Share Amount (29.4%)	116,424	143,916	-	
Project Totals	396,000	489,509	-	496,000

Capital Improvement Project Detail, FY 2021-22

Tapia Tertiary Filter Rehab-10703

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	60,000	60,000

Tertiary Filters concrete rehabilitation. Approximately 25 locations that require a 1 square foot patching with rebar repair. Replace 45 metal plates (2' X 4') on the filter deck and fix concrete around the plates with proper joint sealer. Also include the repair of an electrical panel in the Filter gallery. Replace existing electric actuators at filter structure with new electric actuators. Program plant control system to function with both remote PLC control of actuators and local actuator control. Upgrade local controls to replace old filter annunciator panels which are currently located on the top deck of the filter structure. Carryforward deferred to future year.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	-	55,915	
TWSD Share Amount (29.4%)	-	-	23,285	
Project Totals	-	-	79,200	79,200

Rancho Reliability Improvements-10711

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	12,230	132,000	119,770

Replace or rehabilitate facilities and equipment at the Rancho facility based on failure, beyond useful life, or obsolescence. Specific projects are identified for each fiscal year.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	93,192	177,750	-	
TWSD Share Amount (29.4%)	38,808	74,020	-	
Project Totals	132,000	251,770	1,056,000	1,320,000

Tapia Water Reclamation Facility Improvements-10712

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	8,813	132,000	123,187

Replace or rehabilitate facilities and equipment at the Tapia Water Reclamation facility based on failure, end of useful life, or obsolescence. Specific projects are identified for each fiscal year.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	93,192	180,162	-	
TWSD Share Amount (29.4%)	38,808	75,025	-	
Project Totals	132,000	255,187	1,056,000	1,320,000

Tapia Influent Pump Replacement-201854

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

Replacement of two (2) influent pumps with dry pit submersible pumps. Dry pit submersible pumps will improve staff's ability to maintain and improve staff safety when performing maintenance.This project was identified in the 2017 Carollo study. Project deferred to future year.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	-	931,920	
TWSD Share Amount (29.4%)	-	-	388,080	
Project Totals	-	-	1,320,000	1,320,000

Lift Station No.1 Pump Replacement-10750

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

Replacement of (3) pumps

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	279,576	-	-	
TWSD Share Amount (29.4%)	116,424	-	-	
Project Totals	396,000	-	-	396,000

Capital Improvement Project Detail, FY 2021-22

Lift Station No.2 Pump Replacement-10751

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

Replacement of (3) pumps

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	279,576	-	-	
TWSD Share Amount (29.4%)	116,424	-	-	
Project Totals	396,000	-	-	396,000

Tapia Hypochlorite Tank Replacement-10720

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	642,870	727,994	85,124

Replace the three fiberglass sodium hypochlorite tanks at Tapia. They are over 20 years old and beyond their expected life span. Leaks have been frequently developing and repairs are costly and difficult.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	60,098	-	
TWSD Share Amount (29.4%)	-	25,026	-	
Project Totals	-	85,124	-	727,994

Tapia Effluent Meter Replacement-10721

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	33,000	33,000

With the summertime compliance project being constructed next year, the 001 out fall meter will be removed. Additionally, the Tapia groundwater meter has aged out and the 003 meter needs to be replaced. These meters are regulatory required. This project replaces the 001, 003 and the Tapia groundwater effluent meters.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	23,298	-	
TWSD Share Amount (29.4%)	-	9,702	-	
Project Totals	-	33,000	-	33,000

Tapia Sludge Wet Well Re-Circulation-10752

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

The re-circulation (mixing) piping at the Tapia sludge wet wells is corroded and develops leaks. This project replaces this piping.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	44,337	44,337	-	
TWSD Share Amount (29.4%)	18,463	18,463	-	
Project Totals	62,800	62,800	-	62,800

Tapia Air Line Repair-10753

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

The air line which conveys compressed air to the treatment process has leaks which not only allow air to escape, but also allow contaminants to enter into the pipeline and potentially the air diffusers. A large portion of this line was repaired, however a section of the pipeline was not addressed. This section needs to be addressed to stop leakage and protect the diffuser membranes.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	35,300	35,300	-	
TWSD Share Amount (29.4%)	14,700	14,700	-	
Project Totals	50,000	50,000	-	50,000

Capital Improvement Project Detail, FY 2021-22

Rancho Valving In Street Replacement- 10754

	Prior Year Expenditures	Prior Year Appropriations	Carryforward	
Project Description:	-	-	-	

Replace the broken or damaged R.E.W. and Potable Water valving throughout the facility.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	-	178,971	
TWSD Share Amount (29.4%)	-	-	74,529	
Project Totals	-	-	253,500	253,500

Multi Site Security Assessment and Improvement- JPA-10724

	Prior Year Expenditures	Prior Year Appropriations	Carryforward	
Project Description:	-	58,394	58,394	

Security Assessment of various District sites and facilities. This will include access controls and security camera installations and improvements.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	22,870	64,096	-	
TWSD Share Amount (29.4%)	9,524	26,692	-	
Project Totals	32,394	90,788	-	90,788

Tapia Gantry Crane-10755

	Prior Year Expenditures	Prior Year Appropriations	Carryforward	
Project Description:	-	-	-	

Design, build and construct gantry crane for future maintenance of aeration basin diffusers.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	81,613	81,613	-	
TWSD Share Amount (29.4%)	33,986	33,986	-	
Project Totals	115,600	115,600	-	115,600

Tapia Flow Equlization-10737

	Prior Year Expenditures	Prior Year Appropriations	Carryforward	
Project Description:	-	100,000	100,000	

This project consists of the development of a preliminary design report to evaluate the storage and conveyance of Tapia primary effluent to help store and equalize the diurnal peak flows that Tapia sees between dry and wet weather events. This maximizes effluent available for the AWT and also improves and provides consistent water quality for the feed water to the AWT.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	176,500	247,100	4,878,460	
TWSD Share Amount (29.4%)	73,500	102,900	2,031,540	
Project Totals	250,000	350,000	6,910,000	7,260,000

Tapia HVAC Replacement-10738

	Prior Year Expenditures	Prior Year Appropriations	Carryforward	
Project Description:	-	304,000	304,000	

Replace existing 40-year old HVAC at Tapia.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	214,624	-	
TWSD Share Amount (29.4%)	-	89,376	-	
Project Totals	-	304,000	-	304,000

Capital Improvement Project Detail, FY 2021-22

Rancho Generator Study and Purchase-10739

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	304,000	304,000

Commission study/design of backup generator requirements followed by purchase and installation of recommended equipment.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	146,029	360,653	48,361	
TWSD Share Amount (29.4%)	60,811	150,187	20,139	
Project Totals	206,840	510,840	68,500	579,340

Concrete Corrosion/Crack Repair-Tapia-10741

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	66,000	66,000

Repair failing concrete at the Tapia Water Reclamation Facility.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	46,596	93,192	-	
TWSD Share Amount (29.4%)	19,404	38,808	-	
Project Totals	66,000	132,000	66,000	198,000

Lift Station Improvments- 10742

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	150,000	150,000

Repair and rehabilitate aging lift stations.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	677,760	783,660	889,560	
TWSD Share Amount (29.4%)	282,240	326,340	370,440	
Project Totals	960,000	1,110,000	1,260,000	2,370,000

Fire Hardening- JPA Facilities-10743

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	264,000	264,000

Fire hardening strategy for JPA facilities includes preventative measures and protection systems for both internal and external sources of fire. Potential facility improvements include: 1) Employing advanced detectors and utilizing a plant fire safety systems; and 2) evaluation and, if feasible, installation of a perimeter fire defense system. Fire Hardening also includes creating larger defensible space around critical structures and providing wider access roads and preventative improvements to facilities.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	186,384	372,768	-	
TWSD Share Amount (29.4%)	77,616	155,232	-	
Project Totals	264,000	528,000	2,112,000	2,640,000

Discharge Point Rehab-10745

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	8,791	769,300	760,509

Evaluate and repair failed 003 Discharge point pipeline (into Malibu Creek). Contract for inspection, an engineering study and a design report to determine the most cost effective means to repair failed 24" potable water pipeline from the Tapia Water Reclamation Facility to Malibu Creek. The pipeline will be used to supply potable supplement to the Malibu Creek during low flow periods.Approximately one (1) mile of pipeline needs to be and preventative improvements to facilities.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	(70,600)	536,919	70,600	
TWSD Share Amount (29.4%)	(29,400)	223,590	29,400	
Project Totals	(100,000)	760,509	100,000	769,300

Capital Improvement Project Detail, FY 2021-22

New RAS Wet Well and Pumps-10747

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	120,000	120,000

Replace RAS wet well and pumps to increase pumping capacity and reliability.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	84,720	790,720	
TWSD Share Amount (29.4%)	-	35,280	329,280	
Project Totals	-	120,000	1,120,000	1,240,000

Centrate Tank Inspection and Rehabilitation Asssesment-10748

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	10,000	10,000

Tank inspections and recommendations for rehabilitation.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	7,060	-	
TWSD Share Amount (29.4%)	-	2,940	-	
Project Totals	-	10,000	-	10,000

Trunk Sewer System Improvements-10756

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

Replace or rehabilitate trunk sewer system components based on CCTV, condition assessment & SSMP, end of useful life, or obsolescence. Specific projects are identified for each fiscal year

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	783,660	783,660	-	
TWSD Share Amount (29.4%)	326,340	326,340	-	
Project Totals	1,110,000	1,110,000	-	1,110,000

Rancho Solar and Battery-10767

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

Develop battery backup system that will reduce energy peaking charges by monitoring system usage and applying stored power during periods of highest electrical rates.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	154,261	154,261	-	
TWSD Share Amount (29.4%)	64,239	64,239	-	
Project Totals	218,500	218,500	-	218,500

Refurbish Centrifuge #1-10768

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	-	-	-

Rebuild of centrifuge #1. Includes rebalancing and repairing of broken tiles.

Sanitation-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	70,600	70,600	-	
TWSD Share Amount (29.4%)	29,400	29,400	-	
Project Totals	100,000	100,000	-	100,000

Santitation Summary

	Carryforward	FY 21-22 Appropriations	FY 21-22 Budget	
LV Share Amount (70.6%)	10,713,291	7,802,426	18,515,717	
TWSD Share Amount (29.4%)	4,065,963	3,249,170	7,315,132	
Project Totals	14,779,254	11,051,596	25,830,849	
			Project Offsets	(3,591,592)

Capital Improvement Project Detail, FY 2021-22

Recycled Water

Canyon Oaks Park RW Main Extension-10629

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	7,451	399,780	392,329

Extension to serve the City of Westlake Village's Oak Canyon Park and eliminate a long private service line to Yerba Buena School. Funding from Prop 84 IRWM 2015.

Recycled-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	276,984	-	
TWSD Share Amount (29.4%)	-	115,345	-	
Project Totals	-	392,329	-	399,780
Project Offset		(106,090)	Net Project	293,690

Cordillera Tank Rehab-10665

	Prior Year Expenditures	Prior Year Appropriations	Carryforward
Project Description:	932,265	1,141,125	208,860

Rehabilitation of Cordillera Tank including interior and exterior coating, valve and appurtenance upgrades and replacements, restoration of deteriorated asphalt, and work to ensure up-to-date compliance for safety and water quality equipment.

Recycled-100 %	FY 21-22 Appropriations	FY 21-22 Budget	Future Year Appropriations	Project Total
LV Share Amount (70.6%)	-	147,455	-	
TWSD Share Amount (29.4%)	-	61,405	-	
Project Totals	-	208,860	-	1,201,267

Recycled Water Summary

	Carryforward	FY 21-22 Appropriations	FY 21-22 Budget	
LV Share Amount (70.6%)	424,439	-	424,439	
TWSD Share Amount (29.4%)	176,750	-	176,750	
Project Totals	601,189	-	601,189	
			Project Offsets:	(106,090)

Total Capital Projects

	Carryforward	FY 21-22 Appropriations	FY 21-22 Budget	
LV Share Amount (70.6%)	11,137,730	7,802,426	18,940,156	
TWSD Share Amount (29.4%)	4,242,712	3,249,170	7,491,882	
Project Totals	15,380,443	11,051,596	26,432,038	
			Project Offsets:	(3,697,682)

July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: Engineering and External Affairs

Subject : Pure Water Project Las Virgenes-Triunfo: Updated Baseline Cost Estimate

SUMMARY:

During a special JPA Board workshop on June 16, 2021, staff presented a draft of the Program Implementation Plan (PIP) for the Pure Water Project Las Virgenes-Triunfo. The workshop included a review of the key elements of the draft PIP and provided an opportunity for feedback from the JPA Board. One of the elements included in the draft PIP was an updated baseline cost estimate for the Pure Water Project Las Virgenes-Triunfo. Due to the limited time available for discussion of this important issue during the workshop, staff was directed to return to the Board with a more thorough explanation of the updated baseline cost estimate and to provide an opportunity for additional feedback on the projected increase in costs. At the Board meeting, staff will review the attached presentation that outlines the major factors driving a higher baseline cost estimate for the Pure Water Project Las Virgenes-Triunfo. In addition, staff will review proposed next steps to evaluate the implications with respect to funding, financing and future rate impacts.

RECOMMENDATION(S):

Review and provide feedback on the updated baseline cost estimate for the Pure Water Project Las Virgenes-Triunfo.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The baseline cost estimate is provided for planning purposes only and does not establish a new or increased budget for the Pure Water Project Las Virgenes-Triunfo.

Prepared by: Eric Schlageter, P.E., Principal Engineer

ATTACHMENTS:

Presentation on Updated Baseline Cost Estimate

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

Las Virgenes-Triunfo JPA Board Meeting

July 6, 2021

Pure Water Project Planning Cost Update

Unique Elements of Pure Water Project

- California reservoir water augmentation
- Las Virgenes Reservoir is a designated surface water in the Basin Plan
  - *Permitting changes*
    - Division of Drinking Water
    - LA Regional Water Quality Control Board
  - *California Toxics Rule*
    - Number of numerical limits
    - Concern is for disinfection by-products
- Facility locations require significant conveyance
- Advanced Water Purification Facility will be the discharge mechanism for Tapia WRF

Las Virgenes Reservoir

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

Independent Cost Estimate

Independent Cost Estimate

- Performed cost estimate based on Readiness Assessment recommendations

Reviewed with Staff

- Several meetings to discuss the basis of estimate

Baseline Cost

- Minimum requirements for Pure Water Project

Potential System Requirements

- Additional requirements for Pure Water Project to be confirmed in Phase 1

PURE WATER PROJECT
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Title XVI Baseline Project

Tapia WRF

No modifications

7.5 mgd capacity Conveyance

Advanced Water Purification Facility

Meet minimum Reservoir Augmentation requirements

Las Virgenes Reservoir

Mixing for optimal dilution/retention

Westlake Filtration Plant

No modifications

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

Updated Baseline Cost Estimate

Costs	Modified Title XVI (2018 Estimate)	Updated Baseline (2021 Estimate)
Construction AWPF Conveyance Reservoir	 $66.9 M $32.2 M $1.40 M	 $79.0 M $65.1 M $2.74 M
Subtotal Construction	$101 M	$147 M
Soft Costs	$28.6 M	$52.8 M
Escalation Midpoint of Construction Escalation	2.7% June 2027 $32.4 M	3% Dec 2026 $36.6 M
Program Contingency	--	$20 M
Total Estimated Cost	**$162 M***	**$256 M**

*Adjusted to midpoint of construction in Dec 2026 - $160 M.

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
Bringing Our Water Full Circle

Basis of Cost Estimate - Conveyance

Conveyance	PWP Planning vs. Title XVI	Cost Estimate Increase
Source water	Maintained alignment	**$1.33 M**
Purified water	Environmental considerations, constructability in Triunfo Canyon, and increased size	**$6.95 M**
Waste	Increased size	**$0.5 M**
Brine (RO concentration)	Revised alignment and increased length of 1.5 miles O&M features for cleaning to provide partial brine scaling management	**$24.1 M**
	$65.1 M vs. $32.2 M	**$32.9 M**

- Revised alignments, sizes and lengths
- Production rates versus escalated 2014 master plan unit costs
- Evaluated recent bids for other projects
- Design progression will refine assumptions
- Full length, does not consider partnership opportunities

Basis of Cost Estimate - AWPF

Title XVI	PWP Planning	Cost Estimate Increase
Full Advanced Treatment – MF, RO, UV/AOP (limited redundancy)	Full Advanced Treatment – MF, RO, UV/AOP (limited redundancy)	**↑ Vendor quotes**
8-7-8 pathogen removal	10-9-10 pathogen removal	**↑ Removal**
29,100 sf process building 1,680 sf administration building, no process laboratory, maintenance/warehouse Basic aesthetics	37,000 sf process building 1,680 sf administration building, no process laboratory, maintenance/warehouse Basic aesthetics	**↑ 27%**
	MF pump station	**Added**
	Lime addition	**Added**
	Emergency standby generator	**Added**
$66.9 M	**$79 M**	**$12.1 M**

- Vendor quotes for major equipment
- Parametric analysis with cost database vs. unit cost from AWPF bid
- Evaluated recent bids for other projects

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
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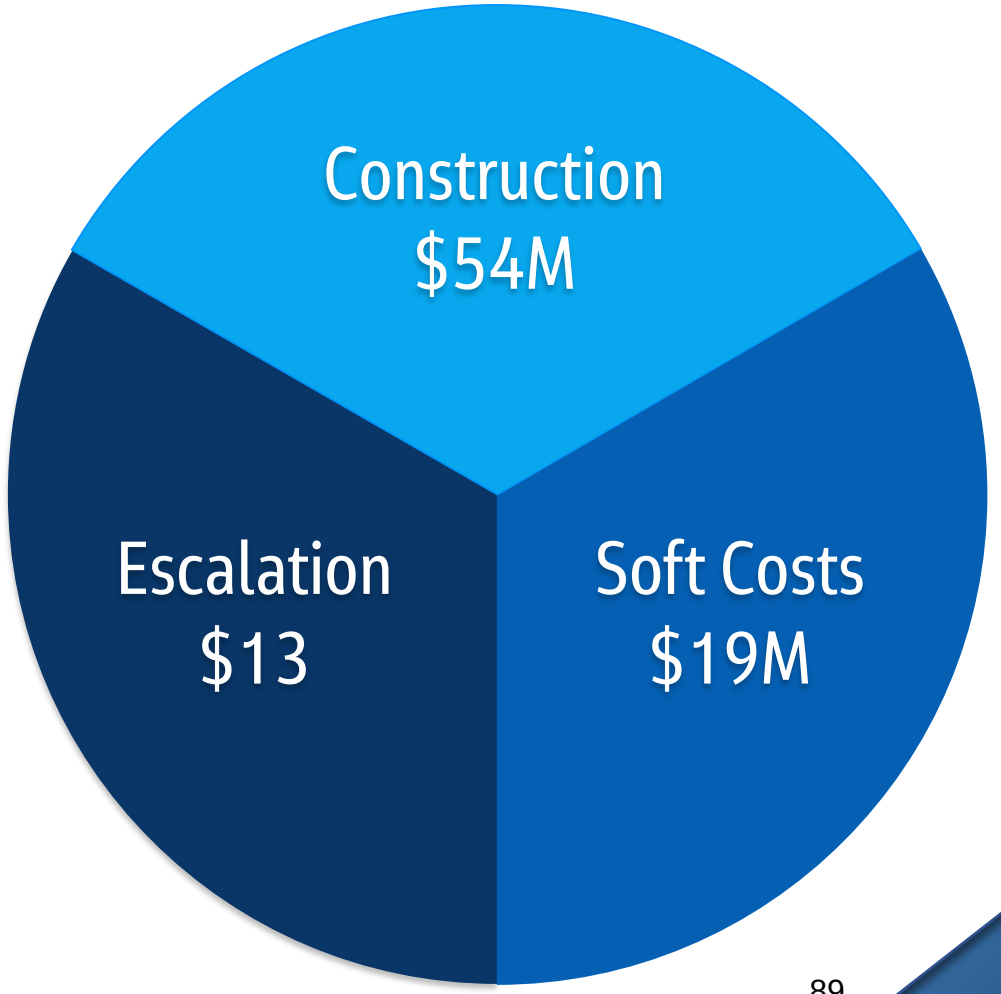
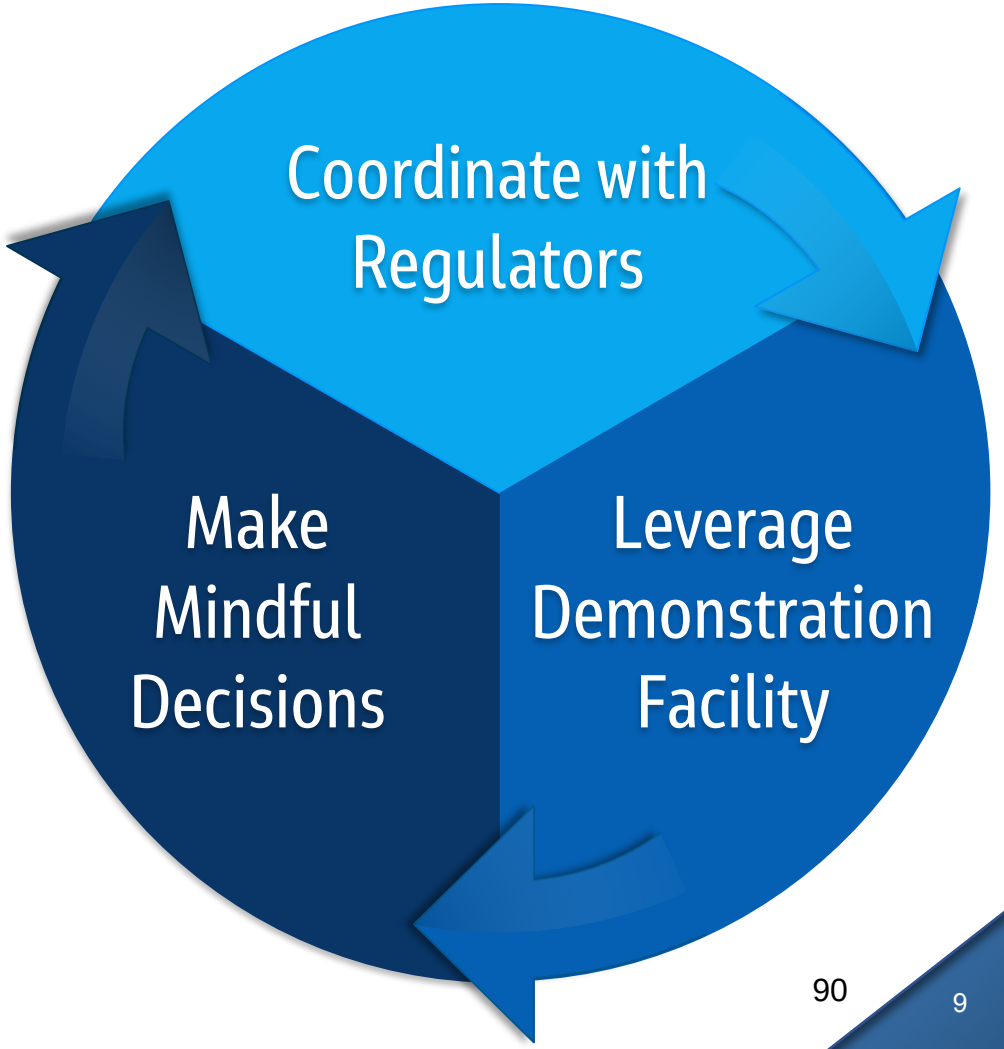
Other Potential System Requirements

- Advanced Water Purification Facility
  - *Level of pathogen reduction*
  - *Level of process redundancy*
  - *California Toxics Rule compliance*
  - *Finished water stabilization*
  - *Building programming and architectural requirements*
- *Conveyance*
  - *Finalize alignments*
  - *Recycled water system balancing*
  - *Emergency discharge*
  - *Brine scaling mitigation and control*
- *Reservoir*
  - *Algal bloom control*



Other Potential System Requirements

- Advanced Water Purification Facility
  - *Level of pathogen reduction*
  - *Level of process redundancy*
  - *California Toxics Rule compliance*
  - *Finished water stabilization*
  - *Building programming and architectural requirements*
- *Conveyance*
  - *Finalize alignments*
  - *Recycled water system balancing*
  - *Emergency discharge*
  - *Brine scaling mitigation and control*
- *Reservoir*
  - *Algal bloom control*



PURE WATER PROJECT
LAS VIRGENES-TRIUNFO
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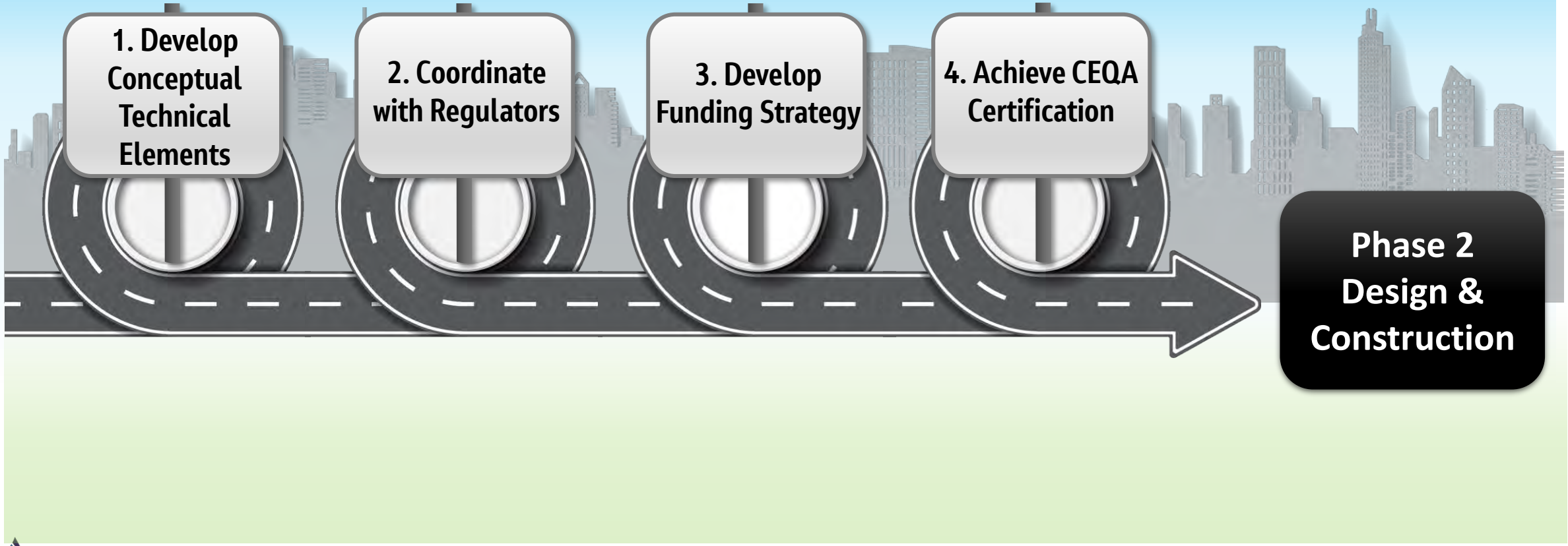
Soft Costs - % of Construction

Item	Modified Title XVI	Modified Title XVI	PWP Planning	PWP Planning
LVMWD Labor and G&A	6%	$ 8.53 M	6%	$8.80 M
Program/Planning	10%	$10.05 M	5% (Phase 1)	$7.34 M
PM	--	--	Assumed in LVMWD & Program Costs	--
Permitting	--	--	2%	$2.93 M
Engineering/Design	10%	$10.05 M	10%	$14.7 M
Engineering Services During Construction	--	--	5%	$7.34 M
CM	--	--	8%	$11.7 M
Total		$28.6 M		$52.8 M

Next Steps - Phase 1 (through October 2022)



Near Term Financing Strategy

- Finalize Baseline Cost and Schedule Estimate
- Identify Potential Program Offsets
- Identify Bookends of Financing Needs
- Identify Financing Alternatives
- Identify New Program Cost
- Identify Agency Cost
- Identify Revenue Requirements
- Identify Rate Impact Range

July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: Engineering and External Affairs

Subject : Pure Water Project Las Virgenes-Triunfo: Adoption of Program Implementation Plan

SUMMARY:

During a special JPA Board workshop on June 16, 2021, staff presented a draft of the Program Implementation Plan (PIP) for the Pure Water Project Las Virgenes-Triunfo. The workshop included a review of the key elements of the draft PIP and provided an opportunity for feedback from the JPA Board. Based on the discussion and feedback received during the workshop, the final PIP has been be prepared and is ready for final review and approval by the JPA Board. Adoption of the PIP will serve as a key milestone to transition the JPA to implementing the actions to advance the next phases of the Pure Water Project Las Virgenes-Triunfo.

The PIP provides a comprehensive programmatic delivery framework for the suite of projects and studies that comprise the Pure Water Project Las Virgenes-Triunfo. The PIP will establish a clear roadmap for project delivery and execution, including clarity and collaboration through planning, design, construction and commissioning to meet the objectives and vision of the JPA. The document covers technical services, regulatory and environmental planning, finance and funding and project delivery. The PIP also includes the charter, program management plan, readiness assessment, delivery approaches, regulatory strategy, environmental/CEQA strategy, public outreach strategy and risk assessment. Once approved, the PIP will be foundational for the successful completion of the Pure Water Project Las Virgenes-Triunfo.

Due to the limited time available for discussion of the updated baseline cost estimate during the Board workshop, staff was directed to return to the Board with a more thorough explanation and to provide an opportunity for additional feedback on the projected increase in costs. Recognizing the need for further discussion on this item, staff removed the cost-loaded baseline schedule from the PIP pending further discussion. Staff proposes that the Board consider approval and adoption of the PIP to support initial implementation actions for the Pure Water Project Las Virgenes-Triunfo. At a future Board meeting, staff will recommend that the cost-loaded baseline schedule be appended to the PIP.

Attached for reference is a copy of the final PIP for the Pure Water Project Las Virgenes-Triunfo.

RECOMMENDATION(S):

Approve and adopt the Program Implementation Plan for the Pure Water Project Las Virgenes-Triunfo.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with the approval and adoption of the Program Implementation Plan.

Prepared by: Eric Schlageter, P.E., Principal Engineer

ATTACHMENTS:

Program Implementation Plan for Pure Water Project Las Virgenes-Triunfo

Program Implementation Plan

Las Virgenes - Triunfo
Joint Powers Authority

June 2021
Final

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO

Bringing Our Water Full Circle

PURE WATER PROJECT
LAS VIRGENES-TRIUNFO

Bringing Our Water Full Circle

Program Implementation Plan

Prepared by

Jacobs WOODARD &CURRAN K&A KATZ&ASSOCIATES

Las Virgenes - Triunfo Joint Powers Authority

June 2021

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Acronyms

µg/L	microgram(s) per liter
3D	three-dimensional
AACE	AACE International
AB	Assembly Bill
ACH	aluminum chlorohydrate
alum	aluminum sulfate
AOP	advanced oxidation process
AWPF	advanced water purification facility
AWT	advanced water treatment
Basin Plan	Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
BDCM	bromodichloromethane (also known as dichlorobromomethane, DCBM)
CCB	chlorine contact basin
CCR	California Code of Regulations
CDBM	chlorodibromomethane (also known as dibromochloromethane, DBCM)
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Cl_2	chlorine
CMAR	construction management at risk
CMWD	Calleguas Municipal Water District
CSF	critical success factor
CTR	California Toxics Rule
DB	design-build
DBB	design-bid-build
DBCM	dibromochloromethane (also known as chlorodibromomethane, CDBM)
DBP	disinfection by-product
DCBM	dichlorobromomethane (also known as bromodichloromethane, BDCM)
DDW	Division of Drinking Water
DE	diatomaceous earth
DO	dissolved oxygen
DPR	direct potable reuse
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency

FAT	full advanced treatment
FPDB	fixed-price design-build
ft^2	square foot (feet)
GAC	granular activated carbon
GM	General Manager
GRRP	Groundwater Replenishment Reuse Project
GWR	groundwater recovery
HOCl	hypochlorous acid
IAP	Independent Advisory Panel
IPR	indirect potable reuse
JPA	Las Virgenes - Triunfo Joint Powers Authority
KPI	key performance indicator
LARWQCB	Los Angeles Regional Water Quality Control Board
lb/d	pound(s) per day
LF	linear foot (feet)
LRV	log reduction value
LVMWD	Las Virgenes Municipal Water District
MCL	maximum contaminant level
mg/L	milligram(s) per liter
MGD	million gallons per day
mL	milliliter(s)
MND	Mitigated Negative Declaration
MWD	Metropolitan Water District of Southern California
N	nitrogen
ND	Negative Declaration
NDMA	N-nitrosodimethylamine
NEPA	National Environmental Policy Act
ng/L	nanogram(s) per liter
NH_3-N	ammoniacal nitrogen
NL	notification level
NMOR	N-nitrosomorpholine
No.	number
NO_3^-	nitrate
NO_3^-N	nitrate nitrogen
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit
O&M	operations and maintenance

ORP	oxidation-reduction potential
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
PDB	progressive design-build
PEIR	Programmatic Environmental Impact Report
PFD	process flow diagram
PIP	Program Implementation Plan
PMP	Program Management Plan
PMT	Program Management Team
polyDADMAC	polydiallyldimethylammonium chloride
Portal	Program Delivery Portal
PWP or Program	Pure Water Project
QCRA	quantitative cost risk assessment
RAS	returned activated sludge
RFP	Request for Proposals
RFQ	Request for Qualifications
RMP	Risk Management Plan
RO	reverse osmosis
ROWD	Report of Waste Discharge
RPA	Reasonable Potential Analysis
RPZ	reduced pressure zone
RW	recycled water
RWC	recycled water contribution
RWQCB	Regional Water Quality Control Board
SCADA	supervisory control and data acquisition
SMP	Calleguas Salinity Management Pipeline
SRF	State Revolving Fund
SWA	surface water augmentation
SWOT	strength, weakness, opportunity, threat
SWRCB	State Water Resources Control Board
TACT	Tailored Analytics and Comparative Techniques
THMs	trihalomethanes
TN	total nitrogen
TM	technical memorandum
TMDL	total maximum daily load
TOC	total organic carbon
TP	total phosphorus

Trussell	Trussell Technologies, Inc.
TTHM	total trihalomethane
TWRF	Tapia Water Reclamation Facility
TWSD	Triunfo Water & Sanitation District
USACE	U.S. Army Corps of Engineers
UV	ultraviolet
WBS	work breakdown structure
WDR	waste discharge requirement
WFP	Westlake Filtration Plant
WIFIA	Water Infrastructure Finance and Innovations Act
WTP	water treatment plant
WQS	water quality standards
WWTP	wastewater treatment plant

1. Executive Summary

1.1 Purpose of the Program Implementation Plan

The purpose of the Program Implementation Plan (PIP) is to set the foundation and provide overall guidance to the Program Management Team (PMT) to successfully implement the Las Virgenes - Triunfo Pure Water Project (PWP or Program). Las Virgenes Municipal Water District (LVMWD) is the administering agent of the Las Virgenes - Triunfo Joint Powers Authority (JPA). The PMT comprises LVMWD staff; Triunfo Water & Sanitation District (TWSD) staff; and the Jacobs Team, consisting of staff from Jacobs, Woodard & Curran, and Katz & Associates. The Jacobs Team serves as the Owner's Agent and Program Manager Advisor and will assist the JPA with management and delivery of the Program, working with design consultants and construction contractors contracted directly by LVMWD.

Programmatic delivery is based on a broad and encompassing management approach to achieve benefits through delivery of identified projects by addressing technical, environmental, regulatory, delivery, and financial elements. The PIP is intended to accomplish the following objectives:

- Identify approaches, develop strategies, and define requirements for all aspects of Program delivery.
- Define the Program implementation processes, which include communication, management approaches, project execution, and overall Program strategy.
- Define approaches, strategy, and results for this phase of the Program, including the elements on Figure 1-1.

Figure 1-1. Components of the PIP

The PWP is a unique opportunity to proactively address three major challenges facing the JPA:

1) Comply with more stringent regulatory requirements for discharging to Malibu Creek
2) Balance the seasonal variations of recycled water demand
3) Create a valuable resource to supplement the region's water supplies, enabled by California's 2018 SBDDW-16-02 Surface Water Augmentation (SWA) Regulations.

The fundamental plan, as shown in Figure 1-2, is to build an advanced water purification facility (AWPF) to treat tertiary effluent from the Tapia Water Reclamation Facility (TWRF) for indirect potable reuse (IPR), and convey the purified water to the Las Virgenes Reservoir, where it will be blended with Metropolitan Water District of Southern California (MWD) supply. The water from the Las Virgenes Reservoir will then be treated at the Westlake Filtration Plant (WFP) prior to distribution.

Additionally, pipelines will be constructed to extend the recycled water pipeline from the TWRF to the AWPF, convey purified water from the AWPF to the Las Virgenes Reservoir, and convey reverse osmosis (RO) concentrate to the Calleguas Salinity Management Pipeline (SMP) for ocean discharge. This plan must be achieved by 2030 to meet National Pollutant Discharge Elimination System (NPDES) permit requirements for TWRF.

The TWRF will provide treated tertiary effluent to the new, 7.5 million gallons per day (MGD) AWPF. The 12-MGD TWRF currently produces approximately 7.5 MGD of tertiary effluent in the winter months. However, there is no available effluent flow in the summer months due to the effective nonpotable reuse program. Seasonal variation in flow to the AWPF will complicate operations and create an underused asset for half of the year. Achieving a steady-state operation for the AWPF would improve systemwide operational efficiency and continuously produce the valuable product of purified water. In support of this

goal, the PWP is conducting a water augmentation evaluation to identify and evaluate feasible options for augmenting sources of influent water to the TWRF or directly to the AWPF, or both. The results of this evaluation will be considered as the conceptual design for the PWP progresses.

Figure 1-2. Pure Water Project Overview

TWSD will receive its share of the resulting potable water through an exchange via an interconnect with Calleguas Municipal Water District (CMWD). While complex, the Program is exciting and offers an array of opportunities to the JPA that will enhance plant operations, contribute to ecosystem protection, offer community benefits, and promote sustainable solutions.

1.2 Programmatic Approach, Benefits, and Objectives

The Program is a complex set of individual projects that must be delivered in a coordinated fashion to achieve the vision, mission, goals, and intended benefits for the JPA. Important to successful Program management is to translate the JPA's vision for the PWP and its corporate governance into a series of Program governance approaches, which are the foundation for Program delivery approaches, as shown on Figure 1-3.

> *PWP Vision Statement: A sustainable partnership to bring water full-circle through commitment, collaboration, trust, transparency, innovation and environmental stewardship; resulting in a cost-effective and regulatory compliant local water source.*

Figure 1-3. Translating Vision and Governance to Delivery

1.2.1 Primary Program Objectives

Programmatic services will be provided to achieve the following primary objectives:

- Incorporate the JPA's vision and target goal of having a new AWPF operational by 2030
- Deliver the Program within established budgets and schedules
- Deliver the Program to manage risk, changes, and quality, and enhance earlier project delivery cost certainty

The PMT will provide leadership, management, and direction on all aspects of Program delivery to achieve these objectives and to meet required regulatory requirements and financial milestones. The PMT will engage experts and the technical team to assist in delivery, financial, environmental, regulatory, and public outreach support as needed.

1.3 Summary of Each Program Component

1.3.1 Chartering Benefits and Results

Chartering is the first major step in establishing a meaningful collaborative governance structure for Program delivery, focusing on an integrated One Team framework. Chartering involves a series of workshops to build relationships and clearly establish expectations, Program vision and mission, Program goals, critical success factors (CSFs), and roles and basic responsibilities. Chartering is a critical element for Program success. Establishing these items early sets the tone for the entire Program effort; however, chartering is not a one-time effort. It is an engagement of delivery resources throughout the life of the Program.

Figure 1-4. Chartering Poster

The chartering process is designed to set the stage for successful resource interaction and maturation for a high-performing team that efficiently produces effective results and can handle decision making, change, and challenges both smoothly and gracefully. Experience has shown that early engagement by the entire resource team in establishing these basic performance expectations sets the effort on the appropriate pathway to team and Program delivery success.

The Chartering Poster in Figure 1-4 shows the results of our workshops together. In addition to the tangible outcome is a new clarity of the shared vision and strengths of the team members to work together to achieve those goals. Program Management Plan Benefits and Results

The Program Management Plan (PMP) provides accountability, consistency, and transparency to the Program team by establishing the Program's policies and procedures, decision-making authority, and performance metrics. The PMP is divided into sections that outline the strategies, responsibilities, processes, key performance indicators (KPIs), and templates to deliver the overall Program and its individual projects.

By setting the foundation for how the JPA, LVMWD, TWSD, Jacobs Team, and future consultants and contractors will interact and communicate on the Program early, transparency is increased and all contributors are aligned to the main objectives of the PWP. Establishing expectations for deliverables, risk and change management, schedule and budget reporting, and document management will result in team clarity and delivery consistency and value. Clearly defining requirements for quality, safety, risk monitoring, and communication provide overall accountability through all phases of the Program.

The resulting PMP will be accessible through the Program Delivery Portal (Portal) to the members of the PMT (Figure 1-5). It is a living document and will be updated to reflect additional information or as changes occur.

Figure 1-5. Program Management Plan on the Portal

1.3.2 Readiness Assessment Benefits and Results

The Readiness Assessment provided an objective perspective of the status of the PWP by identifying gaps in the baseline project definition and strategy established by previous planning studies, potential roadblocks that could impede progress, and an array of potential priorities for JPA's consideration to set the PWP foundation. The main objectives of the Readiness Assessment included:

- Provide best value for JPA capital investment for current regulatory compliance
- Consider future-proofing facilities for pending regulatory requirements and ongoing Southern California drought impacts
- Understand PWP uncertainties to Program costs, schedule, and risk management
- Develop an integrated strategy for JPA facilities to increase operation and maintenance (O&M) flexibility and system storage, and best manage water resources in the service area

The purpose of the Readiness Assessment was to define the Program uncertainties to help guide the technical, regulatory, environmental, and financial efforts for the next 18 months. The team plans to focus the technical studies to address many of these uncertainties and include the results and recommendations in the AWPF design criteria package and conveyance alignment studies.

The Readiness Assessment evaluated the following elements:

- Tapia Water Reclamation Facility
- Advanced Water Purification Facility
- Las Virgenes Reservoir
- Westlake Filtration Plant
- Concentrate (brine) stabilization
- Conveyance alignments

For each element, a set of recommendations were summarized to provide a roadmap for finalizing treatment concepts and alignments over the next 18 months. The main considerations brought forward during this assessment as recommendations for a modified baseline project include:

- Planning for higher pathogen log reduction credits to support a revised reservoir operating strategy with water augmentation
- Mitigating California Toxics Rule (CTR)-regulated disinfection by-products (DBPs), N-nitrosodimethylamine (NDMA), and brominated trihalomethanes (THMs)
- Purified water chemical stabilization prior to discharge to the reservoir
- Defining architectural theme and building programming
- Determining mitigation and control strategies for brine scaling
- Mitigating algal growth at the reservoir
- Determining the AWPF's impact on the existing recycled water system and better alignment approaches to mitigate impacts
- Managing excess recycled water and AWPF emergency discharge options

By identifying these requirements early, the team will be able to address the technical issues and recommend treatment and conveyance alignment strategies early in the design process. This approach provides the technical feasibility and cost implication for each potential system requirement to allow the JPA to make the most informed decision. The team will leverage the performance and testing at the Demonstration Facility to refine site-specific design criteria and facility needs, align the regulatory strategy through focused discussions with the regulators, and make conscientious decisions to provide the best value for capital investment.

1.3.3 Project Delivery Approaches Benefits and Results

The purpose of evaluating different project delivery approaches is to provide prompt and effective acquisition of PWP products, materials, engineering services, and construction contracts. The recommended approach will achieve the goals of the Program, in accordance with the spirit and requirements of the LVMWD Code, LVMWD Purchasing Policy, and JPA agreement.

For each project element of the Program, there are different considerations for project delivery. Before choosing an approach, the team reviewed common considerations with the JPA during a special session on March 8, 2021. During the workshop, the team reviewed the main project priorities for the AWPF and conveyance projects, aligning them with the JPA's comfort zone for key project drivers. These common priorities and drivers include:

- Sharing of control and risk
- Schedule
- Innovation
- Early cost certainty
- Water industry experience with delivery approach
- Contracting ease

After careful consideration of these project delivery drivers, the PMT recommends using a combination of project delivery procurement mechanisms and approaches for the PWP to provide best value for the JPA's investment.

The PMT recommends proceeding with traditional design-bid-build (DBB) for the conveyance projects because:

- The conveyance design is alignment driven and is not motivated by innovative design or construction methods.
- There will be high agency interaction and permitting, requiring strong working relationships such that LVMWD would like to maintain this oversight with the designer.
- Subsurface conditions will require focused utility research early in the design and will require more time for investigation and coordination.
- The pipelines are commodity driven.

The PMT recommends proceeding with progressive design-build (PDB) for the AWPF because:

- Early cost certainty and control will inform design decisions and help the team understand cost impacts as the design progresses.
- Innovation and collaboration will allow for design-builder creativity and JPA input on design decisions.
- This method results in the best value to capitalize on cost-effective approaches and equipment selections.
- The method allows for better constructability and optimized layout, as the workable area on the two sites is a small footprint.
- PDB provides a single contract with one team for staff to manage, given competing commitments.

The current Program expertise supports both of these approaches.

1.3.4 Regulatory Strategy

The two most important regulatory agencies for PWP permitting are the Division of Drinking Water (DDW) and the Los Angeles Regional Water Quality Control Board (Los Angeles RWQCB). Both agencies operate under state law and the delegated authority of the U.S. States Environmental Protection Agency (EPA). These agencies will regulate different aspects of the Program based on their statutory responsibilities: DDW is responsible for the regulation of public drinking water systems to provide safe water, and Los Angeles RWQCB is responsible for protecting groundwater and surface water quality in the Los Angeles region.

SWA regulations, which are applicable to the PWP, became effective in 2018. To date, only one SWA project, the City of San Diego's North City Pure Water Project serving Miramar Reservoir, has received a conditional approval letter from DDW and a NPDES permit from the San Diego RWQCB (NPDES Number [No.] CA0109398, Order No. R9-2020-0183) that implements the DDW-imposed discharge requirements.

The PWP will need the following two permits:

1) The Water Supply Permit Amendment issued by DDW, which regulates the withdrawal of water from Las Virgenes Reservoir for potable use
2) A discharge permit issued by Los Angeles RWQCB, which regulates discharges to Las Virgenes Reservoir

To achieve this end goal, the main focus of the regulatory strategy is to understand and define the requirements that will govern the detailed PWP designs. The strategy includes the following components:

- Provide effective and efficient level of treatment to meet DDW requirements considering operational complexity
- Apply a multipronged strategy to address CTR-regulated compounds
- Enhance dilution in Las Virgenes Reservoir during the summer

- Leverage AWPF Demonstration Project and Independent Advisory Panel (IAP) results, insights, and inputs
- Collaborate early and continuously with regulators to develop workable and acceptable permit language

The PMT plans to initiate the permitting process with DDW and RWQCB over the next 18 months with regular meetings to align the technical approach (Figure 1-6). The regulatory compliance goal for the PWP is to provide a "regulatory standard practice" that expedites RWQCB and DDW permitting, and provides PWP operational flexibility with minimum compliance costs.

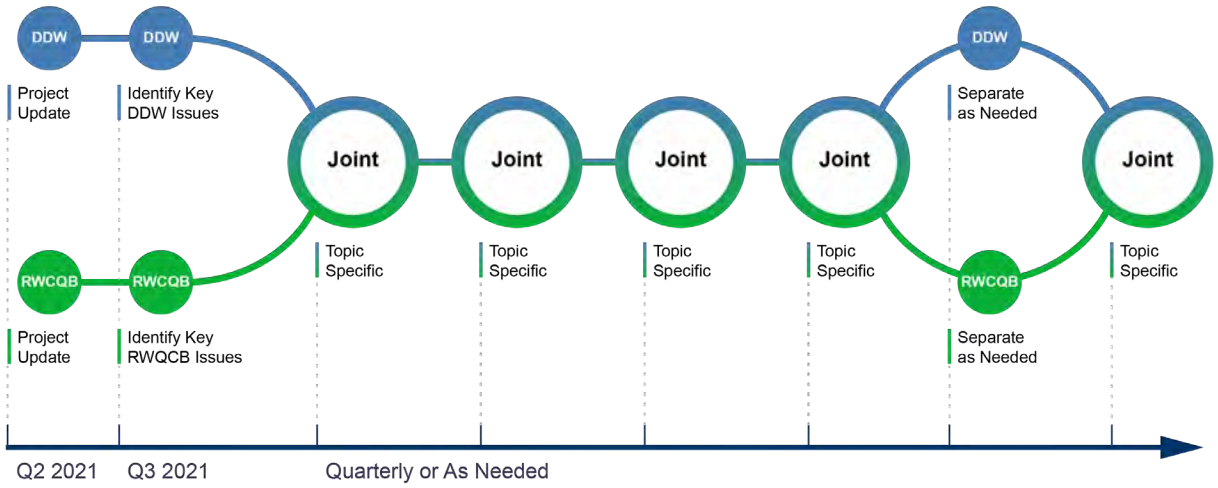

Figure 1-6. Regulatory Meeting Approach

1.3.5 Environmental (CEQA) Strategy

A Programmatic Environmental Impact Report (PEIR) provides early benefits and communication opportunities. A PEIR analyzes the PWP project portfolio and determines broad environmental effects. This approach allows the JPA (Lead Agency) to approve of the entire Program, even as some of the Program's projects are still in concept development and design. This PEIR strategy provides overarching coverage or "an umbrella" for many of the key PWP projects and associated components.

The PEIR approach:

- Allows significant design flexibility – as concepts move to detailed designs, conveyance alignment selections are made, and regional partnership agreements are formed
- Provides regulatory environmental and permitting inputs, compliance requirements, and mitigation needs
- Is used for state and federal low-interest loans and Local Resource Program applications
- Allows internal and external stakeholders and local and regional communities to see PWP's benefits, overall impacts, and mitigation needs
- Provides a Programmatic Delivery Platform without having to complete detailed, individual project CEQA analysis during conceptual designs
- Allows future project-specific environmental review, as required

A certified PEIR demonstrates compliance with CEQA by evaluating and publicly disclosing a program's potential environmental impacts. The PEIR is required to meet a Lead Agency's CEQA obligations and must be completed and certified before construction of individual projects. The PEIR is also required before discretionary permits can be issued by local or state agencies, such as California Department of

Fish and Wildlife or the RWQCB. This document is also a critical prerequisite for governmental applications for low-interest loan programs, such as the EPA's Water Infrastructure Finance and Innovations Act (WIFIA) and State Revolving Fund (SRF) programs, and MWD's Local Resources Program.

For development of the Program description and resource needs, the team's current assessment of focus areas include:

- **Conveyance Alignment and Construction Details.** Various conveyance elements require definition for full project coverage in the PEIR, including selection of the preferred alignment, basic alignment plan and profile sheets (for example, pipe centerline), and construction methods.
- **Alternatives Definition.** The PEIR should consider alternatives at multiple levels, including alternatives to the PWP itself and a No Project Alternative. However, this requires an explanation of what would happen in the absence of the PWP—an important opportunity to discuss long-term water supply reliability within the Program area and concerns under the NPDES permit requirements.
- **Cultural Resources.** The Program area has moderate sensitivity for archaeological resources and low sensitivity for historic (built environment) resources.
- **Public Outreach and Communications.** The CEQA process requires various notification processes that, although focused on agency outreach, provide an important outreach opportunity to all stakeholders and the general public. Katz & Associates will coordinate to confirm that all required CEQA legal and regulatory obligations are met, but that the legal and regulatory obligations do not override meaningful engagement.
- **Construction Impacts to Public.** PWP construction activities will be noticeable and will require evaluation in the PEIR. For the AWPF site, nuisance impacts to the adjacent properties will include noise and dust from all onsite construction activities. All PWP conveyance elements will have traffic and noise impacts.
- **Rare Plants and Oak Tree Removal.** The Agoura Road AWPF site and the discharge pipeline alignment near Las Virgenes Reservoir present special challenges regarding protected resources, primarily removal of oak trees (loss of oak woodland habitat) and several species of obscure (and hard to identify) rare plants.
- **Discharges to Malibu Creek.** California Water Code Section 1211 requires a Change Petition when water reuse projects result in changes to the amount of water discharged to an inland waterway. Implementing the PWP will result in a decrease in discharges from the TWRF into Malibu Creek; therefore, the JPA will be required to file a Change Petition with the State Water Resources Control Board (SWRCB) Division of Water Rights.

Figure 1-7 illustrates the required process for CEQA document review and adoption, starting with scoping and ending with PEIR certification and project approval by the JPA Board. Nested within each step are critical meetings with agency reviewers and the general public. The environmental leads will collaborate with PMT and Katz & Associates so that the Program information to be shared publicly is developed to an appropriate level and presented in a way that fosters understanding of the PWP and its expected benefits and potential adverse effects (for example, construction disruptions) that we are addressing in the PEIR.

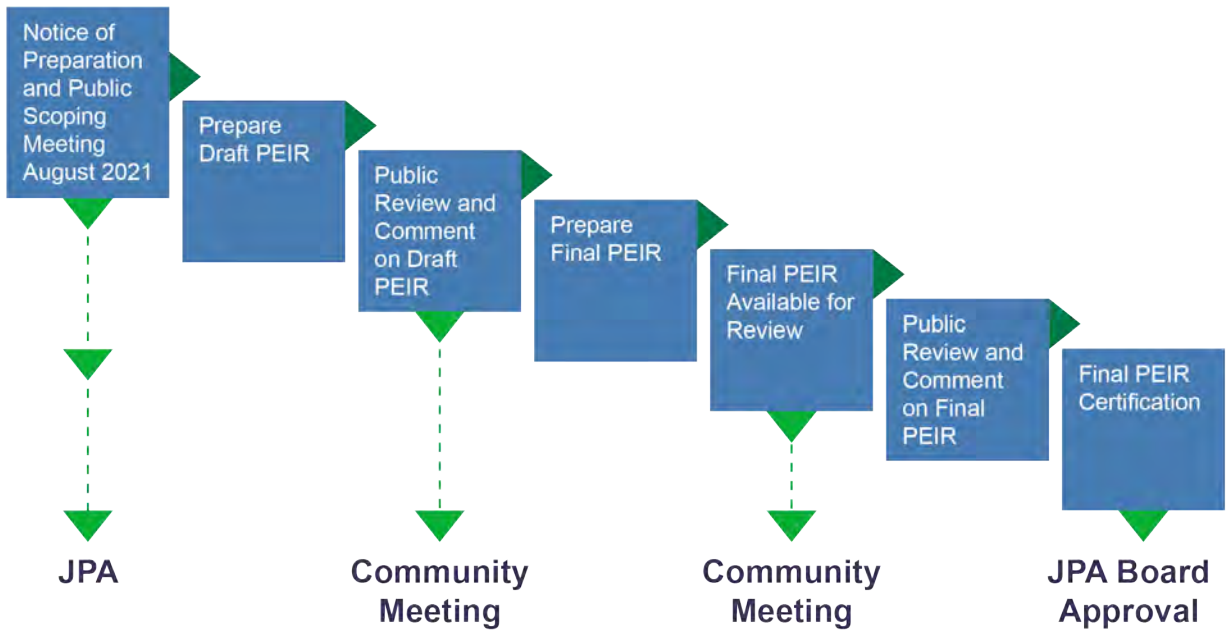

Figure 1-7. PEIR Process and Public Engagement

1.3.6 Public Outreach Strategy

All JPA Board and PWP staff are communication ambassadors. The team will support the general public outreach for the Program, while focusing on supporting the specific needs of the CEQA process.

PWP communication objectives include the following:

- Implement a public outreach program that transparently explains the PWP, the high quality and safety of the water it produces, and its benefits
- Provide consistent and complete information to stakeholders, including multicultural communities, so there are no surprises throughout the multiphased development process
- Foster understanding and acceptance of the science and advanced technology behind recycled water and IPR
- Minimize confusion, opposition, and discomfort with IPR
- Confirm consistency of information among all representatives and spokespersons
- Support the CEQA process with formal public engagement and communication

The main public outreach strategy includes:

- Balancing anticipated challenges with PWP opportunities and strengths
- Leveraging proven solutions, including facts, and matching the correct level of science for the audience
- Leveraging JPA benefits in already knowing the audience, and addressing information and communication needs using established pathways
- Maintaining consistent messaging using PWP branding materials, facts, and supporting scientific information
- Using successful peer applications and proven experiences when facing challenges
- Engaging and informing stakeholders throughout the PWP delivery life cycle and before key milestones, JPA actions, and major environmental documentation approvals

1.3.7 Risk Assessment Approach to Support Program Contingency

Managing risks to support the PWP at the lowest possible cost, with the fewest adverse environmental or human health impacts, and according to the defined schedule are critical aspects of successful Program implementation. Risks, either threats or opportunities, need to be identified; their potential impact on performance, human health, and the environment predicted; and mitigation strategies developed for avoiding, abating, minimizing, and mitigating the risks. This strategy also includes assigning risks and risk mitigations to the proper parties for resolution, tracking, and reporting.

The PMT's approach to risk management starts at the earliest stages of a project by detecting, identifying, and managing risks that have a high probability of negatively impacting safety, quality, budget, and schedule. In the same time frame, risks that impact the entire Program must quickly be identified and follow the same procedure as project-specific risks. Project- and Program-related risks are often different but are interconnected through cost and schedule impacts. In addition, opportunities will be identified, tracked, and managed using a similar approach to risks.

The Program is using an organized, systematic, decision-making process that identifies, assesses, evaluates, and prioritizes risk uncertainties identified as a threat to Program or project objectives. The risk management process has been initiated with development of the baseline cost-loaded schedule, will be updated as each project is initiated, and managed through the life of the Program.

Figure 1-8 shows the five basic steps of the risk management approach.

The Risk Register is the backbone of the risk management process and the mechanism to identify, assess, and document each project and Program risk to track significant threats and opportunity elements. The PMT held four risk management workshops to initiate Risk Register development through identification, qualitative analysis, and quantitative analysis of risks. A Monte Carlo quantitative cost risk analysis estimated a $79 million potential cost impact if identified risks are not mitigated. The results ranged from $9 to 27 million for the planning, detailed design, procurement, construction, and operations phases. Based on the assessment and critical phase values, the PMT has elected to carry $20 million in Program risk contingency.

Figure 1-8. Risk Assessment Overview

1.3.8 Cost and Schedule

The Jacobs Team developed a preliminary schedule and an independent Class 4 cost estimate for the PWP to include capital costs, soft costs, and O&M costs, considering the recommendations from the Readiness Assessment. The Readiness Assessment identified potential system requirements beyond the baseline project, which was established through the Title XVI Study. The need for the other potential system requirements will be confirmed through technical evaluation, leveraging of the Demonstration Facility, and alignment of the regulatory strategy through the work to be completed over the next 16 months of Phase 1. A baseline schedule and cost for the confirmed project elements will be provided at the completion of Phase 1 for JPA Board adoption of the Program budget and delivery timeline.

1.4 Phase 1, Programmatic Delivery

With the JPA Board approval of the PIP, the Jacobs Team will continue preparation of the technical studies to support regulatory, environmental, funding, and delivery activities for the identified projects.

The team will integrate the results of the Readiness and Risk Assessments in preparing the evaluations and analysis described in this section. These efforts will further define the projects and provide cost clarity, project sequencing and scheduling, and opportunities for collaboration. Major deliverables completed and planned under Phase 1 include:

Completed in the first 6 months:

- ✓ Chartering
- ✓ Program Delivery Portal (Portal), including Document Management System and Performance Dashboards
- ✓ PMP
- ✓ Quality Management Plan and Forms
- ✓ Change Management Plan and Forms
- ✓ Risk Management Plan and Forms
- ✓ Readiness Assessment
- ✓ Regulatory Strategy Plan
- ✓ Environmental Strategy Plan
- ✓ Public Outreach Strategy and Communication Plan
- ✓ Procurement Strategy Plan
- ✓ Cost-loaded Baseline Program Master Schedule
- ✓ PIP

Planned for the next 18 months:

- Tailored Analytics and Comparative Techniques (TACT) Model Updates
- Funding Strategy Action Plan
- Procurement Packages for Design-Build (DB) and PDB Contracts
- Technical Studies, including:
  - Water Augmentation Strategies
  - Discharge 005 Capacity Analysis
  - Alternative Emergency Discharge Options
  - Reservoir Modeling and Recommendation for Air Curtain
  - TWRF Flow Equalization
  - Recycled Water Chlorination Evaluation
  - Integrated Operational Strategies for Westlake Filtration, TWRF, and new AWPF
  - Enhanced Source Control Plan
  - AWPF Site Evaluation
  - AWPF Preliminary Design Report
  - AWPF Alternative Project Delivery Specifications
  - Hydraulic Analysis
  - Preliminary Geotechnical (Desktop) Evaluation
  - Dual Direction, Multipurpose Brine Pipeline Analysis
  - Pipeline Alignment Study Report
- Environmental and Regulatory, including:
  - Notice of Preparation
  - CEQA Findings of Fact and Statement of Overriding Considerations
  - Administrative Draft and Final Program Environmental Impact Report
  - Public Draft and Final PEIR
  - List of Permitting for Program
  - Regulatory Coordination Meetings
  - Draft and Final Concept Report

2. Program Chartering

2.1 Introduction

Chartering is the action associated with a set of workshops designed to clearly establish expectations, the Las Virgenes - Triunfo PWP vision and mission, Program goals, CSFs, and roles and basic responsibilities. Chartering is a critical element for Program success. Building relationships and establishing these items early set the tone for the entire Program effort.

However, chartering is not a one-time effort; rather, it is an engagement of delivery resources throughout the life of the Program. Chartering involves staff from the LVMWD and consultants involved in the day-to-day delivery, along with the involvement of other LVMWD staff and TWSD partners who may have infrequent, yet important, associations with successful Program delivery. Chartering is the first major step in establishing a meaningful collaborative governance structure for successful Program delivery.

The charter itself is a short document capturing the mission, vision, and goals developed and endorsed by the PMT. This document was developed in a team virtual setting using an open, collaborative session strategy so that PMT voices were heard and incorporated into this charter.

This section of the PIP summarizes the purpose and results of the Program chartering efforts; in particular, the results of the initial chartering session in December 2020.

2.2 Chartering Purpose

The chartering process is designed to set the stage for successful resource interaction and maturation for a high-performing team that efficiently produces effective results and can handle decision making, change, and challenges both smoothly and gracefully. Experience has shown that early engagement by the entire resource team in establishing these basic performance expectations sets the effort on the appropriate pathway to team and Program delivery success.

2.3 Chartering Elements

The initial chartering workshops were held virtually in December 2020 because of COVID-19 travel and meeting size restrictions and concerns. Table 2-1 lists the subjects that were part of these chartering sessions. These subjects, and their descriptions, were the topics that produced the integrated team conversation and endorsement of the Program direction.

Table 2-1. Chartering Agenda

Session	Description
Session 1 – Alignment Part 1 (November 30, 2020)	▪ Establish common language and communication preferences. ▪ Understand individual insights. ▪ Recognize the team members may have different preferences, and determine how to effectively and proactively manage these differences.
Session 2 – Alignment Part 2 (December 7, 2020)	▪ Characterize expectations for success. ▪ Agree to behaviors from a personal, programmatic, and organizational standpoint.
Session 3 – Chartering Part 1 (December 16, 2020)	▪ Define the Program. ▪ Characterize Program expectations and elements required for success (CSFs). ▪ Clarify roles and associated responsibilities in Program delivery.
Session 4 – Chartering Part 2 (December 17, 2020)	▪ Clarify team structure, governance, and associated decision authority. ▪ Characterize operating protocols and performance measures. ▪ Generate Commitment Statement.

2.4 Chartering Outcome

The desired outcomes from the chartering process include defining, establishing, and communicating the following elements:

- Preferred behaviors
- Program vision and purpose
- CSFs
- Governance roles and responsibilities
- Performance measures

2.4.1 Preferred Behaviors

Understanding, communicating, and capturing expectations about how we will deliver the Program are a significant part of the chartering session. The participants organized into six groups to list their expectations for this investment from a personal, programmatic, and LVMWD perspective.

Figure 2-1 at the end of this section shows the results of the integrated team conversation that produced the preferred behaviors. All participants in the Program effort were asked to advance or achieve these expectations.

2.4.2 Program Vision and Purpose

A Program vision is an aspiration goal. The Program vision was discussed extensively during the chartering session, with the final wording agreed to by Dave Pederson, LVMWD General Manager (GM) and Mark Norris, TWSD GM. The Program vision is as follows:

> *A sustainable partnership to bringing water full-circle through commitment, collaboration, trust, transparency, innovation, and environmental stewardship; resulting in a cost-effective and regulatory compliant local water source that is seen by the public as best in the industry.*

2.4.3 Critical Success Factors

The entire team sorted through the Program's strengths, weaknesses, opportunities, and threats (SWOTs) to characterize factors that are critical to success. These CSFs, as the name implies, are essential to the success of the Program. All Program activities and decisions must focus upon accomplishing the CSFs (Figure 2-1).

2.4.4 Governance Roles and Responsibilities

Program governance outlines the roles and responsibilities of each group and how they will advance the overall Program purpose and CSFs. The roles and responsibilities were discussed in six breakout rooms by the following groups:

- Program Leadership and Program Controls
- Procurement, Finance, and Delivery Method
- Environmental and Regulatory Compliance
- O&M
- Technical
- Outreach and Communication

Each group identified their roles and responsibilities (Figure 2-1), and realized the interdependency of all groups in working together for a common purpose.

2.4.5 Performance Measures

Performance measures were brainstormed to provide feedback and accountability in achieving the goals of the Program and are summarized in Table 2-2.

Table 2-2. Possible Performance Measures

Category	Possible Measures	Other Metrics	Other Considerations
Schedule	Measuring and tracking deliverables	Staying ahead of schedule	Achieving intermediate milestones
Budget	Developing a realistic, cost-loaded schedule	Having minimal impact on rates	Securing solid funding
Scope	Setting clear final design parameters	Making progress toward achieving permits	-
Public Engagement and Acceptance	Tracking social or video views	Confirming public satisfaction	Confirming employee buy-in and championing the Program
Awards and Accolades	Developing letters of support	Keeping the JPA Board happy, and providing team satisfaction	Having pride in accomplishments and industry leadership
Clear Communication	Developing the Portal and Program Management Plan	Communicating work across disciplines	Holding subsequent chartering for new team members

Notes:
- = not applicable

2.5 Charter Poster

The tangible result of the charter session was a charter poster. This poster captures the results of the sessions in one place. The final element is a commitment statement characterizing the agreement of the participants to work toward delivering all of these elements (Figure 2-1). This poster serves as a reminder of the commitments made at the chartering session.

2.6 Continued Chartering

Chartering is not a one-and-done effort. Checking in with the team, adjusting roles and responsibilities, and clarifying expectations is required as a team and the Program matures. Governance will also evolve as the Program delivery matures. The need for the chartering check-ins will be highly dependent on the needs of the team and the Program. The intent is to:

- Re-establish the direction
- Review performance against the endorsed CSFs
- Look at the governance structure
- Bring the appropriate team members together to maintain the high performance of the team

The PMT is expected to document and share the items captured during each chartering session. Actions and activities must adhere to the performance expectations, satisfy the items that are critical to success, and strive to advance the vision.

Figure 2-1. Charter Poster

3. Program Management Plan Overview

3.1 Purpose

The purpose of the PMP is to provide overall guidance to the PMT to successfully implement the Las Virgenes - Triunfo PWP. The PMP establishes roles and responsibilities, procedures, requirements, templates, and the overall management approach of the Program, tailored to PWP-specific needs.

Programmatic delivery is based on a broad and encompassing management approach to achieve benefits through delivery of identified projects. Projects include those defined by the PWP and those identified during the Readiness Assessment. The PMP is intended to accomplish the following objectives:

- Establish the PMT organization, and define the roles and responsibilities that will manage the Program.
- Identify approaches, develop strategies, and define requirements for all aspects of Program management. Once identified, important aspects will be integrated into execution-level documents required for PWP delivery (such as work plans for individual tasks and Project Execution Plans for the Program's individual projects).
- Define the Program implementation processes, including for communication, management approaches, project execution, and overall Program controls and reporting.
- Generally define Program functions, including:
  - Change management
  - Construction
  - Cost estimating
  - Design
  - Environmental compliance
  - Engineering
  - Health and safety (H&S)
  - Land acquisition
  - Legal
  - Permitting
  - Procurement
  - Purchasing
  - Reporting
  - Resource management
  - Risk management
  - Schedule management
  - Security
  - Technology
- Provide specific sequential steps and tasks to be undertaken so that best practices are used in implementing the Program to meet schedules; avoid scope creep; avoid cost increases; and provide needed service, functionality, and efficiency.
- Generally define approaches and requirements for each phase of the Program's projects, including:
  - Project Definition
  - Schematic Design
  - Design Development
  - Construction Document Development
  - Bid Evaluation
  - Construction and Commissioning
  - Closeout

As the Program matures, the PMP will be updated periodically to reflect additional information or changes that occur.

3.2 Program Management Plan Structure

The PMP is intended to provide the PMT with the overall strategies and approaches used to deliver the Program. The PMP is divided into sections that provide the overall strategy, responsibilities, and processes to deliver the overall Program and its individual projects. The PMP was developed in recognition of the full range of Program stakeholders, including:

- JPA
- LVMWD management and staff
- Partner agencies
- PMT
- Jacobs Team
- Design consultants
- Contractors
- Stakeholders involved in the overall delivery of the Program, such as regulatory and permitting agencies
- Citizens and outside stakeholder interest groups

The PMP was developed as part of the Fast-Start process during the first 6 months of the Program. LVMWD staff provided the LVMWD policy and procedures during virtual workshops. Jacobs introduced the business mapping process, and LVMWD provided clarifications on existing processes. The PMP is accessible to the PMT through the Portal. It is a living document, evolving and being updated through each phase of the Program.

The PMP includes the following sections. A brief description is provided for each section:

- **Section 1, Overview.** Provides the purpose, structure, and outline of the plan.
- **Section 2, Program Chartering**. Provides an overview of this fundamental foundation process for Program delivery and success, and the results of the PWP initial chartering effort.
- **Section 3, Program Governance**. Establishes a framework for management of the Program, including the organizational structure, policies, and procedures used to implement projects, hold meetings, issue resolutions and escalations, and conduct high-level reporting.
- **Section 4, Program Scope of Work**. Provides an overview of the projects that will be delivered by the Program.
- **Section 5, Business Process Mapping**. Identifies process workflows for select Program functions essential to efficient delivery. These maps demonstrate how the PMT approaches are in alignment with LVMWD and JPA existing processes, procedures, policies, specifications, and requirements.
- **Section 6, Program Controls Management**. Outlines tools, policies, and procedures the PMT will use to monitor and track performance, and update project progress to manage and deliver the Program on scope, schedule, and budget.
- **Section 7, Performance Monitoring and Reporting**. Establishes frequency and performance criteria that will be monitored and reported throughout the Program life cycle; and defines reports and Portal dashboards that will be prepared for use by the PMT, LVMWD, and JPA.
- **Section 8, Project Management Information System**. Describes the electronic Portal and its components that will be used to store, manage, distribute, and display Program and project information and documents.
- **Section 9, Change Management**. Documents the process to manage change that may occur to Program and project scope, cost, and schedule. This process includes addressing incident escalation and a Change Management Board for decision making, escalation to the JPA or LVMWD Boards (or both), and approval. The change evaluation process and change log are critical to the success of the overall Program, as changes to individual projects can affect other projects within the Program. This section establishes the change log requirements.

- **Section 10, Risk Management**. Identifies the processes and tools to predict, quantify, identify, track, mitigate, and manage risk for all Program and project elements. This section establishes the Risk Register requirements for the Program and individual projects.
- **Section 11, Quality Management**. Outlines the processes and requirements to verify that the Program quality objectives are achieved; and defines quality management processes for projects, from inception through completion.
- **Section 12, Document and Records Management**. Establishes the processes and systems governing how all documents created throughout the course of the Program will be managed to allow controlled distribution of data, version control, storage, archiving, and sharing of files in a central site.
- **Section 13, Communications Management**. Defines communication protocols internal to the PMT and among the PMT, LVMWD, JPA, and outside agencies as necessary to implement Program projects.
- **Section 14, Outreach.** Establishes the Program's approach to working with the external Program stakeholders; describes the tools that will be used to manage stakeholder communication, outreach challenges, and risks; and establishes the Program brand and core messages.
- **Section 15, Procurement.** Establishes Program-specific requirements and procedures for equipment, materials, and consultant and contractor procurement. Outlines the recommended project delivery approach.
- **Section 16, Design Management**. Provides a description of how the PMT will manage project design consultants and the Program value engineering process.
- **Section 17, Real Estate Acquisition Management**. Outlines the processes and procedures to identify and confirm the necessary property acquisition, easements, and rights-of-way (ROWs) for Program projects; initiate and complete property acquisition, easement, and ROWs; and take possession of acquired property, easements, and ROWs.
- **Section 18, Construction Management**. Provides a description of the Program approach to construction management, including PMT and construction management interfaces with designers, contractors, other utility agencies, permitting and regulatory agencies, and the public.
- **Section 19, Environmental and Permitting Compliance**. Establishes the roles, responsibilities, and procedures for PMT staff to identify the required permits for each Program project, apply for and remit payment for permits, and for timely permit acquisition and compliance. Also defines roles, responsibilities, and procedures for Program environmental and regulatory compliance.
- **Section 20, Utilities Coordination**. Defines the role of the PMT in coordination with LVMWD engineering and O&M staff and outside utility agencies for efficient delivery of individual projects and the Program.
- **Section 21, Cost Estimating**. Establishes cost estimating standards that will be used for each phase of project delivery and for the overall Program.
- **Section 22, Health and Safety Management**. Introduces the framework for the H&S of all PMT members throughout Program delivery, and presents the Program H&S Policy Statement.

Sections will be updated as necessary so they remain current and address changes in Program implementation strategies, processes, and tools.

4. Readiness Assessment

4.1 Introduction and Overview

The Las Virgenes – Triunfo JPA is a partnership between LVMWD and TWSD, established to cooperatively treat wastewater for these two bordering areas that share the Malibu Creek watershed. The JPA has been a pioneer in the development of recycled water as a renewable resource, operating the TWRF since 1965 (LVMWD 2021a). All of the recycled water produced at the TWRF is used for irrigation during summer months; however, surplus recycled water is discharged to Malibu Creek in winter months. The NPDES permit prohibits discharge to Malibu Creek from April 15 to November 15, except under an operational emergency or qualifying storm event.

Regional Board Resolution Number (No.) R16-009 (May 16, 2017) amended the Water Quality Control Plan for the Los Angeles Region (*Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* [Basin Plan] [Los Angeles RWQCB 2020]) to incorporate more stringent seasonal nitrogen and phosphorus Total Maximum Daily Loads (TMDLs) for discharge to Malibu Creek to address benthic community impairments (Table 4-1).

Table 4-1. Malibu Creek Discharge Limits for Tapia Water Reclamation Facility

Parameter	Period	Average Monthly	Seasonal Average
NO_3^- + NO_3^-N	Current limit	8 mg/L 800 lb/d	--
TN[a]	Summer: April 15 to November 15	--	1 mg/L
TN[b]	Winter: November 16 to April 14	--	4 mg/L
TP[a]	Summer: April 15 to November 15	--	0.1 mg/L
TP[b]	Winter: November 16 to April 14	--	0.2 mg/L

[a] Effective in Year 2022, 5 years from date of Resolution No. R16-009 (May 16, 2017).

[b] Effective in Year 2030, 13.5 years from date of Resolution No. R16-009 (May 16, 2017).

Notes:

-- = not applicable

lb/d = pound(s) per day

mg/L = milligram(s) per liter

N = nitrogen

NO_3^- = nitrate

NO_3^-N = nitrate nitrogen

TN = total nitrogen

TP = total phosphorus

The JPA had to consider a multipronged approach to address these stringent EPA water quality standards for discharge of recycled water into the creek, as compliance was determined to be expensive and impactful to sewage treatment rates for customers. The JPA has expressed its commitment to creek stewardship, but with common sense solutions to water quality issues (Los Angeles RWQCB 2017b).

As part of a robust, 18-month stakeholder participation process that began once the JPA was aware of the upcoming discharge limit changes, the JPA evaluated a number of options to beneficially use surplus recycled water to improve regional water supply reliability and drought resilience, while eliminating discharge into the creek. On August 3, 2016, the JPA Board voted to explore the preferred alternative, IPR, which would create a local, reliable water supply for the region (LVMWD 2021b).

A subsequent feasibility study conducted under a U.S. Bureau of Reclamation grant identified the preferred project alternative as the IPR project, now known as the PWP, over a seasonal storage project, the Encino Reservoir Project (Kennedy Jenks Consultants 2018).

The PWP represents a unique opportunity to proactively address three major challenges facing the JPA:

1) Comply with more stringent regulatory requirements for discharge to Malibu Creek.
2) Balance seasonal variation of recycled water demand.
3) Create a valuable resource to supplement the region's water supplies, enabled by California's reservoir water augmentation regulations.

The fundamental plan is to build an AWPF to treat tertiary effluent from the TWRF for IPR, and convey the purified water to the Las Virgenes Reservoir, where it will be blended with MWD supply. The water from the Las Virgenes Reservoir will then be treated at the WFP prior to distribution. Additionally, pipelines will be constructed to convey source water from the TWRF to the AWPF for treatment, purified water from the AWPF to the Las Virgenes Reservoir for storage, and RO concentrate to the SMP for ultimate discharge to the ocean.

The TWRF will provide treated tertiary effluent to the new, 7.5-MGD AWPF. The 12-MGD TWRF currently produces approximately 7.5 MGD of tertiary effluent in the winter months. However, there is no available effluent flow in the summer months due to the effective nonpotable reuse program, based on 2017 to 2019 flow data. Seasonal variation in flow to the AWPF will complicate operations and create an underused asset for half of the year. Achieving a steady-state operating flow for the AWPF would improve systemwide operational efficiency and continuously produce a valuable product of purified water. In support of this goal, the PWP is conducting a water augmentation evaluation to identify and evaluate feasible options for augmenting sources of influent water to the TWRF, directly to the AWPF, or both. The results of this evaluation will be considered as the conceptual design for the PWP progresses.

4.2 Readiness Assessment Objectives

The purpose of the Readiness Assessment was to assess the status of the PWP by identifying gaps in the baseline project definition and strategy, potential roadblocks that could impede progress, and an array of potential priorities for consideration by the JPA to set the PWP foundation. The Readiness Assessment helped define Program uncertainties to help guide the technical, regulatory, environmental, and financial efforts for the next 18 months.

The main objectives of the Readiness Assessment included:

- Provide best value for JPA capital investment for current regulatory compliance
- Consider future-proofing facilities for pending regulatory requirements and ongoing Southern California drought impacts
- Understand PWP uncertainties regarding Program costs, schedule, and risk management
- Develop an integrated strategy for JPA facilities to increase O&M flexibility and system storage, and best manage water resources in the service area

Jacobs and Woodard & Curran reviewed the baseline project that was established in the previous planning studies (Table 4-2) against regulatory requirements and experience with other accepted full advanced treatment projects to validate the Program's foundation; consider whether a modified baseline is required to future-proof the facilities; and assess impacts to Program costs, schedule, and risk.

Table 4-2. Pure Water Project Planning Studies

Focus	Studies
General	▪ *Pure Water Project Las Virgenes-Triunfo Joint Powers Authority Title XVI Feasibility Study* (Kennedy Jenks 2018) ▪ *Basis of Design Report (BODR) Recycled Water Seasonal Storage* (MWH/Stantec 2016)
AWPF	▪ *AWTP Preliminary Siting Study Report* (Woodard & Curran 2018) ▪ *Recycled Water Seasonal Storage Demonstration Project PDR* (CDM Smith 2017)
Reservoir	▪ *Cover Letter Briefing, Las Virgenes – Triunfo Joint Powers Authority, Modeling Results for the Las Virgenes Reservoir for Pure Water Program* (Trussell 2018) ▪ LVR Modeling (FSI 2017)
Conveyance	▪ *Regional Brine Management Study* (Woodard & Curran 2020)

4.3 Regulatory Requirements

4.3.1 California Indirect Potable Reuse Regulations and Treatment Requirements

In California, requirements for IPR have been established by the SWRCB. California Water Code Section 13561 defines the two types of potable recycled water use. The implementation of projects requires coordination with both the Regional Water Quality Control Board (RWQCB) and the California DDW, as described in Section 6.

The two main approaches to IPR in California are:

1) **Groundwater replenishment**: Includes using an aquifer to provide an environmental buffer between advanced water treatment (AWT) of wastewater and groundwater wells that supply water into a drinking water system. There are two types of groundwater replenishment projects that have significantly different regulatory requirements: (a) Surface application (spreading basins) and (b) subsurface application (direct injection).
2) **Reservoir water augmentation**: Includes using a reservoir to provide an environmental buffer between AWT and a water treatment plant (WTP) that supplies water into a drinking water system. This approach is also known as SWA. The SWRCB adopted SWA regulations in March 2018.

Figure 4-1 shows different approaches to IPR, with stars illustrating the approaches listed.

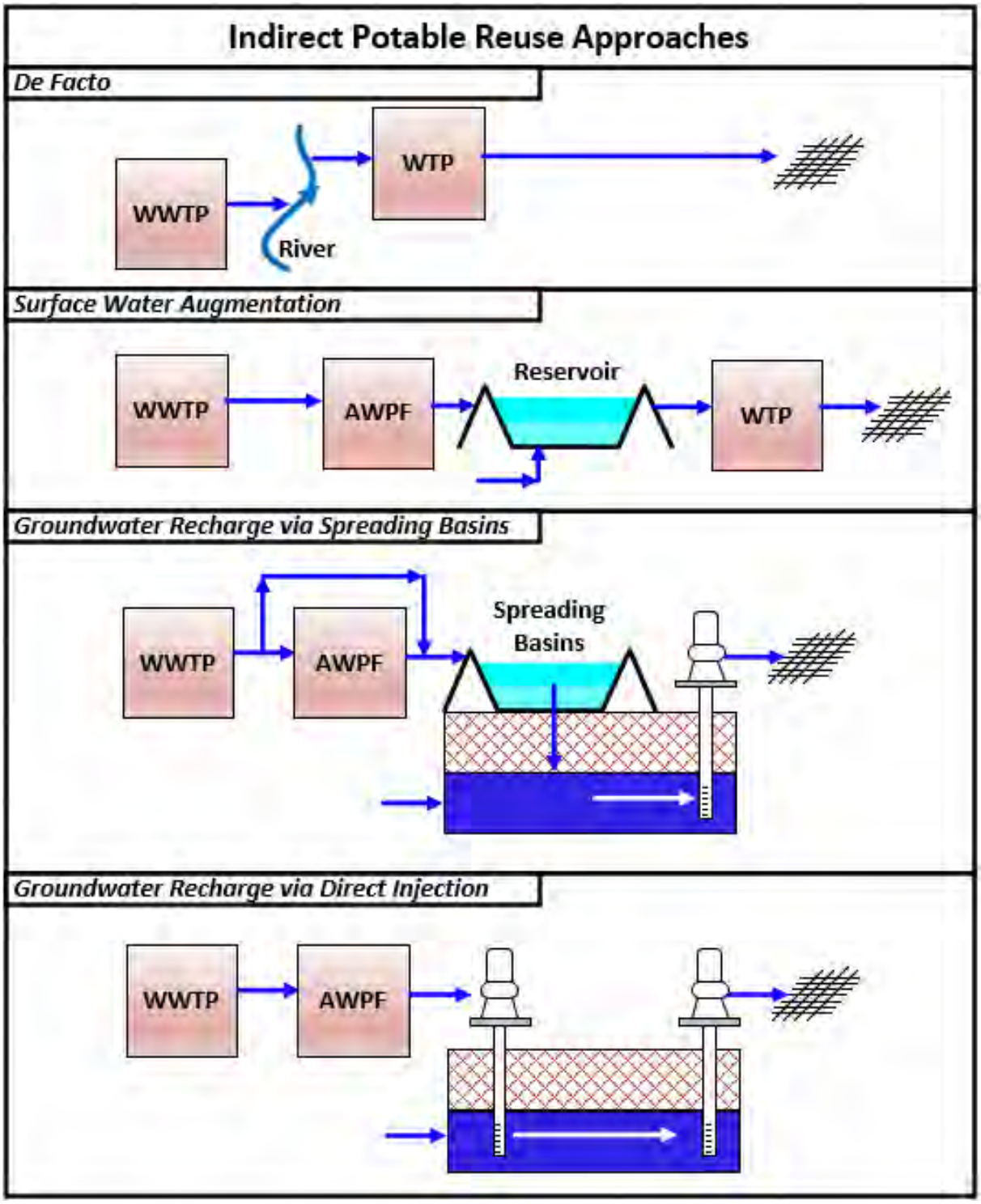

Figure 4-1. Indirect Potable Reuse Approaches

4.3.1.1 Key Indirect Potable Reuse Regulations

Pathogen removal requirements vary for groundwater replenishment and reservoir augmentation projects. Table 4-3 provides a summary of the key requirements for a groundwater replenishment project.

Table 4-3. Summary of Minimum Treatment Requirements for Groundwater Replenishment Indirect Potable Reuse

Pathogen	Criteria at Compliance Point	
Replenishment Type	**Spreading Basins**	**Direct Injection**
Virus LRV	12 log before extraction for potable reuse	
***Giardia* LRV**	10 log before extraction for potable reuse	
***Cryptosporidium* LRV**	10 log before extraction for potable reuse	
Multibarrier Approach (minimum required)	2 treatment barriers (filtration and disinfection)	3 treatment barriers (unspecified, utility to propose)
Other Requirements	**Compliance before spreading basin:** ▪ < 2 NTU (average in any 24-hour period) ▪ ≥ 5-log virus inactivation ▪ < 2.2 total coliform/100 mL **Compliance before extraction for potable reuse:** ▪ 10-log reduction credit for *Giardia* and *Cryptosporidium* if municipal treated wastewater is retained underground for at least 6 months ▪ No advanced treatment requirements, unless to achieve LRVs ▪ Meet drinking water MCLs (except nitrogen) and action levels for lead and copper ▪ NDMA < 10 ng/L, and meet other NLs[a] **Other:** ▪ Downgradient Monitoring: Monitor one location representing no less than 2 weeks or no more than 6 months of travel through the saturated zone and at least 30 days upgradient from nearest drinking water well ▪ Additional well required between GRRP and nearest downgradient drinking water well ▪ Maximum RWC is 20% without additional criteria, and up to 100% if additional criteria met (e.g., health effects study and TOC monitoring) ▪ TOC Monitoring: TOC performance over 20 weeks meets TOC maximum ≤ 0.5 mg/L / RWC in – (1) undiluted recycled water – (2) diluted percolated recycled water with the value amended to negate the effect of dilution, or – (3) undiluted recycled water adjusted by the surface application factor	**Compliance before extraction for potable reuse:** ▪ Advanced Treatment Requirement: AOP required to provide 0.5-log 1,4-dioxane oxidation (unless otherwise directed by DDW) ▪ Meet federal Safe Drinking Water Act drinking water MCLs (except nitrogen) and action levels for lead and copper ▪ NDMA < 10 ng/L, and meet other NLs **Other:** ▪ Downgradient monitoring: Monitor one location representing no less than 2 weeks or no more than 6 months of travel through the GRRP and at least 30 days upgradient from nearest drinking water well ▪ Additional well required between GRRP and nearest downgradient drinking water well ▪ Maximum RWC is 100% ▪ TOC monitoring: TOC will not exceed 0.5 mg/L based on a 20-week running average of all TOC results and the average of the last 4 TOC results

Table 4-3. Summary of Minimum Treatment Requirements for Groundwater Replenishment Indirect Potable Reuse

Pathogen	Criteria at Compliance Point	
Replenishment Type	**Spreading Basins**	**Direct Injection**
Other Requirements	▪ Less than or equal to 10 mg/L TN (applies to recycled water effluent or blended water concentration) ▪ Maximum 1-log virus reduction credit earned for each month retained underground ▪ Minimum allowable underground response time is 2 months ▪ Wastewater management agency must have industrial pretreatment and pollutant source control program ▪ Implement a monitoring program for diluent water, with quality not to exceed primary MCLs or a secondary MCL upper limit; meet nitrogen controls and NLs; and determine volume for credit (e.g., initial RWC < 20%) ▪ Response to Off-Spec Water: Prior to operation, approval of a plan describing steps that will be taken to provide an alternative source of drinking water, or an approved treatment mechanism; a project sponsor will provide all owners of a producing water well, that as a result of the GWR operation: (1) violates a California or federal drinking water standard; (2) has been degraded to a degree that it is no longer safe for drinking; or (3) receives water that fails to meet pathogen reduction levels specified in the recycling criteria	

[a] NLs are health-based advisory levels established by DDW for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their NLs, certain requirements and recommendations apply.

Notes:

< = less than
≤ = less than or equal to
≥ = greater than or equal to
AOP = advanced oxidation processes
DWR = California Department of Water Resources
GRRP = Groundwater Replenishment Reuse Project
GWR = groundwater recovery
LRV = log reduction value
MCL = maximum contaminant level
mL = milliliter(s)
NDMA = N-nitrosodimethylamine
ng/L = nanogram(s) per liter
NL = notification level
NTU = nephelometric turbidity unit
RWC = recycled water contribution
TOC = total organic carbon

Table 4-4 provides an example of how most IPR AWT trains can achieve these requirements.

Table 4-4. Example Advanced Water Treatment Train for Groundwater Recharge Indirect Potable Reuse

Pathogen	Treatment at Upstream WWTP[a] (log)	MF/UF (log)	RO (log)	UV-AOP (log)	Chlorine Contact Time (log)	Underground Detention Time (log)	Total (log)	Total Required (log)
Virus	0-2.0	0	1.5-2.0	6.0	0-6.0	1.0-6.0[b]	12.5-21.0	12.0
Giardia	0-2.0	3.0-4.0	1.5-2.0	6.0	0-0.5	0	10.5-14.5	10.0
Cryptosporidium	0-2.0	3.0-4.0	1.5-2.0	6.0	0	0	10.5-14.0	10.0

[a] Requires a site-specific study to obtain credits from WWTP, and few projects have done this.

[b] Assumes a 1.0 log per month virus and 5 months underground. Minimum allowable underground response time is 2 months. Note that credit varies on underground detention time calculation method: 1.0 log per month with added tracer, 0.75 log per month with intrinsic tracer, and 0.5 log per month via numeric modeling (refer to Title 22 CCR, Division 4).

Notes:

CCR = California Code of Regulations
MF = microfiltration
UF = ultrafiltration
UV = ultraviolet
WWTP = wastewater treatment plant

Table 4-5 provides a summary of the main pathogen treatment requirements for a reservoir augmentation project. Note that the reservoir augmentation approach requires 12/10/10 log reduction for viruses, *Giardia,* and *Cryptosporidium*, but assumes 4/3/2 log reduction through the WTP, resulting in a minimum requirement of 8/7/8 log reduction at the AWPF. Full advanced treatment is also required, with RO and UV-AOP.

Table 4-5. Summary of Minimum Pathogen Treatment Requirements for Reservoir Augmentation

Parameter	Dilution Factor, Detention Time, and Log Removal Values					
Dilution Factor	**≤1% recycled water by volume (1:100 dilution)**			**≤10% recycled water by volume (1:10 dilution)**		
Detention Time (days)[a]	60-119	120-179	≥180	60-119	120-179	≥180
Virus	9 log	8 log	8 log	10 log	9 log	9 log
Giardia	8 log	7 log	7 log	9 log	8 log	8 log
Cryptosporidium	9 log	8 log	8 log	10 log	9 log	9 log
Multibarrier Approach (No. of required treatment processes)	2	2	2	3	3	3
Additional SWRCB Approval?	No	Yes	Yes	No	Yes	Yes
Other Requirements	▪ Meet Safe Drinking Water Act drinking water MCLs, action levels for lead and copper, and NLs ▪ CTR limits for treated discharges into inland surface waters, enclosed bays, and estuaries include the following: ▪ NDMA < 0.69 ng/L = minimum detection limit ▪ Bromoform < 4.3 µg/L ▪ CDBM < 0.401 µg/L ▪ DCBM < 0.56 µg/L ▪ 126 pollutants reviewed on a project-specific basis; pollutants may require limits or monitoring, depending on effluent and receiving water quality ▪ Wastewater management agency must have industrial pretreatment and pollutant source control program ▪ 0.5-log (69%) reduction of 1,4-dioxane					

[a] The SWRCB may increase the minimum virus, *Giardia* or *Cryptosporidium* log reduction requirement (or some combination of these) through additional treatment to obtain SWRCB approval of an alternative minimum theoretical retention time.

Notes:

µg/L = microgram(s) per liter

CDBM = chlorodibromomethane

CTR = California Toxics Rule

DCBM = dichlorobromomethane

4.3.1.2 California Toxics Rule

Table 4-5 includes discussion of a few key CTR requirements. For background, on May 18, 2000, the EPA promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters in the state of California. The EPA promulgated this rule—called the CTR—based on the determination that the numeric criteria are necessary in California to protect human health and the environment.

The CTR fills a gap in California water quality standards that was created in 1994 when a state court overturned the state's water quality control plans containing water quality criteria for priority toxic pollutants. Thus, California had been without statewide numeric water quality criteria for priority toxic pollutants as required by the Clean Water Act, necessitating this action by EPA. These federal criteria are legally applicable in the state of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the Clean Water Act. Thus, the CTR requirements apply to the PWP because of the planned discharge to Las Virgenes Reservoir, which is a designated surface water body that is part of the Los Angeles RWQCB's Basin Plan.

The CTR requirements include numerical concentration limits for more than a dozen toxic inorganic constituents and more than 85 toxic organic constituents, but the water quality constituents shown in Table 4-5 are those that: (1) have stringent CTR concentration limits, and (2) are typically found in recycled water. As shown in the table, NDMA, CDBM (also known as DBCM), BDCM (also known as DCBM), and bromoform warrant further analysis to assess compliance with CTR standards. Additional sampling is planned as part of demonstration testing to evaluate these constituents. This sampling will also be used to verify compliance with all other CTR parameters.

4.4 Assessment Elements

The following elements were evaluated in the Readiness Assessment.

- **TWRF –** Employs preliminary, primary, and secondary treatment; and nitrogen removal, filtration, and disinfection to produce CCR Title 22 disinfected tertiary recycled water for nonpotable reuse and to comply with current NPDES requirements for discharge of surplus recycled water to Malibu Creek. Recycled water usage includes unrestricted irrigation of parks, golf courses, and landscaping. TWRF effluent will be the main source water for the new AWPF.
- **AWPF –** Will provide full advanced treatment (FAT) that consists of MF, RO, and UV-AOP to meet reservoir augmentation requirements for IPR.
- **Las Virgenes Reservoir –** Purified water from the AWPF will be conveyed to the Las Virgenes Reservoir, which is currently filled with potable water from the MWD.
- **WFP –** Employs diatomaceous filtration and free chlorine primary disinfection (followed by ammonia addition for residual chloramination) and will continue to treat water from the Las Virgenes Reservoir for distribution to JPA customers.
- **Concentrate Stabilization –** RO concentrate can result in scale formation and deposition in conveyance pipelines, depending on the specific water quality characteristics.
- **Conveyance –** Major conveyance lines include recycled water from the TWRF to the AWPF, purified water from the AWPF to the Las Virgenes Reservoir, concentrate from the AWPF to the SMP, and emergency discharges for excess recycled water or AWPF product water not meeting performance requirements.

From Jacobs' and Woodard & Curran's review of previous work (Table 4-2), alignment with regulatory requirements, and experience with other accepted FAT projects, considerations for a modified baseline project were identified that could:

- Meet regulatory requirements
- Provide a higher level of treatment
- Facilitate regulatory approval
- Improve water quality and ease of compliance
- Improve reliability of treatment
- Reduce operational complexity at the AWPF
- Reduce costs

The potential PWP improvements identified in this review are summarized in the following subsections. These potential modifications were presented at the Readiness Assessment Workshop on March 8, 2021.

4.5 Tapia Water Reclamation Facility

Because the effluent from TWRF will be the main source of feed water for the new AWPF, the performance of the two facilities will be integrated. Review of the TWRF focused on strategies to offer operational consistency, stabilization, and optimal AWPF performance; and the review identified enhancements that could reduce costs (capital or O&M) or operational complexity at the AWPF.

The TWRF employs preliminary, primary, and secondary treatment; and nitrogen removal, tertiary filtration, and disinfection to produce CCR Title 22 disinfected tertiary recycled water for nonpotable reuse and to comply with current NPDES requirements for discharge of surplus recycled water to Malibu Creek. Recycled water usage includes unrestricted irrigation of parks, golf courses, and landscaping.

4.5.1 Baseline Project

The baseline project assumed processing of TWRF effluent in the current condition, with no changes.

4.5.2 Potential Modifications

The potential TWRF modifications identified in the Readiness Assessment are summarized in the following subsections and include enhancements to reduce capital and O&M costs, or operational complexity at the AWPF, including the following:

- TWRF-1: Optimize disinfection
- TWRF-2: Assess and reduce NDMA formation
- TWRF-3: Achieve pathogen removal credits for the disinfection process
- TWRF-4: Enhance phosphorus removal to limit RO scaling
- TWRF-5: Equalize effluent flows for water quality benefits

4.5.2.1 TWRF-1: Optimize Disinfection

NDMA poses a unique challenge, as it is often common in disinfected effluent used for water recycling. AWPFs typically receive source water from WRF secondary effluent prior to disinfection, thus avoiding the production of NDMA from conventional disinfection. Because the PWP will operate a distant AWPF that will predominantly receive disinfected recycled water, TWRF disinfection will need to minimize NDMA formation.

A significant factor in the type of chlorine species that will form with sodium hypochlorite addition depends on the concentration and variability of ammonia in the effluent. Low ammonia concentrations favor the formation of free chlorine, while medium to high ammonia concentrations favor combined chlorine (monochloramine or dichloramine). Ammonia in secondary effluent can be highly variable due to diurnal variations and influent of return streams, which can cause regular cycling of chlorine speciation at the point of chlorine addition. This cyclical formation of different chlorine species will lead to the formation of NDMA when chloramines are present, and bromodichloromethane (BDCM) and DBCM when free chlorine is present.

Initial review of January 2019 TWRF effluent data indicated variability in the finished water chlorine residual concentration, which is indicative of chlorine species cycling caused by ammonia variation. LVMWD noted that effluent ammonia does not vary with the diurnal flow pattern and that optimization of the chloramine generation has been occurring through process control and supervisory control and data acquisition (SCADA) system upgrades to achieve a more stable chlorine residual using oxidation-reduction potential (ORP).

According to LVMWD O&M personnel, TWRF effluent is dechlorinated when recycled water is discharged to Malibu Creek, while no dechlorination is performed when recycled water is distributed for nonpotable reuse only. When the recycled water is no longer discharged to Malibu Creek in the future, extended residence time can increase the formation of disinfection by-products (DBPs).

Given the low limits, NDMA and brominated trihalomethane (THM) management and minimization in TWRF effluent will be important. The use of preformed monochloramine for disinfection is one possible solution, as it limits the formation of these DBPs while providing a stable residual needed for disinfection. Preformed monochloramine is a chemical solution created outside of the process water through the mixture of sodium hypochlorite, liquid ammonium sulfate, and softened water. After formation, preformed monochloramine is immediately added to process water, where it is stable and forms very little dichloramine or free chlorine, which are the chlorine species primarily responsible for the formation of NDMA, BDCM, and DBCM (Chang et al. 2020).

Next steps include:

- Collect continuous or frequent ammonia and chlorine residual data at TWRF effluent and Demonstration Facility influent.
- Coordinate with Demonstration Facility testing, including potential bench-scale testing.

Potential solutions include:

- Add online ammonia analyzers with a modified chlorine dosing process control strategy.
- Implement preformed chloramine generation.

4.5.2.2 TWRF-2: Assess and Reduce NDMA Formation

UV-AOP will be designed to provide a minimum of 0.5-log 1,4-dioxane oxidation, with ultimate sizing targeting removal of NDMA to less than the 10-ng/L NL. Because the CTR limits the amount of NDMA that may be discharged to reservoirs at 0.69 ng/L, the standard is met via producing nondetected concentrations. NDMA is typically removed to less than its 2-ng/L detection limit by RO and UV-AOP, but reformation to detectable levels has been observed after treatment if chloramines are present, through rebound (WRF 2020).

NDMA forms from the reaction of chloramines and amine-based precursors, such as dimethylamine. Dichloramine, which is always present to some degree with monochloramine, is the primary chloramine species that forms NDMA. Dichloramine also forms at higher concentrations when chloramines are formed in the bulk water by adding hypochlorous acid (HOCl) to react with background ammonia because of pockets of high chlorine to ammonia nitrogen ratios (Cl_2:NH_3-N). Some precursors, such as polydiallyldimethylammonium chloride (polyDADMAC) polymers, are added in TWRF processes. According to LVMWD O&M personnel, polymer is added to dewatering at Rancho Las Virgenes Composting Facility, and the centrate is returned to TWRF.

A monochloramine residual of 3 to 4 mg/L is targeted for AWPF influent for biofouling control, with low free ammonia concentration due to risk of free chlorine oxidizing RO membranes. The use of preformed monochloramine for disinfection will be employed to limit the formation of NDMA while providing a stable residual.

Next steps include:

- Collect NDMA and N-nitrosomorpholine (NMOR) data from TWRF effluent and Demonstration Facility influent samples.
- Understand the treatment elements and potential impacts.
- Compare travel time from TWRF to the Demonstration Facility versus travel time from the TWRF to the AWPF.

Potential solutions include:

- Reduce the use of polyDADMAC-based polymers.
- Implement preformed chloramine generation at TWRF and in the AWPF influent.

4.5.2.3 TWRF-3: Achieve Pathogen Removal Credits for the Disinfection Process

AWPFs typically receive source water from WRF secondary effluent prior to disinfection. However, the TWRF provides chlorination in a contact basin, with this disinfection step providing virus inactivation and some *Giardia* inactivation, along with disinfection to meet bacterial discharge limits. Dechlorination only occurs when recycled water flow is discharged to Malibu Creek. This approach would need site-specific validation to prove effective disinfection for regulatory approval. The lack of chlorine residual at Reservoir 2 would need to be considered.

This approach would add the most value if other means of achieving pathogen log credits are ruled out for other reasons. For example, if free chlorine contact time at the AWPF following UV-AOP forms BDCM and DBCM exceeding CTR limits, then another means of achieving virus credit may be necessary. If this was the case, then performing validation of disinfection performance at the TWRF through a site-specific study would be one way to achieve the needed log virus reduction credit.

Potential solution includes:

- Conduct a site-specific study to demonstrate disinfection credit for virus inactivation, including assessing the chlorine contact basin (CCB) and conveyance pipeline contactor.

4.5.2.4 TWRF-4: Enhance Phosphorus Removal to Limit Reverse Osmosis Scaling

The TWRF is not designed for biological phosphorus removal, though LVWMD observes a 1-mg/L reduction through the returned activated sludge (RAS) conditioning anoxic channel. In one set of available data, the ortho-phosphate concentration in TWRF effluent ranged from 2.3 to 3.4 mg/L as phosphorus, which is a potential scaling source for the membranes. Avista Technologies Inc. has indicated full-scale success with reuse at 85% recovery with a feed of 1 to 2 mg/L as phosphorus.

Controlling scaling will require pH reduction and antiscalant dosing. Additional removal of phosphorus at TWRF will reduce RO scaling potential and the phosphorus loading to Las Virgenes Reservoir. According to LVWMD O&M personnel, the TWRF adds ferric to the sludge force main for odor control, but does not have infrastructure to add ferric to primary treatment.

Use of aluminum sulfate (alum) in WRFs has caused fouling of membranes at other facilities. The scaling potential in the RO can be raised, as lowering the pH for calcium carbonate and calcium phosphate precipitation management to reduce scaling can reduce the alum solubility. Alum is consistently added prior to tertiary filtration at TWRF.

Next steps include:

- Review phosphorus data from TWRF, and coordinate with Demonstration Facility testing regarding scaling control and results.
- Measure aluminum at the Demonstration Facility influent.
- Understand dosing of alum at the tertiary filters and impacts on RO fouling.

Potential solutions include:

- Convert alum to ferric chloride.
- Feed ferric chloride as a coagulant to primary treatment to reduce phosphorus by 1 to 2 mg/L.

4.5.2.5 TWRF-5: Equalize Effluent Flows for Water Quality Benefits

AWPFs benefit from steady flow and water quality concentrations to provide optimal operational efficiency and performance. Steady, consistent water quality to the AWPF is necessary to produce high-quality purified water and simplifies operation and control. Equalization can deliver a steady influent flow rate, thereby reducing flow changes, and dampen variations in water quality, such as levels of ammonia,

chlorine, NDMA, and phosphorous, to improve performance and reduce the risk of off-specification feed or product water that may warrant a diversion or shutdown of the process.

Next step includes:

- Assess the equalization volume required to provide steady-state flow and concentration to the AWPF.

Potential solution includes:

- Route all flow through equalization at all times.

4.5.3 Recommendations for Modified Baseline Project

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for the TWRF:

- Assess and optimize TWRF disinfection practices, if necessary, to minimize DBP formation. *This recommendation would be an addition to the baseline project*.
- Assess and reduce NDMA formation at TWRF, if necessary. *This recommendation would be an addition to the baseline project*.
- Consider a full-scale, site-specific study to demonstrate virus removal credit for TWRF disinfection practices. *This recommendation would be an addition to the baseline project*.
- Consider enhancement of phosphorus removal at TWRF. *This recommendation would be an addition to the baseline project*.
- Provide equalization of TWRF effluent flows for water quality benefits. *This recommendation is a next step from the previously identified elements of the baseline project*.

4.6 Advanced Water Purification Facility

The PWP includes an AWPF that will provide FAT for treated water from the TWRF. As defined by California regulations (Section 4.3), FAT consists of MF, RO, and an UV-AOP. The AWPF will also include ancillary facilities, such as influent screening, a break tank before RO, cartridge filters, and chemical storage and feed systems as required for treatment.

4.6.1 Baseline Project

In the baseline project, it was noted that the AWPF would provide FAT for pathogen reduction (virus, *Giardia,* and *Cryptosporidium*), meeting the minimum requirements for SWA using Recycled Water (SBDDW-16-02) based on the Las Virgenes Reservoir operating scenario examined. This approach is also referred to as “reservoir water augmentation,” meaning the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system; this terminology is used in this document.

Figure 4-2 shows a representative process flow diagram (PFD) for the AWPF baseline project. The baseline project assumed single-pass RO, with three stages and 85% recovery. The PFD does not show all anticipated chemical feed points, treatment for brine stabilization, or purified water storage.

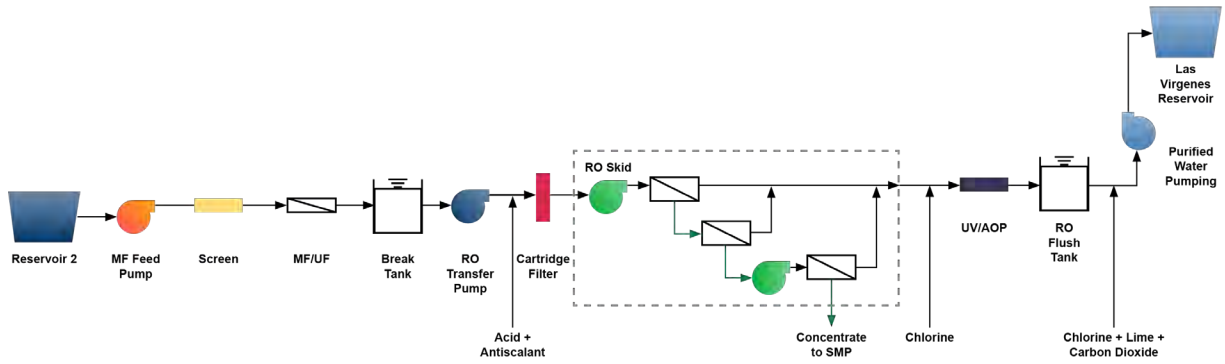

Figure 4-2. Process Flow Diagram for the AWPF Baseline Project
(Source: Adapted from MWH/Stantec 2016)

The baseline project did not appear to include a separate CCB for virus disinfection. Thus, the baseline project consisted of FAT with 8-7-8 log pathogen reduction (virus-*Giardia*-*Cryptosporidium*), meeting minimum SWA requirements based on the Las Virgenes Reservoir operating scenarios that were examined.

The baseline project did not:

- Include three different barriers for virus reduction, as required for certain reservoir operating conditions. A chlorine contactor for virus disinfection after UV-AOP is likely the most cost-effective way to provide three different barriers for virus reduction.
- Address the potential need for additional treatment approaches to meet CTR requirements for discharge to the Las Virgenes Reservoir.
- Include treatment for concentrate stabilization. This element of the project is addressed in Section 4.8.

4.6.2 Potential Project Modifications

The potential AWPF project modifications identified in the Readiness Assessment are summarized in this section and include enhancements to meet regulatory requirements, facilitate regulatory approval, improve water quality and ease of compliance, improve reliability of treatment, provide a higher level of treatment, reduce operational complexity, and reduce capital and O&M costs.

Modifications include the following:

- AWPF-1: Provide additional pathogen log reduction
- AWPF-2: Reduce NDMA and brominated THM formation
- AWPF-3: Manage pipeline purified water quality from the AWPF to Las Virgenes Reservoir discharge
- AWPF-4: Provide UV-AOP with chlorine rather than with hydrogen peroxide

4.6.2.1 AWPF-1: Provide Additional Pathogen Log Reduction

Since the prior work was completed, the reservoir operating strategy may change, as discussed in Section 4.7. In addition, the ongoing work of identifying supplemental water supply options to the AWPF may also result in more inflow to the Las Virgenes Reservoir being available from the AWPF, along with the opportunity for more withdrawal via the WFP. Once decisions on these contributing factors are made, reservoir modeling should be updated, and reservoir dilution and retention time should be re-assessed.

Table 4-6 summarizes the pathogen reduction requirements for SWA.

Table 4-6. AWPF Pathogen Log Reduction Requirements for Surface Water Augmentation

AWPF Log Removal Requirements (Virus-*Giardia*-*Cryptosporidium*)	Dilution	Retention Time (days)	No. of Required Treatment Processes	Additional SWRCB Approval Required
8-7-8	1:100	≥ 180	2	No
8-7-8	1:100	< 180 to 120	2	Yes
9-8-9	1:100	< 120 to 60	3	Yes
9-8-9	1:10	≥ 180	3	No
9-8-9	1:10	< 180 to 120	3	Yes
10-9-10	1:10	< 120 to 60	3	Yes

As shown, the minimum requirements of 8-7-8 log reduction of virus-*Giardia*-*Cryptosporidium* match the previous baseline project. The pathogen reduction requirements increase to 9-8-9 (virus-*Giardia*-*Cryptosporidium*) with less dilution (more inflow) or shorten reservoir detention time (or both) if the project moves more toward year-round AWPF operation.

It is recommended that LVWMD plan for and propose to the regulators an approach that provides 10-9-10 log reduction of virus-*Giardia*-*Cryptosporidium*. Providing 10-9-10 log reduction will provide flexibility for continued operations with less threat of the need to suddenly shutdown, while also improving the prospects for more rapid approval of the planned treatment approach.

FAT with MF, RO, and UV-AOP would provide at least 7.5-10.5-10.5 log reduction of virus-*Giardia*-*Cryptosporidium* and provide three barriers for the pathogens, *Giardia* and *Cryptosporidium*, but only two barriers for virus inactivation. Again, less dilution or less retention time would require the inclusion of a third treatment barrier as may be required for virus reduction.

Our recommendation is that three treatment process barriers are needed to support a robust strategy for discussion with the regulators. If using three treatment barriers for each pathogen, this results in needing to add a treatment process for virus reduction.

It is realistic to expect a 1.5-log reduction credit for RO for virus-*Giardia*-*Cryptosporidium* with typical monitoring of RO performance and 3-log *Giardia*-*Cryptosporidium* credit for MF. Most MF applications have not received log credit for virus reduction. Table 4-7 summarizes the anticipated pathogen log reduction credits.

Table 4-7. Anticipated Log Reduction Credits for Pathogens

Pathogen	MF	RO	UV-AOP	CCB	Total
Virus	0	1.5-2.0	6	6	7.5-14
Giardia	3-4	1.5-2.0	6	0	≥ 10.5
Cryptosporidium	3-4	1.5-2.0	6	0	≥ 10.5

As shown, FAT provides three barriers for *Giardia* and *Cryptosporidium* and readily achieves 10-log reduction for *Giardia* and *Cryptosporidium* as well. However, an additional treatment barrier, such as a CCB, would be required to meet the potential requirements of a third virus treatment barrier and 10-log virus reduction.

Additional virus log reduction credits may be possible for:

- TWRF disinfection or pipeline disinfection (or both) to the AWPF (requiring a site-specific study)
- MF with an approved integrity testing approach
- Cartridge filters (if approved by regulators)
- RO with advanced monitoring (if approved by regulators)
- CCB at the AWPF (as shown in Table 4-7)
- Pipeline contact time from the AWPF to Las Virgenes Reservoir

In terms of site planning for conceptual design, it is recommended that the AWPF include a CCB to provide a third barrier for virus reduction and to meet the goal for 10-log virus reduction credit.

As described in the rest of this section, the incorporation of additional free chlorine contact time in a CCB (or pipeline contact time to Las Virgenes Reservoir) will likely lead to the formation of DBP compounds regulated by the CTR. Consequently, it is recommended that the ongoing Demonstration Facility testing:

- Incorporate potential bench-scale or demonstration-scale testing of CTR-regulated DBP formation during chlorine contact time to simulate a CCB at the AWPF and to simulate pipeline to reservoir discharge.
- Investigate advanced monitoring of RO.

4.6.2.2 AWPF-2: Reduce NDMA and Brominated THM Formation

The Demonstration Facility testing results for the CTR-regulated DBPs, NDMA, BDCM, and DBCM were not yet available for the Readiness Assessment Workshop on March 8, 2021. Since that time, results have been shared, and to date, confirm the need to continue to evaluate formation of these DBPs as well as potential treatment approaches to address these DBPs.

NDMA is photolyzed and destroyed by UV-AOP treatment, with log reduction proportional to the UV dose. UV-AOP can be designed for greater NDMA log destruction if influent concentrations are known, but NDMA can also reform or rebound after UV-AOP treatment. NDMA rebound is dependent on chloramine concentration and speciation, contact time, pH, and the amount of organic precursors present in the water. NDMA formation occurs with chloramination, but NDMA formation is minimized with free chlorine rather than combined chlorine (chloramine).

The UV-AOP process requires the addition of an oxidant, typically hydrogen peroxide or free chlorine, that can be broken apart into hydroxyl radical to initiate advanced oxidation. UV-AOP with free chlorine requires acidic pH. UV-AOP with chlorine could lead to higher NDMA formation because of variable chlorine species present, resulting in potentially a higher UV dose needed to achieve nondetectable NDMA compared to UV-AOP with hydrogen peroxide.

BDCM and DBCM formation control requires the removal of organic precursors and minimal free chlorine contact time. Free chlorine is a much more effective disinfectant for viruses than combined chlorine (chloramine), so if a CCB is included for virus inactivation, there will be free chlorine contact time through UV-AOP (if chlorine is used as the oxidant) and through the CCB. These conditions are expected to lead to the formation of BDCM and DBCM, potentially at levels that do not comply with the CTR requirements.

For modifications to the baseline project, there are several potential solutions available if the CTR requirements *can* be met, including:

- From the ongoing Demonstration Facility testing, demonstrate nondetectable NDMA and low levels of BDCM and DBCM after the AWPF.
- Use UV-AOP with chlorine, and maintain the free chlorine residual through the CCB, followed by dechlorination using a chlorine quenching chemical (for example, sodium bisulfite) at the AWPF or at the reservoir.

For modifications to the baseline project, there are also several potential solutions available if the CTR requirements *cannot* be met, including:

- Use UV-AOP with free chlorine, and maintain the free chlorine residual through the CCB, followed by treatment through granular activated carbon (GAC) media at the AWPF. GAC will provide removal of chlorine and also removal of BDCM and DBCM.
- Use UV-AOP with hydrogen peroxide (and no post-chlorination), potentially maintaining a residual concentration of peroxide residual into the reservoir. This approach does not allow chlorine inactivation of viruses for log pathogen credit, however, so a different means of virus credit would be required.

As described in Section 4.6.2.1, it is recommended that the ongoing Demonstration Facility testing:

- Evaluate NDMA destruction though UV-AOP, and reformation through a simulated CCB after UV-AOP with chlorine as the oxidant.
- Evaluate BDCM and DBCM formation through UV-AOP with chlorine as the oxidant and through a simulated CCB after UV-AOP.
- Incorporate testing simulation to evaluate NDMA rebound and BDCM and DBCM formation through a simulated pipeline to the reservoir with a free chlorine residual present and with a chloramine residual present.
- Evaluate treated water stability and biofilm formation with no residual chlorine or chloramine residual present through the simulated pipeline to the reservoir.

4.6.2.3 AWPF-3: Manage Pipeline Purified Water Quality from the AWPF to Las Virgenes Reservoir Discharge

If the AWPF is ultimately located at the Agoura Hills site under consideration, the pipeline conveying purified water to the reservoir will be several miles long. A typical approach for conveying treated water is to maintain a residual disinfectant concentration to maintain water quality through the pipeline. Typically, a free chlorine or chloramine residual would be added to the purified water for conveyance. For this project, a free chlorine residual would be expected to increase the formation of BDCM and DBCM, while a chloramine residual could potentially increase the formation of NDMA. In addition, either a free chlorine or chloramine residual would require dechlorination before discharge to the reservoir. With no residual disinfectant present, biological activity in the water could lead to biofilm formation and potentially degradation of water quality.

The baseline project did not identify the approach to maintaining water quality for conveyance of the purified water. It is our understanding that there are not regulatory requirements that stipulate the need to maintain a residual disinfectant concentration, so it is a decision to be made by the utility.

As a next step, it is recommended that the ongoing demonstration testing:

- Evaluate treated water stability and biofilm formation with no residual chlorine present through a simulated pipeline from the AWPF to the reservoir.
- Depending on the results of the evaluation, a potential subsequent step could be to evaluate treated water stability and biofilm formation with a hydrogen peroxide residual present (if UV-AOP with hydrogen peroxide as the oxidant is used to limit the formation of CTR-regulated DBPs).

For modifications to the baseline project, the least complex approach would be to demonstrate that purified water can be conveyed to the reservoir without the need for residual disinfection. This approach would avoid the need for dechlorination at the reservoir. If CTR requirements can be readily met, then UV-AOP with chlorine as the oxidant could be used, followed by free chlorine through the CCB and then chemical dechlorination at the AWPF.

If CTR requirements can be readily met for NDMA but not for BDCM and DBCM, then UV-AOP with chlorine as the oxidant could be used, followed by free chlorine through the CCB and then GAC treatment at the AWPF.

On the other hand, if it is necessary to maintain a residual disinfectant through the purified water pipeline to the reservoir for water quality reasons, there are several potential solutions available:

- If CTR requirements can be met, use UV-AOP with chlorine as the oxidant, followed by virus inactivation credit at the CCB; and maintain the free chlorine residual through the purified water pipeline, followed by chemical dechlorination at the reservoir.
- If meeting the CTR requirements is problematic, evaluate the potential use of GAC at the reservoir for dechlorination and removal of BDCM and DBCM.
- If meeting the CTR requirements is problematic, evaluate the use of UV-AOP with hydrogen peroxide (and no post-chlorination) in demonstration testing to assess potentially maintaining the peroxide residual into the reservoir. This approach does not provide free chlorine inactivation of viruses for log pathogen credit, so an alternative approach to virus log reduction would be necessary.

4.6.2.4 AWPF-4: Provide UV-AOP with Chlorine Rather Than with Hydrogen Peroxide

The selection of which oxidant to use, chlorine or hydrogen peroxide, for the UV-AOP is a complex choice that must balance a number of water quality considerations. These considerations have been described in earlier in this section.

For UV-AOP with chlorine, acidic pH is required, with the best oxidation performance at a pH of 5.5 to 6.0. The use of UV-AOP with chlorine has gained favor as part of FAT because upstream RO treatment results in an acidic permeate with low alkalinity for buffering. If acid dosing is required, the acid dose is expected to be reasonably low. If CTR requirements are not an issue, the chlorine present can be beneficial for virus inactivation credit and for maintaining a residual concentration through subsequent conveyance. After UV-AOP, water quality stabilization is typically part of the AWPF treatment approach.

In general, for UV-AOP with hydrogen peroxide, the hydrogen peroxide is partially photolyzed and converted to hydroxyl radical, but 80 to 90% of the hydrogen peroxide dose remains as a residual concentration. The residual hydrogen peroxide requires quenching before a chlorine residual can be formed. Typical approaches for quenching hydrogen peroxide are with chlorine, sodium bisulfite, or GAC contact time. The chemical doses can be significant. For example, the chlorine dose to quench 1 mg/L of hydrogen peroxide is more than 2 mg/L of chlorine. Additional chlorine would be required, in addition to the dose to quench hydrogen peroxide, to establish a chlorine residual concentration for virus inactivation in a CCB or to maintain a residual disinfectant through purified water conveyance.

As noted in the previous section, if meeting the CTR requirements is problematic, and if a residual concentration is needed through the purified water pipeline, and if a means of virus reduction credit other than a CCB is implemented, then LVWMD could consider not quenching the residual hydrogen peroxide and keeping the residual peroxide through the purified water pipeline into the reservoir. This approach would require further study of the fate of the hydrogen peroxide in the reservoir as well as the potential water quality implications in the reservoir water.

As a next step, it is recommended that the ongoing demonstration testing evaluate the issues addressed in the previous section and in this section. Given the complex chemistry issues and the interaction of the decisions for AWPF-2, AWPF-3, and AWPF-4, a number of factors must be considered together to decide on the oxidant to use for UV-AOP.

4.6.2.5 Development of AWPF Design Concepts

For the AWPF, the Readiness Assessment task also included an evaluation of the work completed to date on identifying design concepts. From this evaluation, a number of areas were identified to focus on as the conceptual design is developed, including investigating utility services, including electrical service,

in the vicinity of the site location options for the AWPF. In addition, it will be important to understand site commitments and community expectations at each site option.

From the initial facility layouts, the AWPF was shown with a nonoptimized, “warehouse” style layout. In addition, staff facilities were minimized, showing a small administration or O&M building, approximately 1,650 square feet (ft^2) in area. It is not clear if laboratory space, or visitor or tour group amenities were included. The initial facility layouts do not appear to include a maintenance shop for O&M activities. It is also not apparent whether building aesthetics and architectural theme were considered yet. Based on this review, it is recommended that architectural programming be included to develop a conceptual plan for the facilities for staff and for the public (such as tour groups) at the AWPF. As part of the architectural conceptual design, a concept-level architectural theme should also be developed.

4.6.3 Recommendations for Modified Baseline Project:

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for the AWPF:

- Plan for pathogen log reduction credits of 10-9-10 virus-*Giardia-Cryptosporidium. This recommendation is a modification to the baseline project*.
- Include a CCB to provide virus log credit in the conceptual design. *This recommendation is an addition to the baseline project.*
- Coordinate ongoing demonstration testing with key AWPF issues, including the formation of CTR-regulated DBPs (NDMA, BDCM, and DBCM) and pipeline water quality. *This recommendation is a next step from the previously identified elements of the baseline project.*
- Assume UV-AOP with the use of chlorine as the oxidant, a CCB for virus reduction credit, and optionally, GAC treatment to meet stringent CTR requirements, if necessary. Use the ongoing demonstration testing results to update or validate these initial assumptions. *This recommendation is a modification to the baseline project.*
- Perform demonstration testing to show that a chlorine residual is not needed in the purified water pipeline to the reservoir, thereby allowing dechlorination at the AWPF. *This recommendation is a modification to the baseline project.*
- Undertake architectural programming to develop a conceptual plan for the facilities for staff and for the public (such as tour groups) at the AWPF, as well as to identify a concept-level architectural theme. *This recommendation is a next step from the previously identified elements of the baseline project.*

4.7 Las Virgenes Reservoir

Following FAT at the AWPF, purified water will be conveyed to Las Virgenes Reservoir, an earthen reservoir, constructed in 1972, that provides a storage volume of approximately 3 billion gallons, with a depth over 100 feet. Currently, Las Virgenes Reservoir is filled with potable water provided to LVMWD by MWD. Seasonally, for several weeks of the year, LVMWD treats water from Las Virgenes Reservoir through the WFP to help meet potable water summer demands for customers.

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In the past several years, Las Virgenes Reservoir has experienced seasonal algal activity, and LVWMD has taken steps to try to manage the algal activity with the existing tools available, including aeration with existing aerators and the use of biocidal copper sulfate, as governed by the Los Angeles County Department of Agriculture. The SWRCB adopted the Statewide General NPDES permit for residual

aquatic pesticide discharges to waters of the United States from algae and aquatic weed control applications, Water Quality Order 2013-0002-DWQ, which became effective on December 1, 2013.

4.7.1 Baseline Project

Previously, Las Virgenes Reservoir modeling was performed by Flow Science to assess anticipated dilution of AWPF-treated water, or mixing ratio, as well as reservoir detention time. The reservoir modeling was used to inform the assumed requirements for pathogen log reduction at the AWPF. The modeling included the previously identified worst-case scenario incorporating Santa Ana winds and no submerged inlet.

Since the reservoir modeling was performed, however, additional ongoing work is evaluating potential flow augmentation scenarios to allow use of the AWPF during summertime periods when flow from the TWRF is not available. If additional flow augmentation is included in the project, operating scenarios for the Las Virgenes Reservoir will change, and the worst-case scenario will likely differ from the prior modeling work.

To address the algal activity within the Las Virgenes Reservoir, the previous baseline project included a plan to install a second aerator at a new location within the reservoir. The two aerators would be used to help mix the reservoir. As previously identified, the baseline project included:

- Modeling the reservoir operating scenarios to assess dilution ratios and detention times
- Providing better aeration for mixing to destratify the Las Virgenes Reservoir
- Providing submerged and extended diffusers for the AWPF effluent into the Las Virgenes Reservoir

4.7.2 Potential Project Modifications

This section summarizes the potential Las Virgenes Reservoir baseline project modifications identified in the Readiness Assessment, including enhancements to provide better than 100:1 mixing rations and limit algal growth. Potential modifications include the following:

1) LVR-1: Engineer inlet zone design for improved plume dispersion
2) LVR-2: Destratify aeration of the entire reservoir
3) LVR-3: Retain seasonal stratification with hypolimnetic withdrawal
4) LVR-4: Suppress harmful algal blooms

Within the Las Virgenes Reservoir, the prior work (Trussell 2019) recommended the implementation of a multiport diffuser for discharge of AWPF effluent into the Las Virgenes Reservoir, with the diffuser positioned so that it would discharge water as deep as possible. Other prior work (Trussell 2015) recommended adding an aerator further south within the Las Virgenes Reservoir to aerate a second reservoir low point.

In consideration of future-proofing the overall Program, SWRCB NLs are expected for cyanobacteria in California. Specifically, NLs are anticipated for the algal toxins: microcystins, cylindrospermopsin, anatoxin-a, and saxitoxin (SWRCB 2021e). The potential modifications in this section would also address these potential future limits.

4.7.2.1 LVR-1: Engineer Inlet Zone Design for Improved Plume Dispersion

As presented at the Readiness Assessment Workshop on March 8, 2021, a potential baseline project enhancement LVR-1 consisted of providing an engineered inlet zone designed for improved plume dispersion. Based on review of the reservoir models, it was observed that the models predicted the overall volume of the Las Virgenes Reservoir is used inefficiently, with AWPF-treated water not reaching the southwestern and southeastern ends of the reservoir.

It appears that the warmer water discharged from the AWPF will travel along the reservoir surface, and that better plume dispersion can be achieved in the Las Virgenes Reservoir's southern reach. To accomplish this, it is recommended that the existing model be retrieved and updated for the most

representative operating scenarios. Additional virtual tracer studies should be performed using the model. Lastly, aeration should be provided to disperse the AWPF discharge plume laterally and vertically in the Las Virgenes Reservoir's southern reach. Jacobs recommends the use of a ballasted linear diffuser system for discharge of the AWPF effluent.

Additionally, the potential need for a mixing zone should be evaluated based on the testing results from the ongoing demonstration testing activities. Specifically, the ability of the AWPF-treated water to comply with CTR requirements for NDMA and brominated THM concentrations should be assessed. As described in Section 6, Regulatory Strategy, an initial dilution zone within the Las Virgenes Reservoir could be established where the AWPF discharge is diluted by mixing with the Las Virgenes Reservoir water already present, before flow enters the larger reservoir volume. This approach represents one possible means of complying with the CTR requirements.

4.7.2.2 LVR-2: Destratify Aeration of the Entire Reservoir

As stated previously, Trussell Technologies, Inc.'s (Trussell's) previous work assumed the use of a new aerator at a location south of the current locations of the two existing aerators. In Jacobs' experience, a ballasted linear diffuser could also be used to destratify the reservoir. Any approach to reservoir destratification relies on wind energy for vertical mixing. The next steps to evaluate this concept include retrieving the reservoir model, updating it, and using a bubble plume model to determine the amount of air-lift necessary for destratification mixing with aeration.

4.7.2.3 LVR-3: Retain Seasonal Stratification with Hypolimnetic Withdrawal

The third potential baseline project enhancement for Las Virgenes Reservoir would consist of retaining seasonal stratification of the reservoir and implementing approaches to improve reservoir water quality to allow hypolimnetic withdrawal.

Seasonally, deep reservoirs typically stratify thermally, with a warm top layer (epilimnion); a transitional thermocline; and the colder, deeper water forming the hypolimnion. With nutrients present, the deep hypolimnion will become anoxic as summer progresses, resulting in releases of iron, manganese, and phosphorus from sediment into the hypolimnion water.

With this potential baseline project enhancement, the intent would be to keep iron, manganese, and phosphorus bound in the reservoir sediment by keeping hypolimnion dissolved oxygen (DO) greater than 50% saturation with pure oxygen sparging into the reservoir hypolimnion. This approach has been demonstrated successfully at other reservoirs, including Aurora Reservoir in Colorado (Aurora Water et al. 2015).

Recommendations for LVR-3 include providing hypolimnetic oxygenation with an oxygen storage and feed system and a ballasted linear diffuser system installed in the deepest part of the reservoir. This approach would be implemented to reduce algal activity in the reservoir, thus allowing LVWMD to withdraw water from deeper intake depths to feed WFP. Modeling the stability of thermal stratification from hypolimnetic withdrawal is also recommended.

4.7.2.4 LVR-4: Suppress Harmful Algal Blooms

Although the TP concentration in the AWPF product water will be very low, it will likely be sufficient to keep the reservoir eutrophic. In addition, there is typically phosphorus in reservoir sediment that would then be released when DO decreases in the hypolimnion. Thus, there is the potential for continued algal blooms in the Las Virgenes Reservoir.

Potential baseline project enhancement LVR-4 makes use of the hypolimnetic oxygenation concept from LVR-3, along with a low dose of soluble aluminum coagulant (for example, alum or aluminum chlorohydrate [ACH]) to create scavenging geochemistry that will result in the phosphorus in the AWPF

discharge being bound with aluminum, thereby preventing the phosphorus from entering the water column for algal uptake.

4.7.3 Recommendations for Modified Baseline Project:

From the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for Las Virgenes Reservoir:

1) Provide a submerged multipoint outlet diffuser to create longer detention time within the Las Virgenes Reservoir. *This recommendation is consistent in concept with the baseline project.*
2) Implement a hypolimnetic oxygenation system to improve water quality deep in the reservoir. *This recommendation is a modification of the baseline project.*
3) Provide aluminum coagulant chemical storage and feed system to feed a low dose to AWPF discharge to bind phosphorus. *This recommendation is an addition to the baseline project.*
4) By improving Las Virgenes Reservoir water quality with these recommendations, increase water age via regularly withdrawing from an intake depth deeper in the reservoir's hypolimnion. *This recommendation is an operational modification that, to be possible, requires implementation of the first three recommendations.*

4.7.4 Westlake Filtration Plant

The WFP is a direct filtration plant using diatomaceous earth (DE) filter media. The existing WFP meets the regulatory requirements of the Safe Drinking Water Act and produces potable water during peak demand periods each year. DDW indicated the WFP meets the requirements for the planned SWA project. However, the seasonal algal blooms within Las Virgenes Reservoir increase the potential for the DE filters to clog. Clogging of the filter media results in headloss buildup at the filters, requiring cleaning and constituting an operational bottleneck.

The WFP receives the required disinfection credit due to the use of direct filtration and free chlorine primary disinfection.

The intake to the WFP was constructed with five variable inlet elevations for raw water from the Las Virgenes Reservoir. The lowest elevation intake point includes a debris rack, while the other four have fine screens at the inlets. The two deepest intake points are prone to low DO as well as the presence of hydrogen sulfide, so they are not commonly used. The most commonly used intake point is in the middle at approximately 1,000 feet depth. According to LVMWD, the highest two intake points are not typically used due to presence of algae and taste- and odor-causing compounds that are by-products of algal activity.

LVMWD explained that the existing WFP does not include a clarification process to coagulate and settle solids prior to filtration. The existing WFP also does not include barriers that provide taste and odor control. The WFP is operated seasonally for a period of time that has historically been between May and October, although in recent years, operation has started later in the year once summer begins in June.

At this time, there is no plan to modify or improve the WFP, but LVMWD has concerns with future-proofing of this facility. With the recent expansion from 15 to 18-MGD per LVMWD personnel, a focus was put on the potential for future UV units to assist with pathogen credits, but treatment to address the impacts from algae was not investigated. The recommendations from the previous section on Las Virgenes Reservoir will allow the WFP to withdraw raw water from deeper in the reservoir, allowing the existing WFP to operate more effectively.

4.8 Concentrate Stabilization

The chemistry of the RO concentrate will be super-saturated with sparingly soluble chemicals and will likely scale and rapidly coat pipelines. DDW also requires a physical air gap for discharge of the

concentrate, and this air gap will allow carbon dioxide to escape, thereby raising pH and further causing calcium carbonate precipitation in the pipeline. In addition, mixing the RO concentrate with other flows in the SMP could potentially exacerbate scaling downstream as well.

4.8.1 Baseline Project

The previous baseline project incorporated a plan to send the RO concentrate from the AWPF to a new "brine line," approximately 12 miles in length, that would connect downstream at the SMP. The previous baseline project did not include any stabilization or treatment steps for the concentrate prior to conveyance.

4.8.2 Potential Project Modifications

Potential modifications to help in stabilizing the concentrate and reducing scale formation include potentially working with DDW to explore alternatives to the physical air gap. Modifications, such as a reduced pressure zone (RPZ) backflow prevention device or a "duckbill" style check valve are not allowed by DDW in place of a physical air gap, but the reason provided by DDW in discussion was the potential for valve scaling and failure to operate. Thus, a demonstration test may be able to show the continued operation of the valve as a potentially suitable replacement for a physical air gap. As part of the testing, requirements for inspection and maintenance of the device can be established.

In terms of treatment steps, acidification treatment at the AWPF would reduce saturation levels of calcium carbonate and calcium phosphate. Eastern Municipal Water District indicated testing this approach and reportedly provided approximately 24 hours of stabilization. However, if the approach is effective for a limited period of time, it would potentially result in scaling downstream in the SMP, with the need for O&M activities to mitigate scaling.

For acidification, the required chemical doses are expected to be very high (for example, more than 100 mg/L of sulfuric acid). Additional treatment steps could be employed to stabilize concentrate more fully at the AWPF by precipitating calcium carbonate and calcium phosphate through softening treatment. The concentrate flow is expected to be approximately 1-MGD. One approach to softening treatment is the use of an upflow pellet softening reactor. Alternatively, a natural treatment system may also be feasible, although it would require much more land area. Either approach would require demonstration-scale testing to demonstrate performance and develop potential conceptual design criteria.

Other approaches that would help to control scale formation include constructing a two-pipe system for concentrate conveyance. This approach adds cost but provides operational flexibility.

With one pipeline or two, it is recommended that the project include a means to regularly clean the concentrate pipeline to remove scale. A survey of other operating facilities is recommended to gather information on approaches that have been tried and found to be effective for scale removal and concentrate pipeline O&M.

4.8.3 Concentrate Stabilization Recommended Next Steps

From the Readiness Assessment, Jacobs recommends that the following next steps be undertaken as part of the project:

- Perform demonstration testing with concentrate in a representative pipeline to simulate the concentrate conveyance approach. At the demonstration testing facility, evaluate scale formation and simulate stabilization treatment to assess performance improvement.
- Explore alternatives to a physical air gap with DDW, and consider incorporating alternative approaches, such as an RPZ or duckbill-style check valve into planned demonstration testing to show operability over time.
- Perform bench-scale testing of acid addition at the Demonstration Facility to inform the potential chemical doses necessary for concentrate stabilization.

- Perform a survey of other utilities with concentrate pipelines to gather information on approaches that have been tried and found effective for scale removal and concentrate pipeline O&M.

4.8.4 Recommended Modifications to Baseline Project

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for concentrate stabilization:

- For conveyance conceptual design, consider constructing a two-pipe system if the cost is acceptable. *This recommendation is a modification to the baseline project.*
- Use the results from the recommended operations survey to inform pipeline cleaning and scale removal approaches to be incorporated into the design. *This recommendation is a modification to the baseline project.*
- Partner with the CMWD to prepare for and implement pipeline O&M activities. *This recommendation is a next step from the previously identified elements of the baseline project.*
- Use the results from demonstration testing to evaluate the costs and benefits of additional concentrate stabilization treatment at the AWPF. Include the potential requirements for acidification treatment in the conceptual design. *This recommendation is an addition to the baseline project.*

4.9 Conveyance

The potential conveyance baseline project modifications identified in the Readiness Assessment are summarized in this section and include enhancements to improve overall system performance, operational flexibility, constructability, and environmental compliance. Modifications are included for the following conveyance pipelines:

- Source water
- Purified water
- Concentrate
- Excess recycled water discharge and AWPF emergency discharge

There are no recommended modifications to the baseline project's handling of AWPF residuals flowing to the sewer.

4.9.1 Source Water

The baseline project identified extension of the 24-inch-diameter recycled water system backbone by 9,200 linear feet (LF) for conveyance of recycled water to the new Agoura Road AWPF site, or 19,100-LF extension to the Las Virgenes Reservoir AWPF site. A consistent flow to the AWPF will be required for optimal operational efficiency and performance. Conveyance of a significant demand, up to 7.5 MGD, from the end of the recycled water system has the potential to impact delivery pressure to nonpotable customers and the ability to maintain a steady-state flow to the AWPF. An alternate 14,840 LF alignment near the Indian Hills Tank is proposed to run along Agoura Hills Road to provide the following benefits:

- A more direct connection to the AWPF from recycled water equalization
- Less pressure impact to nonpotable customers
- Elimination of a Ventura Freeway crossing

Figure 4-3 shows both alignments. LVMWD noted there have been considerations to provide a loop system in the future.

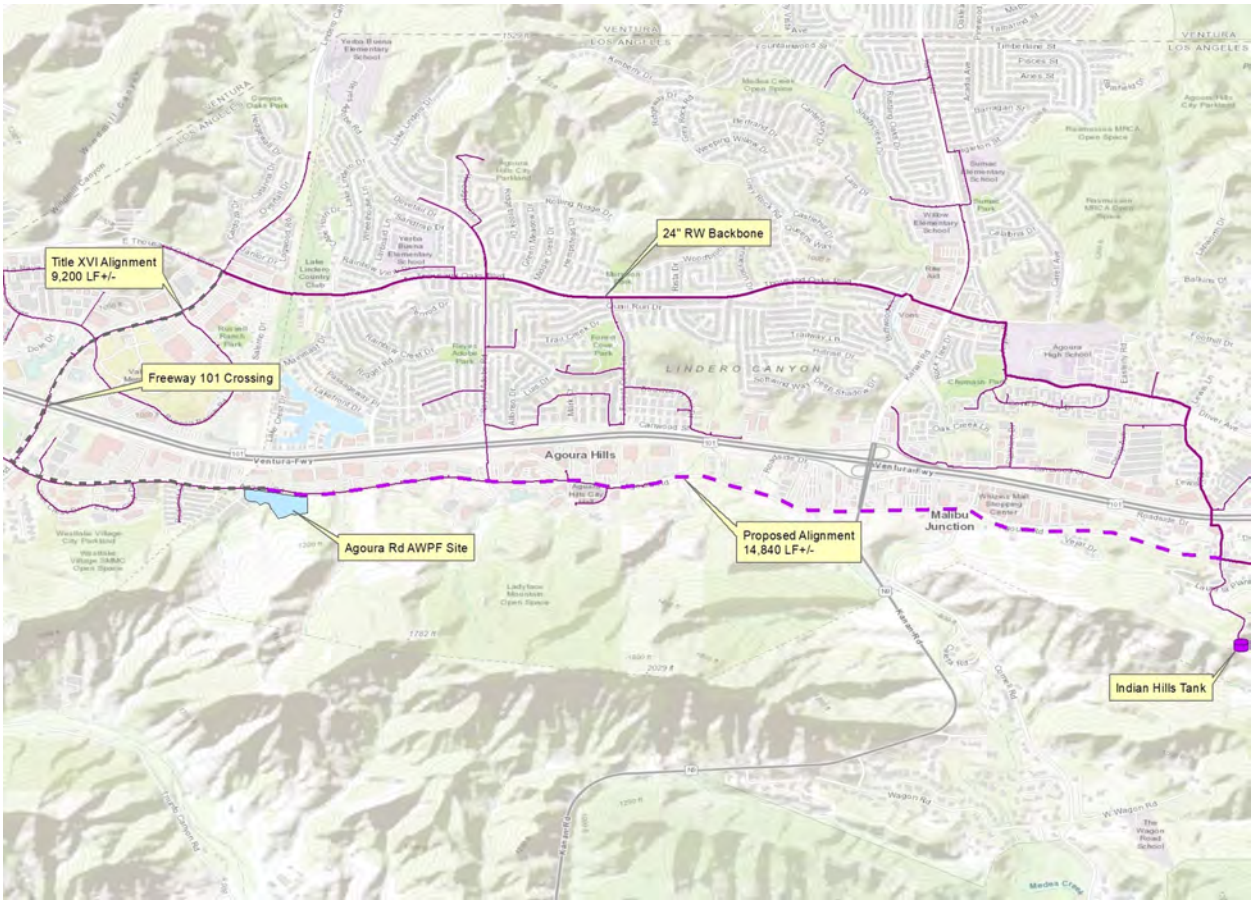

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Figure 4-3. Baseline and Modified Source Water Alignments

4.9.2 Purified Water

The alignment identified in the baseline project for purified water from the AWPF to the Las Virgenes Reservoir was confirmed to be appropriate, with a proposed increase from 15,200 to 16,100 LF of 20-inch-diameter pipe (Figure 4-4). The Readiness Assessment identified the need to assess environmental considerations and constructability in Triunfo Canyon, as these elements were not fully captured in the original cost estimate. There can be regulatory and permitting challenges related to open-cut construction in open space areas, so trenchless construction will be evaluated as an alternative. In addition, an inlet structure will be required for introduction of purified water into Las Virgenes Reservoir.

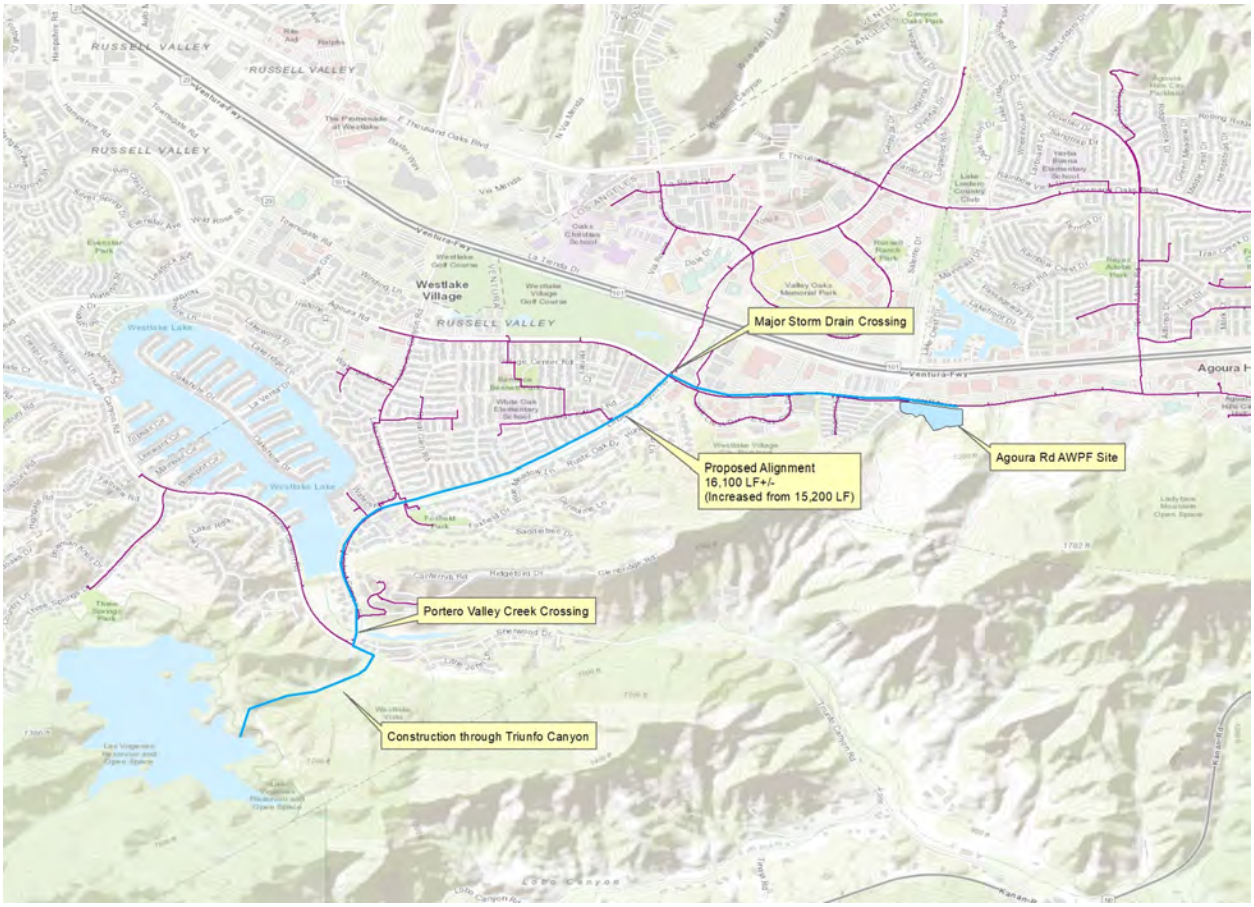

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Figure 4-4. Purified Water Alignment

Based on the Readiness Assessment, Woodard & Curran recommends that the baseline project be modified to include the following improvements for purified water conveyance:

- Evaluate environmental and permitting considerations and alternate construction approaches for work in Triunfo Canyon. *This recommendation is a modification to the baseline project.*

4.9.3 Concentrate

The baseline project identified routing an estimated 62,800 LF of 12-inch-diameter pipeline from the AWPF to the SMP to convey RO concentrate for ultimate discharge to the ocean. Due to the construction challenges along the Norwegian Grade, an alternate 72,000-LF alignment that runs along Thousand Oaks Road in the vicinity of the Hill Canyon Treatment Plant was proposed in the Regional Brine Study (Woodard & Curran 2020). The *Hill Canyon Treatment Plant Master Plan* (Gannet Fleming 2021) further refined this alignment to accommodate the City of Thousand Oaks' long-term plans. This latest alignment will be considered (Figure 4-5).

The baseline project did not consider brine conveyance resiliency with respect to potential scaling and solids resiliency. As outlined in Section 4.8, the site-specific water quality characteristics and potential for concentrate scaling will be evaluated using the Demonstration Facility, and successful methods for scaling mitigation and management will be considered from existing operating RO facilities. A second pipeline has been proposed to provide operational resiliency, and it also gives another option for excess or diverted water discharges. Because the potential sources for water augmentation include the

Thousand Oaks Wells and the Hill Canyon Treatment Plant effluent, a third pipeline could be installed in the trench to supply source water to the new AWPF.

An air gap is typically required at the discharge of the concentrate to prevent cross-contamination. A pump station will need to be added if alternative options to provide the same function, as outlined in Section 4.8, do not eliminate the need for an air gap.

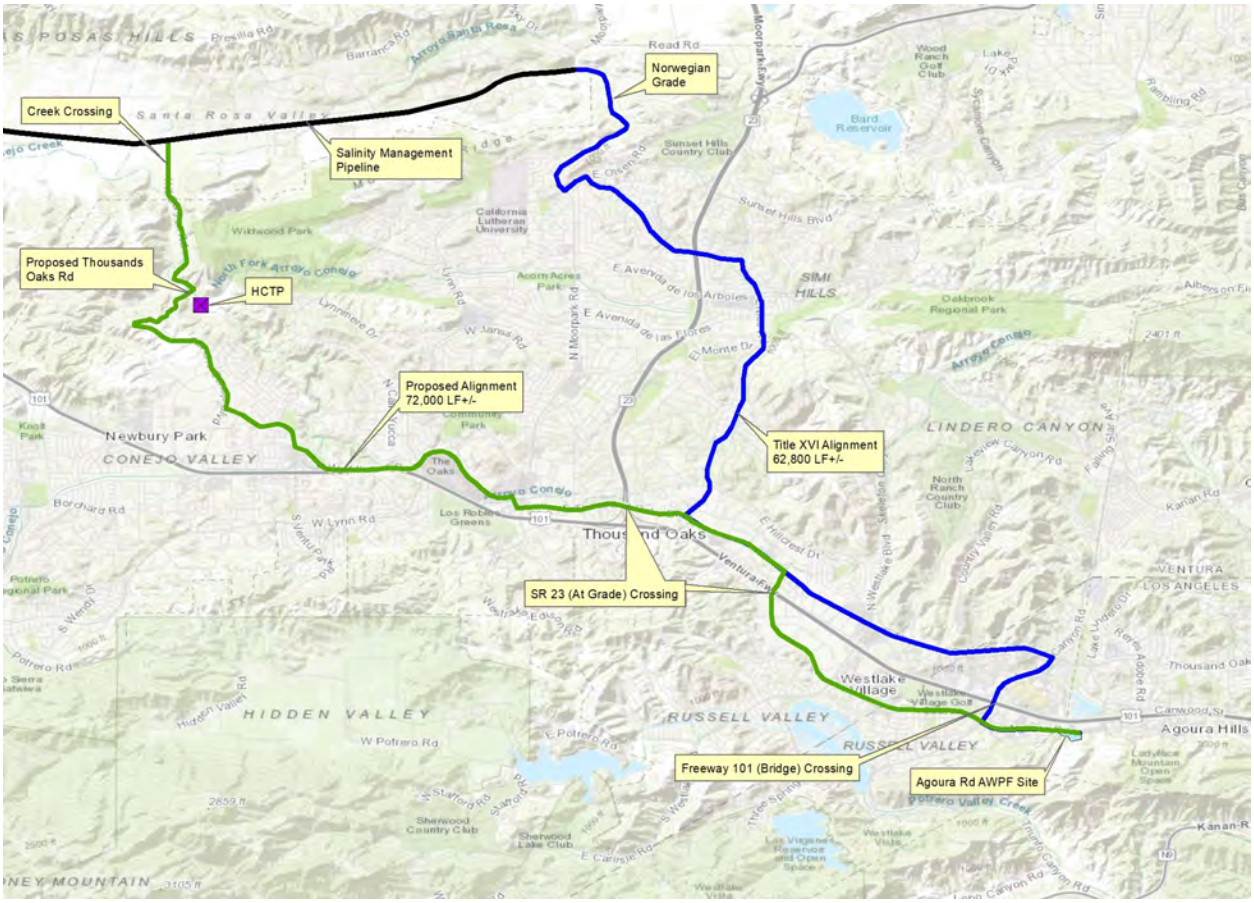

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Figure 4-5. Baseline and Modified Concentrate Alignments

Based on the Readiness Assessment, Woodard & Curran recommends that the baseline project be modified to include the following improvements for concentrate conveyance:

- For conveyance conceptual design, consider constructing a two-pipe system if the cost is acceptable. *This recommendation is a modification to the baseline project*.
- Provide a pump station for concentrate conveyance if an air gap is confirmed to be required. *This recommendation is an addition to the baseline project*.

4.9.4 Excess Recycled Water Discharge and AWPF Emergency Discharge

The baseline project assumed the discharge of excess recycled water to Discharge Point 005 for flows exceeding AWPF capacity, with no improvements to the conveyance system. Evaluation of this system has revealed that improvements to the recycled water and storm drain systems will be required to provide

capacity for excess flow discharge during a wet weather event starting at a 10-year storm, or if the AWPF is offline. No supplemental discharge options were identified in the baseline project.

The baseline project does not identify dedicated infrastructure for AWPF emergency discharges. To provide LVMWD operations staff with flexibility in responding to emergency situations and flows higher than AWPF capacity, a holistic strategy to flow management will consider AWPF redundancy, discharge options, and available equalization storage for potential scenarios. Preliminary options identified for emergency discharge include short-duration discharge to the sewer system, and use of the second concentrate line or potentially the storm drain system (Figure 4-6). The intent is to capture and beneficially use all water, so these options are reserved for emergency situations.

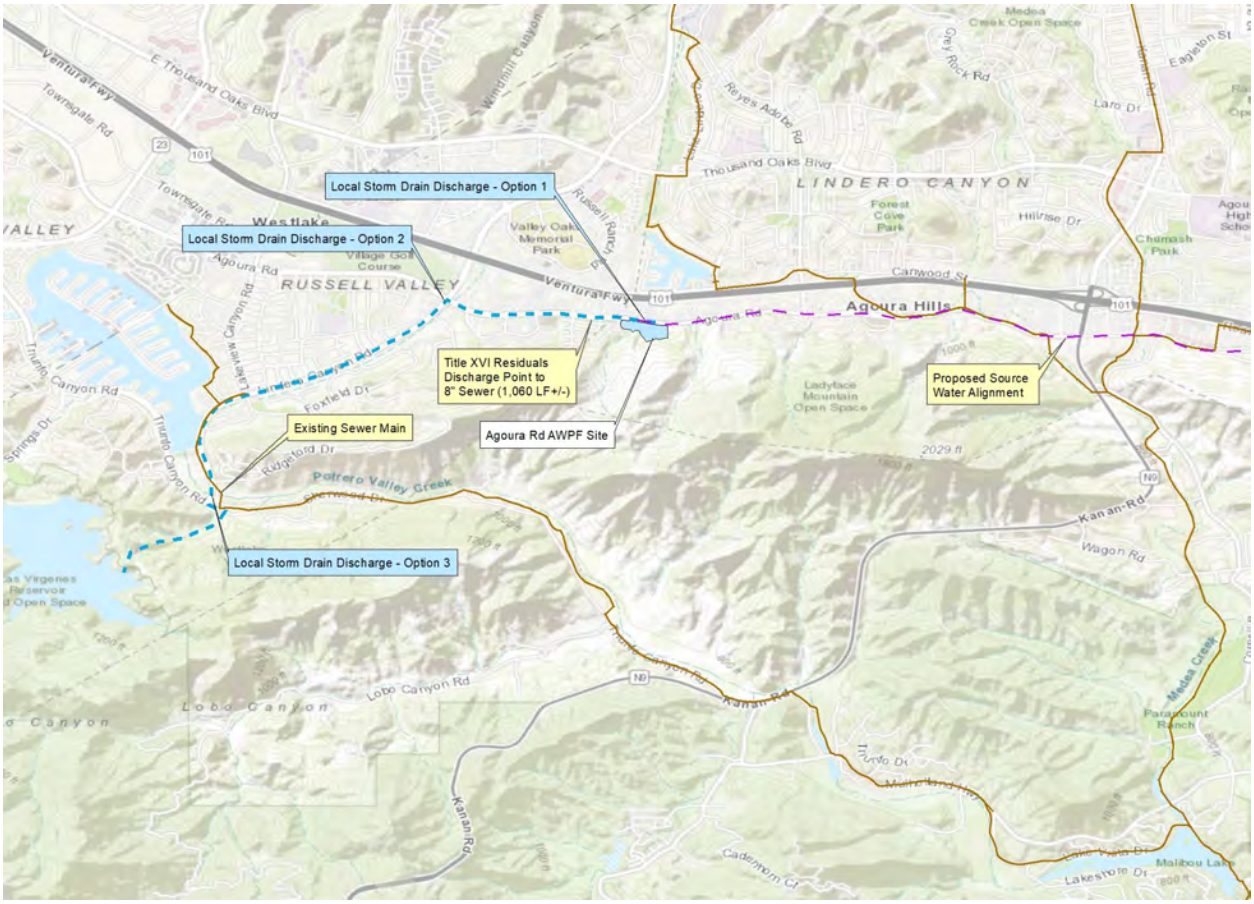

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Figure 4-6. Modified AWPF Emergency Discharge Alignments

4.9.5 Next Steps

The following next steps will be completed during the conceptual planning (10% design) and alignment evaluation of the major conveyance pipelines:

- Perform recycled water system modeling.
- Perform equalization modeling.
- Assess environmental and permitting considerations and alternative construction methods.
- Refine mitigation measures for scaling and solids deposition in concentrate line.
- Confirm improvements for recycled water and storm drain system to provide needed emergency discharge capacity.

4.9.6 Recommended Modifications to Baseline Project

Based on the Readiness Assessment, Woodard & Curran recommends that the baseline project be modified to include the following improvements to the conveyance systems:

- For source water conveyance, provide an alternate alignment originating near the tank storage and along Agoura Hills Road for improved flow and pressure control to the AWPF and customer uses. *This recommendation is a modification to the baseline project.*
- For purified water conveyance, the baseline project alignment is appropriate. Evaluate environmental and permitting considerations and alternate construction approaches for work in Triunfo Canyon. *This recommendation is a modification to the baseline project.*
- For concentrate conveyance, revise the alignment based on the findings from the *Regional Brine Study* (Woodard & Curran 2020) and *Hill Canyon Treatment Plant Master Plan* (Gannett Fleming 2021). *This recommendation is a modification to the baseline project.*
- For the residuals conveyance, the baseline project alignment is appropriate.
- Consider improvements to the recycled water and storm drain systems to maximize the capacity of Discharge Point 005. *This recommendation is a modification to the baseline project*.
- Consider dedicated infrastructure for AWPF emergency discharges in responding to excess or diverted water production or emergency situations. *This recommendation is an addition to the baseline project*.

4.10 Summary Recommendations

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for the TWRF:

- Assess and optimize TWRF disinfection practices, if necessary, to minimize DBP formation. *This recommendation would be an addition to the baseline project.*
- Assess and reduce NDMA formation at TWRF, if necessary. *This recommendation would be an addition to the baseline project*.
- Consider a full-scale, site-specific study to demonstrate virus removal credit for TWRF disinfection practices. *This recommendation would be an addition to the baseline project.*
- Consider enhancement of phosphorus removal at TWRF. *This recommendation would be an addition to the baseline project*.
- Provide equalization of TWRF effluent flows for water quality benefits. *This recommendation is a next step from the previously identified elements of the baseline project*.

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for the AWPF:

- Plan for pathogen log reduction credits of 10-9-10 virus-*Giardia-Cryptosporidium. This recommendation is a modification to the baseline project*.
- Include a CCB to provide virus log credit in the conceptual design. *This recommendation is an addition to the baseline project.*
- Coordinate ongoing demonstration testing with key AWPF issues, including the formation of CTR-regulated DBPs (NDMA, BDCM, and DBCM) and pipeline water quality. *This recommendation is a next step from the previously identified elements of the baseline project.*
- Assume UV-AOP with the use of chlorine as the oxidant; a CCB for virus reduction credit; and optionally, GAC treatment to meet stringent CTR requirements, if necessary. Use the ongoing demonstration testing results to update or validate these initial assumptions. *This recommendation is a modification to the baseline project.*

- Perform demonstration testing to show that a chlorine residual is not needed in the purified water pipeline to the reservoir, thereby allowing dechlorination at the AWPF. *This recommendation is a modification to the baseline project.*
- Undertake architectural programming to develop a conceptual plan for the facilities for staff and for the public (such as tour groups) at the AWPF, as well as to identify a concept-level architectural theme. *This recommendation is a next step from the previously identified elements of the baseline project.*

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for Las Virgenes Reservoir:

- Provide a submerged multipoint outlet diffuser to create longer detention time within the Las Virgenes Reservoir. *This recommendation is consistent in concept with the baseline project.*
- Implement a hypolimnetic oxygenation system to improve water quality deep in the reservoir. *This recommendation is a modification to the baseline project.*
- Provide a chemical storage and feed system to provide a low dose of aluminum coagulant to AWPF discharge to bind phosphorus. *This recommendation is an addition to the baseline project.*
- By improving Las Virgenes Reservoir water quality with these recommendations, increase water age via regularly withdrawing from an intake depth deeper in the reservoir's hypolimnion. *This recommendation is an operational modification that, to be possible, requires implementation of the first three recommendations.*

Based on the Readiness Assessment, Jacobs recommends that the baseline project be modified to include the following improvements for concentrate stabilization:

- For conveyance conceptual design, consider constructing a two-pipe system if the cost is acceptable. *This recommendation is a modification to the baseline project.*
- Use the results from the recommended operations survey to inform pipeline cleaning and scale removal approaches to be incorporated into the design. *This recommendation is a modification to the baseline project.*
- Partner with CMWD, owner and operator of the downstream SMP, to prepare for and implement pipeline O&M activities. *This recommendation is a next step from the previously identified elements of the baseline project.*
- Use the results from demonstration testing to evaluate the costs and benefits of additional concentrate stabilization treatment at the AWPF. Include the potential requirements for acidification treatment in the conceptual design. *This recommendation is an addition to the baseline project.*

Based on the Readiness Assessment, Woodard & Curran recommends that the baseline project be modified to include the following improvements for conveyance:

- For source water conveyance, provide an alternate alignment originating near the tank storage and along Agoura Hills Road for improved flow and pressure control to the AWPF and customer uses. *This recommendation is a modification to the baseline project.*
- For purified water conveyance, the baseline project alignment is appropriate.
- For concentrate conveyance, revise the alignment based on the findings from the Regional Brine Study (Woodard & Curran 2020) and *Hill Canyon Treatment Plant Master Plan* (Gannett Fleming 2021). *This recommendation is a modification to the baseline project.*
- Explore a holistic strategy that may require additional infrastructure to provide flexibility to manage excess recycled water discharge and AWPF emergency discharge flows, given there is no capacity in Discharge Point 005 under wet weather events starting at a 10-year storm. *This recommendation is an addition to the baseline project.*

5. Project Delivery Approach

5.1 Purpose

The purpose of evaluating different project delivery approaches is to provide prompt and effective acquisition of Las Virgenes - Triunfo PWP products, materials, engineering services, and construction contracts. The recommended approach will achieve the goals of the Program, in accordance with the spirit and requirements of the California Code - Public Contract Code, LVMWD Code, LVMWD Purchasing Policy, and JPA agreement.

5.2 Overview

Typically, the JPA uses a traditional DBB project delivery contracting model to select, award, and execute design and construction projects. This approach first completes the final contract documents and then issues requests for bids to select and award a construction contract to a qualified contractor. LVMWD may prequalify bidders for specialized skills costing in excess of $5 million, specifying a rating system based on Public Contract Code Section 20101. The benefits of this approach include a delivery staff experienced in managing and executing DBB contracts, JPA full design control and direct construction oversight, and the fact that this model has been successfully used for many years.

The PMT considered a recent and innovative project delivery contracting approach called the Collaborative Project Delivery Model for the PWP, given the Program's size and complexity. This approach engages the contractor earlier in the design development and delivery process to facilitate early cost certainty, constructability input, innovation, and collaboration through an integrated team model. These benefits are quickly making this delivery model a preferred project delivery approach used by California public agencies and special districts for their large capital project portfolio deliveries.

The JPA can use this Collaborative Project Delivery Model to award contracts for PWP portfolio delivery because costs are estimated to be more than $1,000,000, and the portfolio falls within the allowable Public Contract Code Sections 22160 et seq. for this delivery approach. The JPA's Legal Counsel confirmed the JPA's ability to use the Collaborative Project Delivery Model.

5.3 Project Delivery Drivers and Considerations

For each project element of the Program, there are different considerations for project delivery. Before choosing an approach, the team reviewed common considerations with the JPA during a special session on March 8, 2021. During the workshop, the team reviewed the main project priorities for the AWPF and conveyance projects, aligning them with JPA's comfort zone for top project drivers.

The project drivers are defined from discussions about each of the following project priorities:

- **Schedule:** How can the procurement process be varied if schedule is critical?
- **Selection Criteria:** What criteria are important to success? What's the best indicator of future performance?
- **Design Effort:** How much predesign is required to fulfill the JPA's vision of the PWP (versus designing for performance specifications only)?
- **Price:** Beyond price, what else should proposals be evaluated for? Does low price always win?
- **Scope**: What elements of the Program could use collaborative delivery versus traditional delivery?
- **Design Approval:** How much design oversight is required?
- **Risk Sharing:** How are risks best shared?
- **Quality**: How are innovation and quality built into the design process and verified?

Table 5-1 provides a summary of delivery model spectrum considerations.

Table 5-1. Delivery Model Spectrum and Drivers

Considerations	Traditional Delivery	→	Collaborative Delivery
Contracting	Multiple contracts and separate deliverables.	Multiple contracts; coordinated deliverables	Single contract; single-point responsibility
Experience with Delivery Model	Proven and familiar, but known challenges to success.	DB "lite" – familiar yet introduces collaboration	Proven, but not as familiar; promotes collaboration
Risk and Control	JPA maintains most control and keeps most of the risk. JPA "owns" delivery issues. *JPA gets prescribed project.*	JPA "owns" delivery issues but mitigates challenges early	Design-builder takes responsibility for delivery, and *JPA gets defined performance*
Cost Certainty	Fixed design fees and low-bid contracting results in potential lower first price, with change orders later.	Shifts the cost certainty earlier in the process	Early cost clarity and guaranteed maximum price, in combination with performance guarantee results in earlier price certainty and no change orders, makes this approach a higher overall value
Typical Impact to Schedule	Distinct milestones to confirm expected results in the design. Design completed before bidding. Bidding completed before construction.	Collaboration can shorten schedule	Faster, integrated schedule; contractor involved during design process to incorporate constructability considerations
Innovation	Proven approaches and solutions, and standard technology.	Opening to innovative ideas	More opportunity for value engineering, delivery period reductions, innovation, varying approaches, out-of-the box thinking

Notes:

DB = design-build

5.4 Project Delivery Approaches Considered

Figure 5-1 shows the spectrum of available project delivery procurement mechanisms, strategies, and approaches.

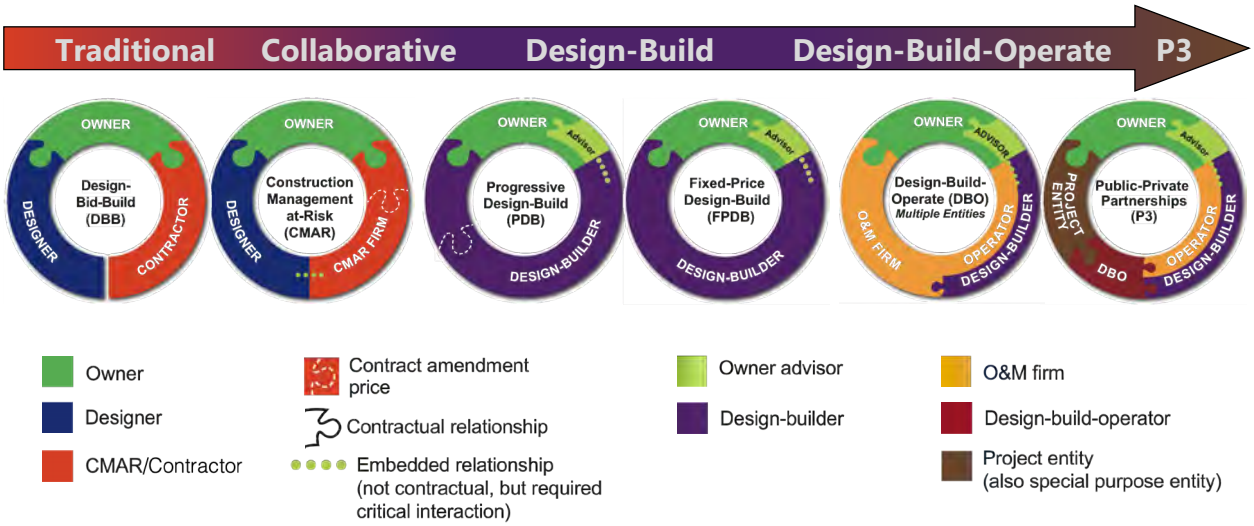


Figure 5-1. Spectrum of Potential Program Project Delivery Mechanisms

Under the collaborative delivery model, staff considered multiple project delivery approaches to apply to the PWP, including construction management at risk (CMAR), PDB, and fixed-price design-build (FPDB). These approaches work well for various PWP delivery elements, including:

- Proactively managing and using innovations during project design and construction development and implementation
- Quickly finding and securing a highly qualified constructor early in the upcoming highly competitive, high-volume construction environment expected in Southern California over the next 5 to 10 years
- Facilitating collaboration among all parties to optimize solutions, provide early cost certainty, and address market and regulatory conditions and requirements as the PWP matures

Several collaborative mechanisms shown on Figure 5-1 are not currently viable for this Program due to Code restrictions, asset ownership issues, or JPA risk and control procurement and contractual comfort levels.

5.5 Recommendation for Pure Water Project Delivery Approach

Procurement method selection is designed to match the project priorities and drivers, as well as JPA"s preferences and risk profile, as follows:

- **Reasons to Use Traditional Delivery.** This is a familiar approach that LVMWD has significant experience in administrating; the scope of work is straightforward; construction uses cost-driven, commodity-based materials; and there is a longer schedule available for defining project elements.
- **Reasons to Use Collaborative Delivery.** Early contractor engagement during design allows for owner input on design selections and decisions; enhanced constructability during design reduces change orders, and employs best value proposition as a combination of price and qualifications; and collaborative delivery provides schedule certainty, early cost certainty, and increased opportunity for value engineering.

The recommended project delivery approach is to use a combination of project delivery procurement mechanisms and approaches to provide the best value for JPA's investment.

The PMT recommends proceeding with traditional DBB for the conveyance projects because:

- The conveyance design is based on the alignment and is not motivated by innovative design or construction methods.
- There will be high agency interaction and permitting, requiring strong working relationships such that JPA would like to maintain this oversight with the designer.
- Subsurface conditions will require focused utility research early in the design and will require more time for investigation and coordination.
- The pipeline procurements are commodity driven.

The PMT recommends proceeding with PDB for the AWPF to provide:

- Early cost certainty and control to inform design decisions and understand cost impacts as the design progresses
- Innovation and collaboration to allow for design-builder creativity and JPA input on design decisions
- Best value to capitalize on cost-effective approaches and equipment selections
- Constructability and an optimized layout, as both workable areas on the two sites have a small footprint
- Single contract with one team for staff to manage

The current Program expertise supports both of these approaches.

5.6 Professional Services Procurement Process – Traditional and Collaborative Project Delivery Procurements

5.6.1 Traditional Project Delivery Procurement Approach

LVMWD will engage pre-approved consultants for some assignments and will also allow consultants not in the pre-approved pool to bid on some projects. A prequalification process may be used at LVMWD's discretion and is outlined in the LVMWD Code, Section 2-6.404.

Figure 5-2 summarizes the typical procurement strategy for a traditional professional services contract.

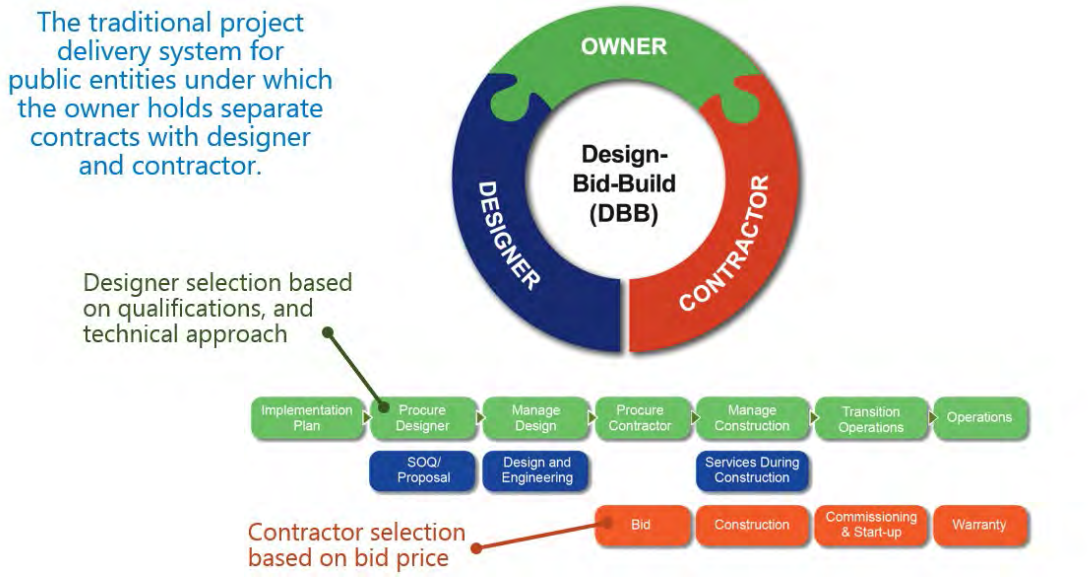


Figure 5-2. Overview of Traditional Procurement Mechanism and Strategy

5.6.2 Collaborative Project Delivery Procurement Approach

Figure 5-3 provides the PDB procurement approach, mechanism, and strategy being considered by the JPA and Program.

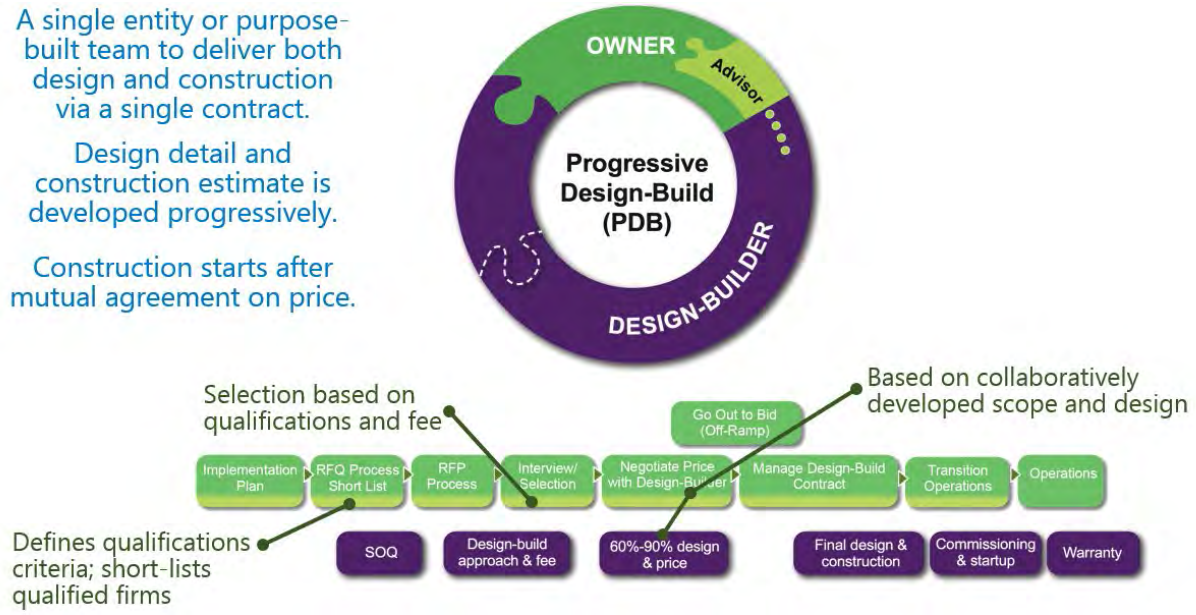


Figure 5-3. Progressive Design-Build Project Delivery Procurement Mechanism and Strategy

6. Regulatory Strategy

6.1 Overview

The PWP is an opportunity to proactively address three major challenges facing the JPA:

1) Comply with more stringent regulatory requirements for discharging to Malibu Creek.
2) Balance seasonal variation of recycled water demand.
3) Create a valuable resource to supplement the region's water supplies, enabled by California's reservoir water augmentation regulations.

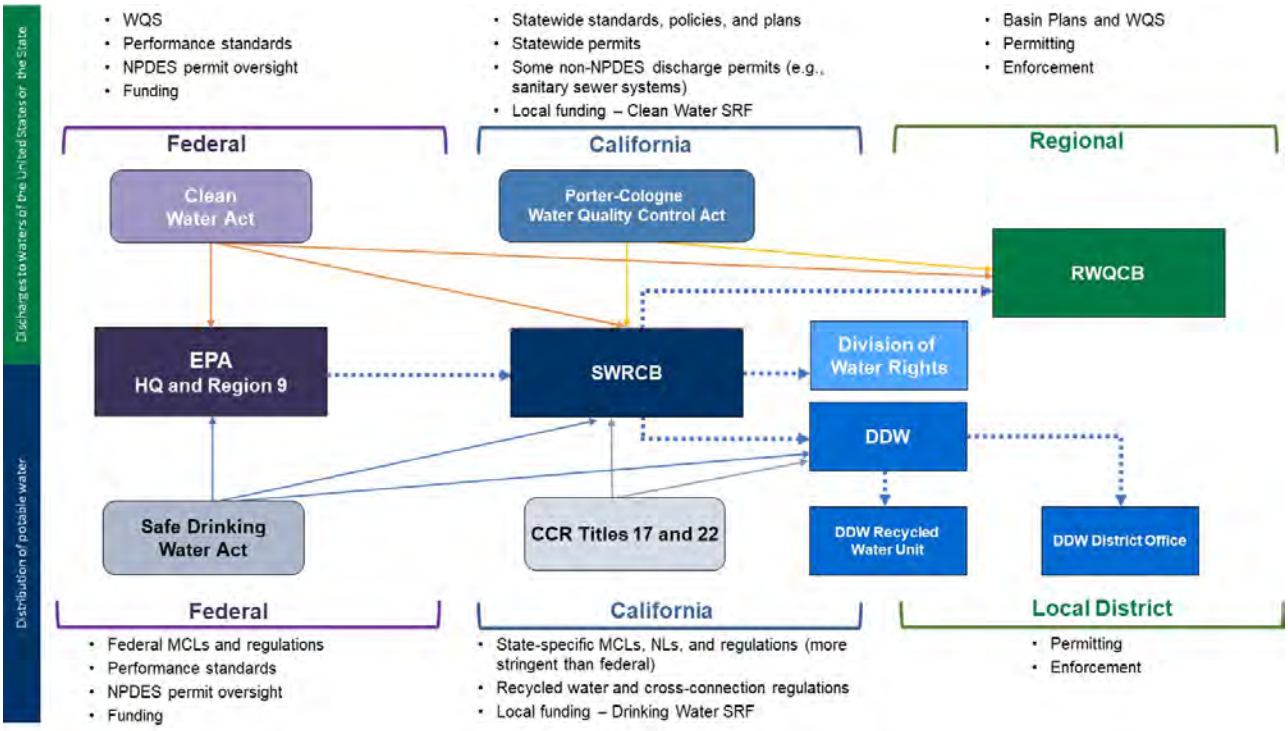
By 2030, the plan is to have an operational AWPF to treat tertiary effluent from the TWRF for IPR, and convey the purified water to the Las Virgenes Reservoir for blending with MWD supply for subsequent treatment at the WFP prior to distribution.

The PWP is the first of its kind in the Los Angeles area. Regulatory approvals for the Program from the SWRCB DDW and the Los Angeles RWQCB are required before operations of related facilities commence and purified water from the AWPF is conveyed to Las Virgenes Reservoir. The objective of this regulatory strategy is to craft a standard practice project that supports expedient DDW and Los Angeles RWQCB permitting while providing operational flexibility for the best value. This regulatory strategy provides an overview of the regulatory authorities, permitting process, and the regulatory approaches identified to meet Program objectives.

6.2 Regulatory Authorities

The two most important regulatory agencies for PWP permitting are DDW and the Los Angeles RWQCB. Both agencies operate under state law and delegated authority from the EPA. These agencies will regulate different aspects of the Program based on their statutory responsibilities: DDW is responsible for the regulation of public drinking water systems to provide safe water, and Los Angeles RWQCB is responsible for protecting groundwater and surface water quality in the Los Angeles region. A memorandum of agreement governs the basic authorities and responsibilities of each agency in the permitting and regulation of recycled water projects in California. Figure 6-1 illustrates EPA's delegation of authority to state and local agencies and lists their respective responsibilities.

Information for another important regulatory division within the SWRCB, the Division of Water Rights, is also included in this section, but more detailed information is covered in the Section 7, Environmental Strategy.



HQ = headquarters
MCL = maximum contaminant levels
NL = notification level
SRF = State Revolving Fund

Figure 6-1. EPA Delegation of Authority to State Agencies

6.2.1 State Water Resources Control Board Division of Drinking Water

DDW is a division of the SWRCB, and the EPA has delegated Safe Drinking Water Act primacy for regulation of public drinking water systems to DDW. It is also responsible for establishing uniform criteria for recycled water treatment and use, as well as for protecting potable water systems from cross--connections. These criteria take the form of regulations found in the California Code of Regulations (CCR), Titles 17 and 22.[1] Historically, these regulations focused on nonpotable reuse projects (for example, “purple pipe” irrigation), but for the past several years, DDW has also been developing regulations for IPR and DPR, respectively.

The development of potable reuse regulations was required by the California legislature in response to prolonged drought conditions and are the culmination of years of research, analysis, and comment. The first statewide standardized IPR regulations were finalized in 2014 for groundwater recharge. Prior to 2014, groundwater IPR projects were approved and regulated by DDW on a case-by-case basis.

SWA regulations, which are applicable to the PWP, became effective in 2018. To date, only one SWA project, the City of San Diego’s North City Pure Water Project serving Miramar Reservoir, has received a conditional approval letter from DDW and a NPDES permit from the San Diego RWQCB (NPDES Number [No.] CA0109398, Order No. R9-2020-0183) that implements the DDW-imposed discharge requirements. Section 6.2.2 provides more details about discharge permits.

[1] Title 17, Public Health, Division 1 State Department of Health Services, and Title 22, Social Security, Division 4 Environmental Health

In addition to recycled water, CCR Title 22 governs the treatment requirements and MCLs for drinking water in California, including at the WFP. Within DDW, the Recycled Water Unit staff reviews recycled water projects and issues conditional approval letters for inclusion in Los Angeles RWQCB permits. District staff does the following tasks:

- Reviews traditional drinking water projects
- Conducts inspections, and ensures ongoing compliance of drinking water systems
- Issues operating permits to drinking water utilities to treat and serve potable water
- Issues enforcement actions to public water systems that violate regulations or permit conditions

The LVMWD's potable water system is regulated by DDW's Angeles District from their Glendale office (SWRCB 2021a).

Finally, the SWRCB is also responsible for the testing and certification of water treatment and water distribution operators in California and relies on DDW's input for treatment and distribution system classification (SWRCB 2021b).

6.2.2 Los Angeles Regional Water Quality Control Board

SWRCB coordinates with California's nine Regional Water Boards to preserve, protect, enhance, and restore surface and groundwater quality. The regional boundaries are based on watersheds, and water quality requirements are based on the unique characteristics of these watersheds (SWRCB 2019a). Figure 6-2 is a map of the California Regional Water Boards' watershed boundaries.

Each Regional Water Board determines standards, issues waste discharge requirements (WDRs), determines compliance with the set requirements, and takes appropriate enforcement actions (SWRCB 2019a). The Los Angeles RWQCB, also referred to as Region 4, is one of these nine Regional Water Boards, and its area comprises the coastal watersheds of Los Angeles and Ventura Counties and small portions of Kern and Santa Barbara Counties.

The Regional Water Boards maintain Water Quality Control Plans or Basin Plans, which are region-specific water quality regulations that recognize regional receiving water beneficial uses, water quality characteristics, and water quality issues. Specifically, the Los Angeles region maintains the *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) (SWRCB 2020a). The Basin Plan is designed to preserve and enhance water quality and protect receiving water (both surface and groundwater) beneficial uses and contains the Los Angeles region's water quality regulations and programs to implement these regulations. The Basin Plan contains both numeric and narrative water quality objectives. Numeric surface water quality objectives established within the Basin Plan have been approved by EPA and serve as federal water quality standards (WQS) that are enforceable under the federal Clean Water Act.

Basin Plan

Water Quality Control Plans or Basin Plans are maintained by the individual Regional Water Boards and are reviewed and updated as necessary every 3 years through a process referred to as Triennial Review. Amendments must be adopted by the Regional Water Board and be approved by the State Water Board, the State Office of Administrative Law, and, in some instances, the EPA (SWRCB 2020a).

Note: Water quality regulations and programs for the Pacific Ocean in California are contained in the *California Ocean Plan* (SWRCB 2019b).

The Regional Water Boards are empowered to regulate discharges defined by law as "wastewater," which, in part, includes treated municipal wastewater, industrial wastewater, and stormwater. The Regional Water Boards implement the Basin Plan by issuing and enforcing WDRs for discharges to state waters (which include groundwater) or NPDES permits for discharges to waters that meet criteria for designation as waters of the United States. The federal NPDES program "…addresses water pollution by regulating point sources that discharge pollutants to waters of the United States" (EPA 2021).

NPDES permits are issued by the Los Angeles RWQCB through EPA-delegated authority. The Regional Water Boards also issue WDRs to protect waters of the State, including groundwater or surface impoundments not classified as waters of the United States (SWRCB 2020a).

In addition to water quality objectives established by the State of California, *Numeric Criteria for Priority Toxic Pollutants for the State of California*, also referred to as CTR (Section 40 *Code of Federal Regulations* [CFR] Part 131) were promulgated by the EPA in May 2000 to protect human health and the environment and establish numeric WQS for 126 organic and inorganic priority toxic pollutants for inland surface waters, enclosed bays, and estuaries under the Clean Water Act. These WQS are used in developing discharge permit limits (EPA 2020). Los Angeles RWQCB implements and enforces the EPA-imposed CTR standards, which are also referenced in the Basin Plan. This means that discharges to federal surface waters must comply with the appropriate criteria and water quality objectives defined in the CTR, the Basin Plan, and other state and federal regulations. Los Angeles RWQCB may also implement CTR standards for discharges to state-regulated surface waters.

LVMWD currently has an NPDES permit for the TWRF (NPDES No. CA0056014, Order No. R4-2017-0024), which was most recently reissued on June 1, 2017 (Los Angeles RWQCB 2017a). This NPDES permit regulates discharges of treated wastewater from the TWRF to Malibu Creek, Las Virgenes Creek (a tributary to Malibu Creek), and Arroyo Calabasas Creek (a tributary to Los Angeles River).

Figure 6-2. Nine Regional Water Boards

6.2.3 State Water Resources Control Board Division of Water Rights

The Division of Water Rights is a division of the SWRCB and reviews wastewater change petitions filed by wastewater treatment plant owners for recycled water projects that have the potential to change the point of use, place of use, or purpose of use of treated wastewater. Specifically, Division of Water Rights oversees compliance with Water Code Section 1211 (SWRCB 2021c).

More information about Division of Water Rights can be found in Section 7, Environmental Strategy.

6.3 Regulatory Process Approval

For a SWA project, regulatory authorities have different permitting requirements. Figure 6-3 illustrates the regulatory approval processes for DDW, Los Angeles RWQCB, and Division of Water Rights. This section describes these processes. The two endpoints of this regulatory process are:

1) The Water Supply Permit Amendment issued by DDW, which regulates the withdrawal of water from Las Virgenes Reservoir for potable use
2) A discharge permit issued by Los Angeles RWQCB, which regulates discharges to Las Virgenes Reservoir

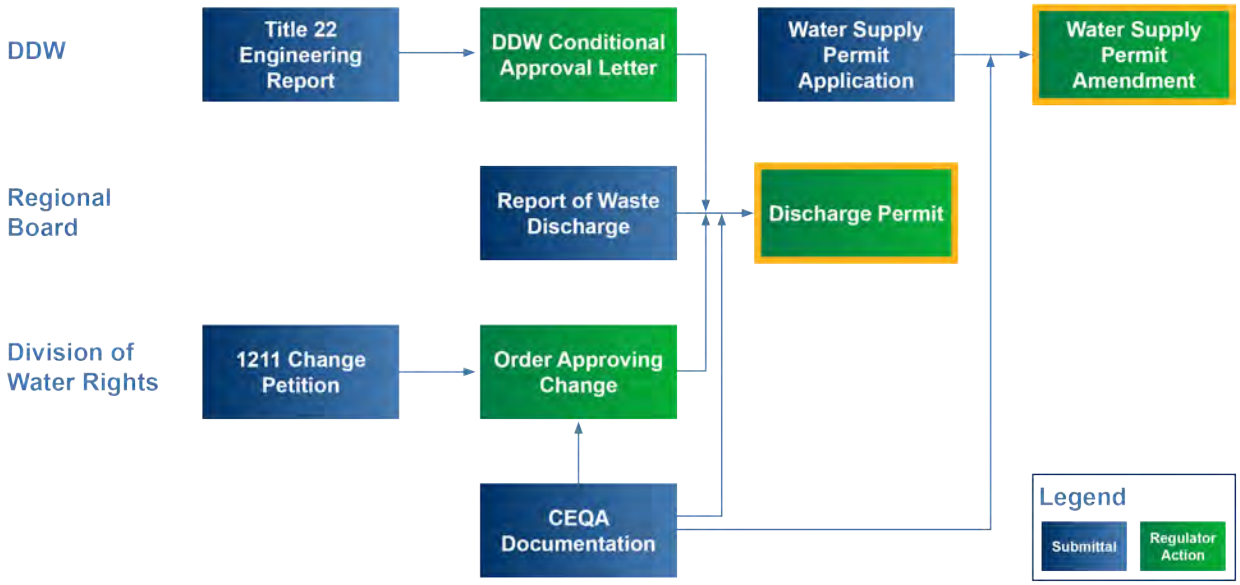


Figure 6-3. Regulatory Process for Surface Water Augmentation Projects

6.3.1 State Water Resources Control Board Division of Drinking Water Regulatory Process

California's Surface Water Augmentation Regulations, found in CCR Title 22, govern the DDW standards for this type of potable reuse. These standards require full advanced wastewater treatment, which consists of treatment of an oxidized wastewater using a RO and an oxidation treatment process, such as ultraviolet (UV) disinfection or advanced oxidation processes (AOP); discharge of the purified water into a drinking water reservoir (that is, into surface water) with specified dilution and retention time; and subsequent treatment at a surface WTP. The combined processes must meet a required level of dilution, retention time, and pathogen and chemical control.

As shown on Figure 6-3, DDW has two primary regulatory actions in a SWA project. First is the review of the Title 22 Engineering Report, which must be prepared in accordance with DDW's 2001 *Guidelines for the Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water*.

This report documents how the proposed treatment, storage, distribution, and uses of recycled water will meet the Title 22 recycled water regulation requirements.

Following DDW's review of the Title 22 Engineering Report, and once all comments from DDW are addressed, JPA and DDW will schedule public hearings to review the findings of the Title 22 Engineering Report and DDW's review. Following, the public hearings, the Title 22 Engineering Report will be updated, if needed, to address public comments.

After the updated report is reviewed and approved by DDW, DDW will provide a conditional approval letter for the PWP, which notifies the Los Angeles RWQCB of the conditional approval of the Program and lists DDW's conditions that should be included in the discharge permit. The DDW Recycled Water Unit completes this review and commenting process.

The second regulatory action is issuance of an amended water supply permit to allow a new source of supply—the purified water in Las Virgenes Reservoir—to be treated at the WFP and then served to the distribution system. The permit application materials submitted to DDW include an engineering report describing the characteristics and treatment of the new source of supply; results of water quality monitoring; and a revised Operations, Maintenance, and Monitoring Plan for the WTP. This regulatory review confirms that the drinking water continues to satisfy relevant regulations, including meeting MCLs and providing sufficient filtration and disinfection to remove and inactivate pathogens. For the WFP, the permit amendment is prepared and issued by DDW's Angeles District.

6.3.2 Los Angeles Regional Water Quality Control Board Regulatory Process

As noted, a discharge permit (WDR or NPDES) is required for discharging pollutants to surface waters. WDRs and NPDES permits are issued by Los Angeles RWQCB. Consultation with Los Angeles RWQCB will be required to determine the type of permit required for the discharge to Las Virgenes Reservoir. If WDRs are issued, they remain in effect until rescinded by Los Angeles RWQCB. In contrast, NPDES permits are reissued approximately every 5 years or administratively extended no later than 5 years following their effective dates. As part of a discharge permit, the discharges must comply with applicable criteria and water quality objectives defined in the CTR, the Basin Plan, and other state and federal regulations.

A Report of Waste Discharge (ROWD) is required to apply for, reissue, amend, or administratively extend a discharge permit. For an existing discharge permit, any changes to the treatment process that may affect water quality, volume of treated wastewater discharged, and discharge point locations should be included in the ROWD for these anticipated changes to be added to the discharge permit.

As shown on Figure 6-3, the primary document that prompts regulatory consideration of a discharge permit is the preparation of an ROWD. For discharge to Las Virgenes Reservoir, the ROWD will describe changes to the TWRF, the addition of the AWPF, and discharge of purified water to Las Virgenes Reservoir.

6.3.3 State Water Resources Control Board Division of Water Rights Regulatory Process

The PWP proposes an increased amount of treated wastewater flows to be diverted from discharges to watercourses to recycled water uses. To ensure the removal of water from a watercourse does not result in adverse impacts to habitat, this change may require Division of Water Rights approval of a Section 1211 Wastewater Change Petition. Division of Water Rights is in the process of developing a checklist for determining whether a Water Code Section 1211 approval is required, or confirmation of a previous approval, for every recycled water project or program. A screening checklist will be required for the PWP and will need to be submitted to Division of Water Rights for review and determination (SWRCB 2021d).

More information about Division of Water Rights' approval process can be found in Section 7, Environmental Strategy.

6.4 Regulatory Strategies

Early engagement with regulatory agencies will be critical to identify and understand their priorities and needs, as regulatory requirements will dictate the level of advanced treatment and Las Virgenes Reservoir operational strategy. The main regulatory strategies identified for the PWP include the following:

- Enhance dilution in the Las Virgenes Reservoir.
- Provide an appropriate level of treatment to conservatively meet DDW requirements without causing extra operational degree of difficulty or cost.
- Apply a multipronged strategy to address CTR and Basin Plan regulated compounds.
- Maximize use of the JPA's Pure Water Demonstration Facility to achieve regulatory goals.
- Engage the IAP to support regulatory strategies.
- Collaborate early and continuously with regulators to craft workable permit language.

These strategies are explained in the following subsections.

6.4.1 Enhance Dilution in Las Virgenes Reservoir

DDW regulates Las Virgenes Reservoir as a drinking water source and will require modeling of the reservoir operations to assess the blending of water from MWD and purified water, as well as the dilution that a 24-hour discharge of purified water receives in Las Virgenes Reservoir before withdrawal for subsequent treatment at the WFP. Modeling will also evaluate water detention time in the reservoir. Dilution ratio and detention time will guide the pathogen removal required of the AWPF.

A three-dimensional (3D) numerical hydrodynamic reservoir model was used to evaluate (FSI 2017) a range of operating scenarios at Las Virgenes Reservoir. Routine, Boundary, and Emergency scenarios were developed to define the intended use of the reservoir with purified water inputs, and to assess boundary conditions and operating strategies against SWA regulations.

Since this evaluation, other operating strategies have been considered by LVMWD and the Jacobs Team; hence, the hydrodynamic reservoir model will need to be updated. Ideally, maintaining 1:100 dilution will allow the JPA to limit advanced treatment to FAT and avoid the need for additional pathogen log removal treatment, such as a substantive, expensive, and operationally complex ozone or biologically active filtration pretreatment component.

To verify that the dilution requirements are met, the JPA will need to initiate a tracer study using an added tracer within the first 6 months of operation. The results of the tracer study will be used to validate the hydrodynamic modeling requirements mentioned. A tracer study protocol will need to be submitted to DDW for approval prior to conducting the tracer study.

6.4.2 Level of Treatment

The recommended level of advanced treatment presented is based on conservatively meeting DDW requirements, without causing extra operational degree of difficulty or cost. Studies to date (Kennedy Jenks 2016) have indicated that JPA's proposed AWPF treatment train would include microfiltration/ ultrafiltration, 2-stage or 3-stage RO, UV/AOP, product stabilization, and free chlorine disinfection, if needed, prior to conveyance to Las Virgenes Reservoir. In addition to enhancing dilution as discussed in Section 4.1, early engagement of DDW and Los Angeles RWQCB will be fundamental to understand regulatory requirements, which dictate the appropriate level of treatment.

6.4.3 Apply a Multipronged Strategy for California Toxics Rule and Basin Plan Requirements

As discussed in Section 2.2, discharges of purified water to Los Angeles RWQCB Basin Plan-designated surface water bodies, such as Las Virgenes Reservoir, must address two categories of water quality objectives, in addition to the DDW SWA regulations requirements: (1) those specified in the SWRCB policies or federal regulations, such as CTR standards; and (2) those designated in the Basin Plan, which also references the CTR.

6.4.3.1 California Toxics Rule

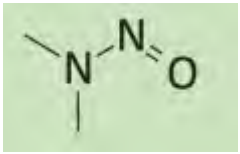
CTR standards apply to federal surface waters and are more stringent than DDW drinking water standards. Additionally, in some cases, these standards are more stringent than current analytical detection limits, including CTR standards for chlorinated pesticides, such as (SWRCB 2016):

- DDT
- Aldrin
- Dieldrin
- Heptachlor
- Polychlorinated biphenyls (PCBs)
- Polyaromatic hydrocarbons (PAHs)
- N-nitrosodimethylamine (NDMA)
- BDCM
- DBCM

CTR parameters of particular interest that will need further analysis and study to demonstrate compliance with CTR criteria are NDMA and the DBP group of total trihalomethanes (TTHMs), which include chloroform, BDCM, DBCM, and bromoform.

As shown in Table 6-1, the lowest CTR criteria for NDMA and TTHMs are much more stringent that the corresponding drinking water standards. The lowest CTR criteria are from the Human Health for Consumption of Water and Organisms category.

NDMA



NDMA is a semivolatile organic compound that forms in natural and industrial processes. It is often present at elevated concentrations in wastewater from certain industries and produced during the chloramination process of wastewater effluent and ozonation of surface water contaminated with pesticides or industrial chemicals. NDMA is completely miscible in water and may break down in water as a result of exposure to sunlight or other natural biological processes (EPA 2017).

Table 6-1. Comparison Drinking Water Standards and California Toxics Rule Criteria

Compound	Units	Drinking Water Standard	Lowest CTR Criterion (Human Health for Consumption of Water and Organisms)
NDMA	ng/L	10	0.69
Chloroform	µg/L	80 as sum of TTHMs	--
BDCM (also referred to as dichlorobromomethane)	µg/L		0.56
DBCM (also referred to as chlorodibromomethane)	µg/L		0.401
Bromoform	µg/L		4.3

Notes:
-- = not applicable
µg/L = microgram(s) per liter
ng/L = nanogram(s) per liter

CTR criteria for many pollutants are more stringent than drinking water standards because the CTR criteria consider effects on both human health and aquatic organisms, whereas the drinking water standards only consider human health effects. Some aquatic organisms may be more sensitive to pollutants due to their enhanced exposure via water, sediment, and food (Rand 2020). In particular,

NDMA poses a unique challenge in that it can be created by certain treatment processes used in water recycling, including chloramine disinfection and advanced treatment technologies, such as ozonation (EPA 2017, Sgroi 2018). For the PWP, where a distant AWPF will be sourced with disinfected recycled water, this potential source of NDMA will need to be addressed.

In the absence of the Los Angeles RWQCB establishing a designated mixing zone, the CTR standards would apply directly to the end-of-pipe discharge to the reservoir. If the Los Angeles RWQCB were to establish a designated mixing zone, the CTR standards would apply outside the boundary of the mixing zone. In this event, reservoir discharge standards would be based on the degree of dilution that occurs within the mixing zone.

The use of a mixing zone in Las Virgenes Reservoir could significantly affect the nature of the effluent concentration limits imposed on the PWP. For constituents that do not persist in the environment, the designation of a mixing zone (that is, the zone where the purified water is diluted into the receiving water) could allow Los Angeles RWQCB to consider dilution effects in establishing effluent concentration standards, performance goals, or mass emission standards. This mixing zone approach potentially results in establishing effluent limits less stringent than the CTR receiving water limits.

6.4.3.2 Biostimulatory Substances (Nutrients)

Other WQS that should be considered for future studies are nitrogen and phosphorus and their effects in the Las Virgenes Reservoir, as periodic biostimulatory effects have been associated with high concentrations of these two constituents (SWRCB 2020a). The Basin Plan contains no numerical standards for nitrogen and phosphorus and, instead, establishes the following narrative biostimulatory objective: “Water shall not contain biostimulatory substances in concentrations that promote algae growth to the extent that such growth causes nuisance or adversely affects beneficial uses.”

Las Virgenes Reservoir currently experiences nuisance algal activity (LVMWD 2020), although it is anticipated that the introduction of purified water coupled with reservoir operational changes will help reduce this activity. Analysis will be required to demonstrate that no adverse biostimulatory effects are caused by the introduction of purified water under various reservoir operating scenarios. Reservoir operating strategies under consideration are included in the Section 4, Readiness Assessment.

6.4.4 Maximize Use of the JPA’s Pure Water Demonstration Facility

In accordance with SWRCB implementation policies, Los Angeles RWQCB uses Reasonable Potential Analysis (RPA) to determine which parameters are to be regulated through the imposition of enforceable effluent limits (SWRCB 2020a). Through the RPA process, parameters deemed to not have a reasonable potential to be present are typically regulated through nonenforceable performance goals. Enforceable water quality concentration limits (subject to minimum mandatory financial penalties) are imposed to regulate constituents determined to have a reasonable potential to be present in the discharge.

The RPA, in part, considers a number of statistical parameters, such as the following:

- Number of data points for each constituent
- Detection limits for the sample results
- Number of nondetected sample results
- Number of sample results with concentrations exceeding applicable standards

Proper development and implementation of a demonstration testing program is important to influencing the RPA process.

Testing plans can be developed for the JPA’s Pure Water Demonstration Facility to address specific issues, such as NDMA compliance with the CTR requirement. Data obtained through these testing plans could justify the implementation of performance goals instead of effluent limits in the discharge permit. Lastly, the JPA’s Pure Water Demonstration Facility can help build public confidence and approval.

6.4.5 Engage the Independent Advisory Panel

At a minimum, DDW requires that an IAP be engaged to evaluate the hydrodynamic modeling of the reservoir for SWA projects. However, an IAP can also provide other benefits to the PWP.

An IAP was organized by the JPA in 2018 to evaluate the technical, scientific, and regulatory aspects of the Program (NWRI 2018). The IAP provides third-party, expert review of Program elements to assist regulatory agencies in evaluating and permitting the PWP. The regulatory strategy will continue to leverage the IAP to:

- Build public and regulator confidence
- Answer regulator questions, and endorse design team approaches
- Provide input to help clarify how unclear regulations should be addressed
- Review demonstration test plan and results, reservoir modeling and operation strategy, and tracer study protocol

When appropriate, a subcommittee of the IAP may be convened to review specialized topics, such as specifics of the reservoir modeling.

6.4.6 Collaborate Early and Continuously with Regulators

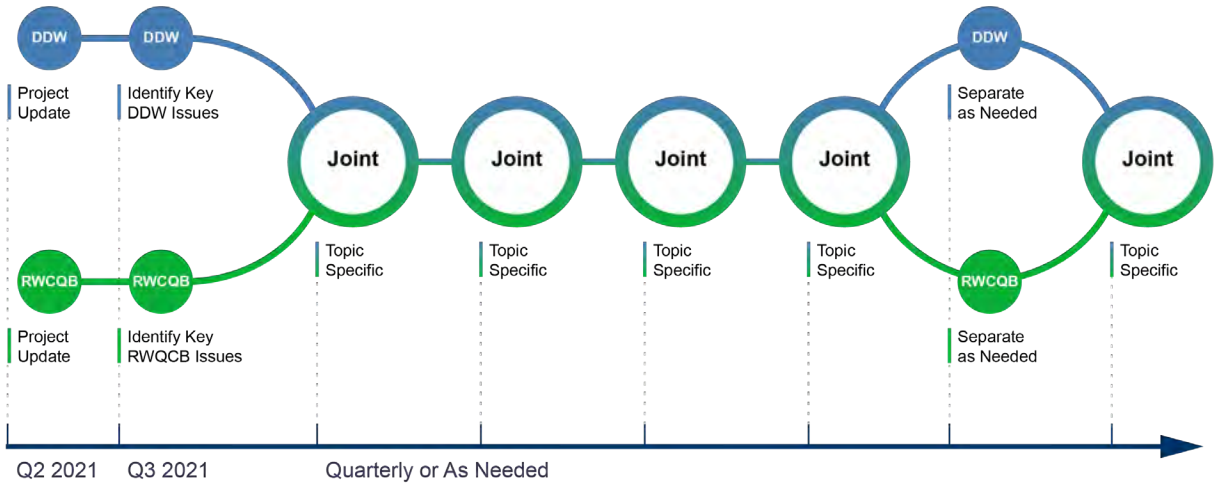
Early and continuous collaboration with regulators will build confidence in the PWP and help set the right permitting stage for future phases of the Program. DDW and the Los Angeles RWQCB will be engaged with appropriate data and support, and will be provided with tailored permit application documents to support regulatory approaches consistent with the JPA's desired regulatory outcome. This strategy should also shorten the permitting process schedule.

One lesson learned from previous experience is that, while DDW has clear guidelines through the SWA regulations, Los Angeles RWQCB has substantial discretion in how to regulate this type of discharge relative to complying with Basin Plan objectives and CTR standards and achieving environmental water quality goals. More specifically, the message to the Los Angeles RWQCB should emphasize:

- The PWP will protect beneficial uses of Las Virgenes Reservoir.
- The PWP will have a robust approach for NDMA and DBPs, and the JPA's Pure Water Demonstration Facility study will be leveraged to assist the Los Angeles RWQCB in developing workable effluent limits.

As part of early engagement, it is recommended that the ROWD for the reissuance of TWRF's NPDES permit include information that will support the implementation of favorable permit language to accommodate Program needs. This TWRF ROWD is due in February 2022 and will help inform Los Angeles RWQCB staff of the Program and relevant issues, supporting future phases of the PWP and a strong working relationship with a new generation of permit writers at the Los Angeles RWQCB.

As part of this early and continuous engagement strategy, a series of meeting will be held with DDW and Los Angeles RWQCB staff. Figure 6-4 shows the tentative schedule of meetings to engage with DDW and the Los Angeles RWQCB for Phase 1 of the PWP.



Note: Figure shows meetings with DDW and Los Angeles RWQCB

Figure 6-4. Tentative Schedule of Regulatory Phase 1 Meetings

7. Environmental (CEQA) Strategy

7.1 Overview

The California Environmental Quality Act (CEQA) was enacted into California law in 1970. The purpose of CEQA is to foster public input into the decision-making process when a public agency undertakes a project that requires a discretionary decision. CEQA is implemented through a defined methodology, during which a decision-making agency – the CEQA Lead Agency – prepares and discloses information to the public, stakeholders, and other regulatory agencies regarding the environmental impacts and potential consequences that may occur as a result of approving a project. The JPA is the CEQA Lead Agency for the PWP.

CEQA provides options for the type of environmental document to be prepared. For the PWP, a programmatic analysis—a Program Environmental Impact Report or PEIR—is recommended. This type of CEQA document may be prepared for a series of actions that can be characterized as one large project (CEQA Guidelines Section 15168). The PEIR is an "umbrella" CEQA document that allows for a more exhaustive consideration of high-level effects that would be practical under a case-by-case review of individual project components at a time when the Lead Agency has more flexibility to address environmental effects.

A certified PEIR demonstrates compliance with CEQA by evaluating and publicly disclosing a program's potential environmental impacts. The PEIR is required to meet a Lead Agency's CEQA obligations and must be completed and certified before construction of individual projects. The PEIR is also required before discretionary permits can be issued by local or state agencies, such as California Department of Fish and Wildlife or the RWQCB. This document is also a critical prerequisite for governmental applications for low-interest loan programs, such as the EPA's WIFIA and SRF programs, and MWD's Local Resources Program.

This section documents the PWP CEQA strategy and recommendations that the PWP Team and JPA will use to complete the PEIR process. Also, this TM provides the PWP Team strategy to address future CEQA compliance and approvals that will arise as the PWP matures, develops, and is implemented.

7.2 Future CEQA Review Process

By focusing on high-level impacts, a PEIR allows the Lead Agency considerable flexibility regarding project-level detail. This is especially helpful because the PWP is still in a concept definition and early design phase, with only some elements that are defined enough to warrant a project-level evaluation.

This programmatic approach allows the JPA (Lead Agency) to approve of the entire PWP even as some of the PWP's projects are still in concept development and design. This PEIR strategy solves potential design and implementation challenges by providing overarching coverage, or "an umbrella," for many of the important PWP projects and associated components, while allowing for detailed review as new PWP projects are developed and move toward approval.

The recommended strategy for providing detailed review of individual projects to achieve future CEQA compliance is summarized as follows:

- **PEIR Checklist**. CEQA Guidelines Section 16168(c) allows for PEIRs to be used for later activities without preparing a new CEQA document of any kind. PWP could benefit from this allowance by using a PEIR Checklist as the preferred approach for individual project review throughout the life of the Program. The JPA will need to determine that each project is within the scope of the PEIR and that none of the tests for subsequent CEQA review (Section 15162) are met. The CEQA Guidelines recommend using a checklist to document the evaluation of later activity (determination that environmental effects are within the scope of the PEIR).

- **CEQA Addendums**. A CEQA Addendum can be prepared for a previously certified PEIR when changes or additions are needed, but the changes do not trigger conditions requiring preparation of a subsequent environmental document, as described in CEQA Guidelines Section 15162. No public notice is required for a CEQA Addendum, and it does not need to be circulated for public review.
- **Negative Declarations (NDs) or Mitigated Negative Declarations (MNDs).** A PEIR can be used to support the determination made in an Initial Study to prepare either an ND or an Environmental Impact Report (EIR) for a later project under a program. Pursuant to subdivision (c) of CEQA Guidelines Section 15168, an MND prepared for a later project would focus on new effects that had not previously been considered in the PEIR, and which can be reduced to a less than significant level by mitigation measures or revisions incorporated into the project. In addition to these measures or revisions, the project must incorporate all applicable mitigation measures and alternatives identified in the PEIR (CEQA Guidelines Section 15168(c)).
- **Supplemental EIR**. If some of the tests for subsequent environmental review are met, then a Supplemental EIR can be prepared. A Supplemental EIR would focus on the areas that have changed and the new impacts associated with the change. Typical EIR processes are required with a Supplemental EIR, including scoping, public review, and documenting responses to comments. A Supplemental EIR may be necessary if critical elements of the PWP cannot be developed in sufficient detail to meet the PEIR schedule.

7.3 CEQA-Plus and NEPA

The PEIR approach and future project review described is focused on the JPA's obligations to analyze the environmental impacts of the PWP as the CEQA Lead Agency. This approach also considers the actions required by other agencies (for example, state regulators) and the potential use by the MWD Local Resource Program. However, consideration is also needed to ensure that the environmental review satisfies the *additional* needs of other funding agencies that are over and above what is required by CEQA. This section addresses the additional environmental requirements needed for two important funding processes: the SRF and the WIFIA.

7.3.1 CEQA-Plus

CEQA-Plus is a specific type of CEQA process that was approved by the SWRCB to develop a National Environmental Policy Act (NEPA)-like state environmental review for projects funded through the SRF, which is ultimately financed through the EPA. Because the EPA is a federal agency, a NEPA approval must be obtained to allow funding authorization.

CEQA-Plus uses a CEQA document (PEIR or EIR) as well as documentation for specified federal consultation obligations, known as "cross-cutters." CEQA-Plus uses all PEIR elements for CEQA, but also includes the "Plus" components, including Section 106 of the National Historic Preservation Act and Section 7 of the federal Endangered Species Act.

In addition, a CEQA-Plus analysis augments the CEQA analysis to include the following additional federal cross-cutter requirements:

- Federal Clean Air Act
- Executive Order 11990 Protection of Wetlands
- Coastal Zone Management Act
- Farmland Protection Policy Act
- Executive Order 11988 Floodplain Management
- Wild and Scenic Rivers Act
- Migratory Bird Treaty Act

7.3.2 NEPA

The NEPA, which was signed into law on January 1, 1970, establishes a national environmental policy and goals for the protection, maintenance, and enhancement of the environment, and provides a process for federal agencies to implement these goals.

NEPA requires that all federal agencies use all practicable means to create and maintain conditions under which humans and nature can exist in harmony. NEPA further requires that federal agencies incorporate environmental considerations into their planning and decision making using an interdisciplinary approach.

NEPA's implementing regulations are administered by the Council on Environmental Quality (CEQ) (40 CFR 1500 et seq.). Section 1502.14 of the CEQ Regulations for Implementing NEPA requires that Environmental Impact Statements (EISs) rigorously explore and objectively evaluate all reasonable alternatives to the project, including the No Action Alternative and reasonable alternatives not within the jurisdiction of the Lead Agency.

For the PWP, the most likely triggers for NEPA would be submission of an application and funding approval through the WIFIA and potentially the issuance of a Section 404 permit from the U.S. Army Corps of Engineers (USACE). It is anticipated that NEPA compliance for WIFIA funding may be covered through the Programmatic Environmental Assessment that the EPA previously certified in 2018. For the USACE, NEPA compliance for permit issuance under a Nationwide Permit is already completed for each permit prior to issuance. If an individual permit becomes necessary for the PWP, a NEPA review and document would need to be prepared.

7.4 PEIR Process and Implementation

This section describes the proposed implementation plan for the PWP PEIR, including milestone process steps and expected timeline, document preparation strategies, and focus topics to be developed in the PEIR.

7.4.1 PEIR Milestones and Timeline

Figure 7-1 illustrates the required process for CEQA document review and adoption, starting with scoping and ending with PEIR certification and project approval by the JPA Board. Nested within each step are critical touch points with agency reviewers and the general public. The Jacobs Environmental Team will collaborate with JPA staff, the PMT, and Katz & Associates so that the project information to be shared publicly is developed to an appropriate level and presented in a way that fosters understanding of the PWP and its expected benefits and potential adverse effects (for example, construction disruptions) that we are addressing in the PEIR.

From an external perspective, the public will be introduced to the CEQA process by a Notice of Preparation. At this time, we envision releasing the Notice of Preparation in August 2021, which initiates the official *scoping* process. Typically, scoping lasts approximately 30 calendar days with an optional public meeting or workshop that introduces the attendees to the project and requests their input.

The second milestone is the release of the Draft EIR (sometimes called the Public Draft) for review. The typical review period is 45 calendar days, which can be longer (or extended) if needed. During that time, an optional public meeting or workshop is often held to support effective outreach and project understanding.

Shortly after the close of the public review period, any necessary updates to the document will be prepared, and a Final EIR will be released, including written responses to comments. Usually, the Final EIR is released 2 to 3 weeks in advance of the scheduled JPA Board Meeting, where the Final EIR will be considered for adoption—effectively, the formal end of the PEIR process.

Figure 7-1 provides an overview of the PEIR review process.

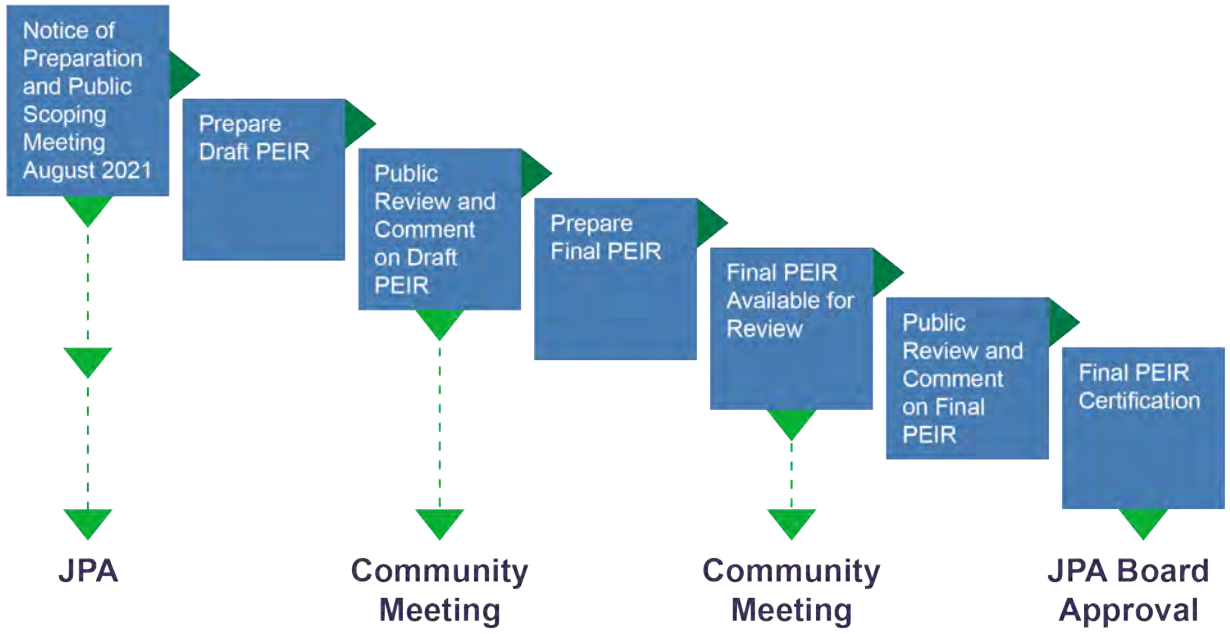


Figure 7-1. PEIR Review Process

7.4.2 PEIR Preparation Approach

The internal, staff-level work to conduct the environmental evaluation and prepare the PEIR itself is an intensive process involving an interdisciplinary team of resource specialists and environmental planners. The goal of this process is to present information about environmental impacts in a clear, concise manner that is understandable to the general public while being technically rigorous.

To best fulfill our obligations, we recommend the following document preparation approaches.

- **Initial Study**. Jacobs will prepare a CEQA Initial Study checklist per Appendix G of the State CEQA Guidelines. The Initial Study will be a milestone for developing the *project description* by focusing on our ability to define core project features and meet basic CEQA data needs for a PEIR and (if possible) for project-level approval. In addition, the Initial Study will confirm what resources do not need to be evaluated in the PEIR—for example, there are no expected farmland impacts—and what resources should be the focus of the analysis. For CEQA resources to be evaluated in detail, the Initial Study will determine available data sources and identify data collection needs appropriate for a PEIR and (if possible) for project-level approval.
- **Project Description**. The PEIR should include a project description that is comprehensive and broadly written to provide flexibility in future design work. At the same time, the PEIR should, where possible, describe individual project features at a sufficient level of detail to streamline future project-level review. The team will be challenged to find the right balance. To support this effort, Jacobs will develop a list of data needs to provide full, project-level CEQA coverage. If the data needs can be met with confidence, project-level coverage can be provided. If there is uncertainty or a need to preserve flexibility for future design decision making, the impact analysis will remain at a programmatic level.
- **PEIR Outline**. Based on the results of the Initial Study review and the expected level of detail, Jacobs will prepare a detailed, annotated outline of the PEIR to guide document preparation. The outline will provide the framework for our interdisciplinary team's individual contributors to provide technical content in a consistent manner across all sections. The outline provides a timely preview to JPA staff

regarding how important project elements are to be addressed—for example, the treatment of alternative AWPF sites.

- **Information Collection**. A wealth of information has already been collected about the PWP and its individual components, including prior studies of the Agora Road AWPF site and the Malibu Creek discharge pipeline. Our interdisciplinary team will conduct additional information collection activities appropriate for each resource to be evaluated. At that time, we expect to begin closely working with local agencies—primarily the City of Agoura Hills and the City of Westlake Village—to better understand local issues and concerns. This is expected to include collecting traffic counts, determining designated haul routes, researching local noise standards and practices, and collecting similar data points that will be useful during public review.
- **Editorial Standards**. The Jacobs Environmental Team will collaborate with the larger PMT on editorial standards, including using feature names and acronyms that are consistent across the PWP. This step should not be underestimated—our professional editing and document production team will meet high standards for print and electronic products, associated presentation materials, and other project information shared with the general public.

7.4.3 PEIR Focus Elements

For both the *project description* and *resources* needs, our current assessment of focus areas and proposed strategies are as follows.

- **Conveyance Alignment and Construction Details.** Various conveyance elements require definition for full project coverage in the PEIR, including selection of the preferred alignment, basic alignment plan and profile sheets (for example, pipe centerline), and construction methods. The preferred alignment and construction methods appear to be well-developed between the TWRF and the Agoura Road AWPF site. Similarly, basic alignment information appears to be established for AWPF effluent, although details need to be confirmed near Las Virgenes Reservoir. Brine line alignments and connection points, however, appear to require additional study and may not be fully covered in the PEIR. In terms of construction details, good CEQA coverage can be provided with standard cut-and-cover illustrations and noting where trenchless methods will be used. For the PWP, focused effort should be made in identifying construction methods in hard-rock portions of the alignment near Las Virgenes Reservoir.
- **Alternatives Definition.** The PEIR should consider alternatives at multiple levels, including alternatives to the PWP itself. Based on the long history of the Program, we expect that sufficient information is available to demonstrate a reasonable process to select the PWP over other high-level alternatives. At a more detailed level, the AWPF site may be the most substantial alternatives decision. For the PEIR, we propose fully evaluating the Agoura Road AWPF site as the “proposed project” and relegating the Reservoir AWPF site to a more streamlined evaluation in the alternatives section. Other potential alternatives to consider include brine line alignments, water supply sources and discharge locations, and different construction methods. As the PWP is further developed, the team will consider what can be presented as a *design option* versus what is better addressed as a full Program alternative.

  The discussion of alternatives also must include a No Project Alternative. Under this critical alternative, no PWP features would be constructed. However, this requires an explanation of what would happen in the absence of the PWP—an important opportunity to discuss long-term water supply reliability within the Program area and threats under a “business as usual” scenario.
- **Cultural Resources.** The Program area has moderate sensitivity for archaeological resources and low sensitivity for historic (built environment) resources. These resources will be evaluated using standard methods, with the potential for field surveys determined for each Program feature – more rigor allows for greater completion of the studies such that no further analysis will be needed and most federal processes will be covered. However, field surveys where alignments and construction methods have not been confirmed may not be helpful, as they almost certainly would need to be duplicated later. In addition to standard cultural resources work, the recently adopted Assembly Bill (AB) 52, *Gatto. Native Americans: California Environmental Quality Act*, procedures require

notification to local Native American Tribes. We understand that the LVMWD maintains a list of tribal contacts pursuant to AB 52.

- **Public Outreach and Communications.** The CEQA process requires various notification processes that, although focused on agency outreach, provide an important outreach opportunity to all stakeholders and the general public. The JPA, together with support from Jacobs and Katz & Associates, will coordinate to confirm that all required CEQA legal and regulatory obligations are met *but* that the legal and regulatory obligations do not override meaningful engagement.
- **Construction Impacts to Public.** PWP construction activities will be noticeable and will require evaluation in the PEIR. For the AWPF site, nuisance impacts to the adjacent apartments will include noise and dust from all onsite construction activities. All PWP conveyance elements will have traffic and noise impacts, but these impacts are expected to be most pronounced along Lindero Canyon Road. For the PEIR, our approach is to describe the intensity and duration of construction impacts to the extent possible and focus on the processes and procedures to be used during construction. For example, mitigation should be prepared that describes for the public our proposed preconstruction notifications, use of construction hotlines, and monitoring and reporting procedures.
- **Rare Plants and Oak Tree Removal.** The Agoura Road AWPF site and the discharge pipeline alignment near Las Virgenes Reservoir present special challenges regarding protected resources, primarily removal of oak trees (loss of oak woodland habitat) and several species of obscure (and hard to identify) rare plants. Considering these resources will be important when developing our AWPF site plan (including grading plans) and construction methods near Las Virgenes Reservoir. The AWPF site is expected to include several remainder areas that are not mass graded; therefore, they provide an opportunity for restoration and at least partial mitigation for the loss of trees and rare plants. Information is available that greatly helps us understand the biological opportunities and constraints at the site—for example, the prior CEQA document prepared for the Park at Ladyface Mountain senior apartments—but focused work (for example, botanical survey) is required.
- **Discharges to Malibu Creek.** California Water Code Section 1211 requires a Change Petition when water reuse projects result in changes to the amount of water discharged to an inland waterway. Implementing the PWP will result in a decrease in discharges from the TWRF into Malibu Creek; therefore, the JPA will be required to file a Change Petition with the SWRCB Division of Water Rights. Fortunately, this is not a new issue—the LVMWD and the TWSD been active stewards of the Malibu Creek watershed for decades. At this time, our understanding is that the PWP will not seek to alter the existing Consent Decree in any way. Creek discharges will continue to be limited during the dry season, and supplemental flows will continue to be provided to meet steelhead flow requirements. This is the foundation of our approach; however, the changes in TWRF treatment processes and discharges to the new recycled water system provide an opportunity to consider optimizing how to best meet the Consent Decree requirements while minimizing supplemental water purchases.

8. Public Outreach Implementation Plan

8.1 Introduction and Background

The JPA is a partnership between LVMWD and TWSD, established to cooperatively treat wastewater for these two bordering areas that share the Malibu Creek watershed. The JPA has been a pioneer in the development of recycled water as a renewable resource, operating the TWRF since 1965 (LVMWD 2021a). All of the recycled water produced at the facility is used for irrigation during summer months; however, surplus recycled water is discharged to Malibu Creek in winter months.

The JPA also has a goal of improving the health of the Malibu Creek Watershed. This has required a multipronged approach to address stringent EPA WQS when recycled water must be discharged into the creek. However, compliance with standards has proven to be expensive and impactful to sewage treatment rates for customers, without fully protecting the creek or the species that live there. The JPA has expressed its commitment to creek stewardship, but with common sense solutions to water quality issues (Los Angeles RWQCB 2017b).

As part of a robust, 18-month stakeholder participation process, the JPA evaluated a number of options to beneficially use recycled water so that it will not need to be discharged into the creek. On August 1, 2016, the JPA Board approved the preferred alternative, the IPR project, which would create a local, reliable water supply for the region (LVMWD 2021b). This new local source of water will reduce dependency on imported water but will also effectively eliminate surplus recycled water discharged to the ocean through Malibu Creek.

The original Public Outreach Plan for the Las Virgenes - Triunfo PWP was developed in by Katz & Associates in 2016 for LVMWD; it focused, largely, on sharing information about the PWP with the local community and gaining support for its implementation. Since then, significant activities have been undertaken by JPA staff to build understanding, momentum, and interest in the PWP. As we move into the next phase, our objectives for communicating about PWP remain largely the same, but updates to the approaches and strategies must be made to adapt to new circumstance and available information, including creating outreach related to CEQA and construction, broadening the reach to support regional partnerships, and engaging stakeholders for the purpose of public acceptance and support for the Program.

Updated in 2021, the revised Public Outreach Plan relies both on the work successfully completed in the past, and on the renewed drive to support and celebrate public acceptance of this Program. To achieve this vision of public acceptance, we must achieve widespread awareness and understanding of PWP's purpose, need, and benefit, and encourage support for its successful implementation.

8.2 Public Outreach Plan Purpose

The purpose of the Public Outreach Plan is to provide a guide for the JPA to convey timely, accurate, and clear Program information to local leaders, stakeholders, and residents. This plan includes strategies and approaches that will maximize public awareness and understanding of the Program and is a living, working document that will be reviewed and revised as the Program and associated analyses proceed. As we approach the CEQA and preconstruction phase, the outreach plan is geared toward conducting communications that will address the specific needs of this phase.

8.3 Public Outreach Plan Goal

The goal of this plan is to raise awareness and obtain support among JPA stakeholders about the importance and benefits of the PWP and increase comfort with and support for its implementation. Stakeholders include governmental and regulatory agencies, elected officials, environmental organizations, the community and ratepayers, and schools.

8.4 Public Outreach Plan Objectives

When initiating or renewing a public outreach effort, it is important to clarify its objectives at the outset so that progress can be measured later on. **The objectives** of undertaking the public outreach effort are to:

- Implement a public outreach program that transparently explains the Program, the high quality and safety of the water it produces, and its benefits.
- Provide consistent and complete information to stakeholders, including multicultural communities, so there are no surprises throughout the multiphased development process.
- Foster understanding and acceptance of the science and advanced technology behind recycled water and IPR.
- Minimize confusion, opposition, and discomfort with IPR.
- Provide consistent information to representatives and spokespersons.

8.5 Public Outreach Plan Strategies and Implementation Plan

To meet these objectives, a set of **strategies** developed from best practices, past JPA experience, and stakeholder expectations have been developed to guide the public outreach team. Strategies serve as a plan of action or implementation plan for outreach team members and will be implemented using a variety of approaches. This section describes these strategies and actions.

PWP Messaging: PWP messaging helps focus communication efforts using understandable terms and accessible language to:

- Explain technology in a transparent way
- Address H&S concerns
- Demonstrate pertinent aspects of IPR
- Provide a range of simple to complex information, depending on the specific audience

Data Collection and Research: A way to measure the opinion of stakeholders, data collection as formal as public opinion surveys or as informal as sentiment gathered from stakeholder interactions or conversations can help track and measure the efficacy of our Program messages and uncover communication needs not previously met. Continued data collection allows for dynamic programming and helps meet stakeholder needs.

Stakeholder Engagement and Participation: Consistent, sustained, and multifaceted communication tools will be used to educate, inform, and engage with the community, regional partners, regulatory agencies, governmental officials, and environmental organizations, and to create a two-way dialogue with stakeholders. We will employ a variety of tools, in multiple formats, to clearly communicate Program history, purpose, and other relevant information to an array of audiences. We will also rely on partnerships with civic, environmental, academic, regional, and other groups to raise awareness with diverse audiences about potable reuse and empower others to carry PWP messages and, potentially, develop support statements.

PWP Informational Materials and Branding: With a previously established brand, we can continue to establish the PWP as a recognizable Program throughout all JPA and individual agency communication vehicles. Using engaging graphics and visuals to communicate messages and complex information about potable reuse, we will develop consistency, recognition, familiarity, and comfort. With both general and tailored information (translated and disseminated appropriately), we will be able to provide consistent and regular updates to important stakeholders across the service area and beyond.

Media Relations and Social Media: These methods will be a significant portion of the outreach and education provided about the Program. Strengthening and building upon relationships with media creates direct lines of communication and may prevent misinformation. We will perform up-to-date media outreach activities in a variety of formats and will use LVMWD social media channels to share information

broadly and widely. In the event of misinformation, this will also be our most impactful method for responding accurately and rapidly. These actions are critical as the CEQA PEIR is developed and finally certified by the JPA.

Construction Relations: When the Program moves into the construction phase, including preconstruction, integrated team management, clear internal and external communication, and impact assessment will help the team transition seamlessly into the new phase. While this phase requires direct stakeholder outreach and communication, it will also require sustained communication activities as previously mentioned. This involves interacting with stakeholders that will be impacted by the conveyance system alignments and facility needs.

Tracking and Measurement: Evaluation and course-correction are important to a dynamic, effective, and nimble outreach effort. We must constantly measure efficacy and impact, identify accomplishments, listen to feedback, and adjust as needed to reflect the evolution of the Program and its projects. Proactively tracking performance, addressing concerns and misinformation early, and focusing the outreach team will support successful communications in meeting audience messaging and informational needs in a timely, proactive fashion.

We are confident that this implementation plan will lead to a robust, defensible, coordinated outreach program for the PWP and will result in the achievement of the stated goals and objectives. We also know that a plan is only as good as its implementation. To accurately and effectively implement the plan, a roles and responsibilities matrix will be jointly created, describing Program activities and providing a way to track that the team is working together to move PWP forward.

9. Risk Management

9.1 Introduction and Purpose

Managing risks to support the Las Virgenes - Triunfo PWP at the lowest possible cost, with the fewest adverse environmental or human health impacts, and according to the defined schedule is a critical aspect of successful Program implementation. Risks and opportunities need to be identified; their potential impact on performance, human health, and the environment predicted; and mitigation strategies developed for avoiding, abating, minimizing, and mitigating the risks. This strategy also includes assigning risks and risk mitigations to the proper parties for resolution, tracking, and reporting.

A Risk Management Plan (RMP) was initiated and will be implemented throughout the Program and be maintained as a Risk Register on the Portal. The purpose of risk management is to document and provide standardized processes, Program consistency, and uniform approaches in treating risk and opportunities at the Program and project levels. Risk management will be focused on (1) threat avoidances and reductions to reduce impacts and consequences; and (2) opportunity enhancements through effective risk identification and mitigation practices. To achieve overall success, this approach must be in continuous alignment with the goals of the Program, including safety and environmental safeguarding.

The PMT's approach to risk management starts now, at the earliest stages of the Program, by detecting, identifying, and managing risks that have a high probability of negatively impacting safety, quality, budget, and schedule.

9.2 Benefits of Risk Management

The Program will use an organized, systematic, decision-making process that identifies, assesses, evaluates, and prioritizes risk uncertainties identified as a threat to Program or project objectives. The risk management process is initiated when developing the baseline cost-loaded schedule; updated as each project is initiated; and managed through the life of the Program.

At a project's onset, the **impact** of project risk is at its lowest. Through time, the ability to adjust without substantially impacting scope, schedule, quality, or budget decreases. Simultaneously, the magnitude of adverse impacts to these components increases. Because these adverse impacts can increase over time, ongoing monitoring and response to eliminate or mitigate risk-related events is the best weapon against unplanned for scope and budget increases, time extensions, and the erosion of quality.

9.3 Risk Definition

Risk is an uncertain event that, if it occurs, will have a positive or negative effect on one or more of the Program's objectives. A **threat** is a risk that may result in a negative impact; while an **opportunity** is a risk that may result in a positive outcome after the mitigation process. The two major components of assessing risk and opportunities are:

1) The probability of occurrence
2) The impact or effect on project or Program objective

In Program risk management, it is important to focus on the critical risks that have the potential to affect the success of the overall Program. These could consist of the following:

- High-level individual project risks
- Risks that impact multiple projects
- Risks that impact the Program directly but not specific projects

9.4 Guiding Principles of Risk Management

Effective risk and opportunities management is guided by a set of principles that represent current best practices. Irrespective of the size or complexity of a project, the RMP should reflect these principles:

- **Global Perspective:** View each phase of a project as a means to overall project success. View each project and its success in relationship to other projects and the Program overall.
- **Forward-looking View, Materials and Labor Market Perspectives, and Trends:** Look ahead to anticipate risks and their potential impacts. More importantly, anticipate potential risks in time to successfully address them.
- **Open Communications:** Encourage a free flow of formal and informal information to make each individual a part of effective risk management.
- **Integrated Management, and O&M Inputs and Perspectives:** Integrate risk management within the overall Program management and operations process.
- **Continuous Process:** Identify and manage risks routinely through all phases of the project life cycle. Set risk milestones and active risk time periods that are tracked on the project or Program schedule.
- **Shared Project Vision:** Maintain a shared vision of the expected outcome of the project based on common purpose, shared ownership in results, and collective communication.
- **Teamwork:** Pool talents, skills, and knowledge to work cooperatively to identify and manage project risk.

9.5 Risk Management Approach

The risk management framework aids in early detection of uncertainties in costs; delays; and business, safety, environmental, and technical elements. The framework also provides a proactive approach to managing projects by forecasting future uncertainties before they occur. To be successful, the RMP will require collaborative participation from everyone on the Program to use a consistent approach that begins with project planning; to thoroughly develop project concept, scope, and level of effort; and to identify important uncertainties and risks associated with each project.

The approach to risk management will follow these five basic steps:

1) Identify risks
2) Analyze risks: Score, rank, and prioritize
3) Implement risk response plans
4) Monitor and control
5) Close out risks by reporting, communicating, and reallocating unused contingency appropriately

Figure 9-1 illustrates the five steps and incorporates a continuous improvement process and risk management training component, which are vital elements of successful risk management.

Figure 9-1. Risk Management Process Overview

9.6 Risk Management Workshops

The PMT held a series of risk management workshops to identify and analyze the potential risks and opportunities for the PWP and determine appropriate contingencies to include to manage those risks. Table 9-1 provides a summary of those sessions and the objectives of each meeting.

Table 9-1. Risk Management Workshops

Date	Session Purpose	Session Results
March 15, 2021	Identify risks with LVMWD staff	▪ Defined risk in terms of Program- and project-specific risks and the risk management process ▪ Conducted an initial brainstorm session about potential risks and opportunities
March 16, 2021	Analyze risks with LVMWD staff	▪ Grouped risks, and identified duplicates ▪ Developed definition and potential cause and effect for each uncertainty, and classified each risk as a threat or opportunity
April 5, 2021	Quantify risks: Rank and prioritize risks with LVMWD staff	▪ With initial definition, ranked risk probability
April 16, 2021	Perform a QCRA results with the Jacobs Team	▪ Conducted an initial review of the Monte Carlo simulation using uncertainty and risk events to predict likely cost and schedule outcomes
May 8, 2021	Review the Risk Register with the Jacobs Team	▪ Reviewed the information captured on a Risk Register and decided how to monitor, manage, update them through the life of the Program
May 13, 2021	Update the PWP cost estimate considering risk assessment with the LVMWD management team	▪ Discussed the results of the QCRA and how it is quantifies the uncertainty at the Program level, including the amount of contingency needed to implement the PWP

Notes:

QCRA = quantitative cost risk assessment

9.7 Risk Register Tool

The Risk Register is the backbone of the risk management process and the template to be used to identify, assess, and document each project and Program risk. It is critical to maintaining a historical risk database, and is used for both reporting and forecasting. Each project's risk will be documented and maintained in a Risk Register, which has cells for risk identification, analysis, response, and monitoring.

The Risk Register tracks significant risk and opportunity elements. An initial risk analysis is performed to build a project's Risk Register. As a project progresses, the potential impact, probability, and response needs will change; and the Risk Register will be updated. As well, new potential risk and opportunity elements will be identified and managed using the following process:

1) Continuously review project work and conditions, and identify new potential risk and opportunity elements.
2) Report new potential risks and opportunities to the PMT first, and then document them in a Risk Register.
3) Identify and evaluate the probability of occurrence, potential impact, timing, and the appropriate signals and indicators to track and monitor.
4) Establish preliminary responses, and monitor the status of each risk.
5) Encourage team members to report all potential risks and opportunities they encounter regardless of how improbable. It is better to identify and discuss all possible risks than to ignore one that may be important.

10. Cost and Schedule

10.1 Introduction

The Jacobs Team developed a preliminary schedule and an independent Class 4 cost estimate for the PWP to include capital costs, soft costs, and O&M costs, considering the recommendations from the Readiness Assessment. The Readiness Assessment identified potential system requirements beyond the baseline project, which was established through the Title XVI Study. The need for the other potential system requirements will be confirmed through technical evaluation, leveraging of the Demonstration Facility, and alignment of the regulatory strategy through the work to be completed over the next 16 months of Phase 1. A schedule and baseline cost for the confirmed project elements will be provided at the completion of Phase 1 for JPA Board adoption of the Program budget and delivery timeline.

10.2 Pure Water Project Independent Cost Estimate

10.2.1 Cost Estimating Objectives

Accurate and consistent cost estimating is essential for effective management of the PWP. A comprehensive and current Program cost estimate provides the JPA and PMT with an ongoing understanding of total Program costs and enables effective management of Program budget and risk.

10.2.2 Cost Estimate Classification Accuracy

The types of estimates that will be prepared for each project over its life cycle are defined by AACE International (AACE) Standard 18R-97, *Cost Estimate Classification System – As applied in Engineering, Procurement, and Construction for the Process Industries*, (2020a). These are summarized in Table 10-1 and further clarified as follows:

- **Class 5:** These estimates are prepared based on very limited information. Class 5 estimates generally use stochastic estimating methods, such as cost and capacity curves and factors; scale of operations factors; and other parametric and modeling techniques. The typical expected accuracy range for this class estimate is –20 to –50% on the low side and +30 to +100% on the high side.
- **Class 4:** These estimates are generally prepared based on limited information. Class 4 estimates generally use stochastic estimating methods, such as equipment factors, gross unit costs and ratios, and other parametric and modeling techniques. The typical expected accuracy range for this class estimate is –15 to –30% on the low side and +20 to +50% on the high side.
- **Class 3:** These estimates are generally prepared to form the basis for budget authorization, appropriation, and funding. As such, they typically form the initial control estimate baseline to compare to all actual costs and resources. Class 3 estimates generally involve more deterministic estimating methods than stochastic methods. They usually involve predominant use of unit cost line items, although these may be at an assembly level of detail rather than individual components. Factoring and other stochastic methods may be used to estimate less-significant areas of a project. The typical expected accuracy range for this class estimate is –10 to –20% on the low side and +10 to +30% on the high side.
- **Class 2:** Class 2 estimates are generally prepared to form a detailed contractor control baseline to compare to all actual project work in terms of cost and progress control. For contractors, this class of estimate is often used as the bid estimate to establish contract value. Class 2 estimates involve a high degree of deterministic estimating methods and are prepared in great detail. For those areas of a project still undefined, an assumed level of detail takeoff may be developed to use as line items in the estimate instead of relying on factoring methods. The typical expected accuracy ranges for this class estimate are –5 to –15% on the low side and +5 to +20% on the high side.
- **Class 1:** These estimates are generally prepared for discrete parts or sections of a total project rather than generating this level of detail for an entire project. The parts of a project estimated at this level of

detail will typically be used by subcontractors for bids or by owners to check estimates. The updated estimate is often referred to as the current control estimate and becomes the new baseline for cost and schedule control of a project. Class 1 estimates generally involve the highest degree of deterministic estimating methods, and require a great amount of effort. Class 1 estimates are prepared in great detail; thus, they are usually performed on only the most important or critical areas of a project. All items in the estimate are usually unit cost line items based on actual design quantities. The typical expected accuracy ranges for this class estimate are –3 to –10% on the low side and +3 to +15% on the high side.

Table 10-1. AACE Estimate Classes

Estimate Class	Project Definition Range (%)		End Usage	Methodology	AACE *Recommended Practices 17R* and *18R* Expected Accuracy Range (%)	
	Start	End			Low	High
Class 5	0	2	Concept screening	Capacity factor, parametric model, judgment, or analogy	-50	100
Class 4	1	15	Study or feasibility	Equipment factored or parametric model	-30	50
Class 3	10	40	Budget, authorization, or control	Semi-detailed unit cost with assembly-level line items	-20	30
Class 2	30	70	Control or bid and tender	Detailed unit costs with forced detailed takeoff	-15	20
Class 1	50	100	Check estimate or bid and tender	Detailed unit costs with detailed takeoff	-10	15

Source: AACE 2020a, b

10.2.3 Potential System Requirements

The Readiness Assessment identified potential system requirements beyond the baseline project that will be confirmed through technical evaluation, leveraging of the Demonstration Facility, and alignment of the regulatory strategy through the work to be completed in Phase 1, including:

1) AWPF potential system requirements, such as:
   - Level of pathogen reduction
   - Level of process redundancy
   - Requirements to attain CTR compliance, specifically with N-nitrosodimethylamine (NDMA) and brominated trihalomethanes (THMs)
   - Purified water chemical stabilization
   - Building programming and architectural requirements
2) Conveyance potential system requirements, including:
   - Specific alignments for the four conveyance systems
   - Recycled water system balancing with anticipated flow to the AWPF
   - Emergency discharge locations and improvements required
   - Brine scaling mitigation and control requirements
3) Reservoir potential system requirements, including:
   - Liquid oxygen and alumina requirements for algal bloom control
   - System dynamics with continuous operation

10.3 Pure Water Project Preliminary Program Schedule

10.3.1 Program Scheduling Objectives

The Program master schedule and baseline cost are the roadmap for delivery of the Program. They translate the Program and projects scope into timely, sequenced, and logical interactions to allow managing the overall Program, including change impacts to project delivery progress and performance for the full portfolio of projects. The Program master schedule and baseline cost are held in the Oracle Primavera P6 tool.

10.3.2 Program Schedule Development and Refinement

Program Controls will maintain and integrate the individual project schedules and cost data across all work elements on the Program Portal (Portal). Integration of data using the Program work breakdown structure (WBS) is the method used to confirm that task detail, logic, duration, and resources fully represent all related project work scopes. This integration also allows for clear identification of inter-project interfaces and links through logical dependencies.

The schedule will be updated throughout the Program timeline as more detailed information is made available. For example, as contracts are awarded within a project, that schedule updates the overall Program schedule and costs as compared to the baseline cost (Figure 10-1). At the planning phase, contingencies are maintained as defined by a risk assessment; as the Program moves from the planning phase to the delivery phase, these costs will become more defined and mitigated, and the baseline will be updated.

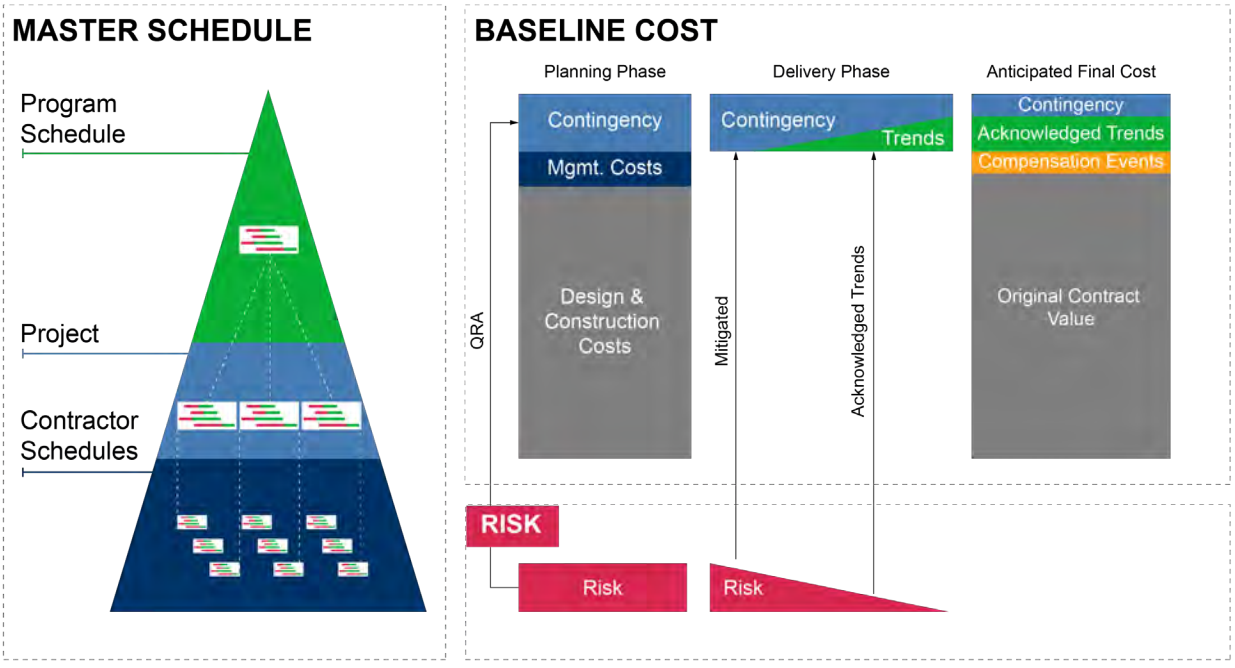


Figure 10-1. Program Master Schedule and Baseline Cost

10.3.3 Preliminary Pure Water Project Schedule

The compliance date for operation of the new AWPF is November 16, 2030. This is the date when the new NPDES permit limits for the TWRF take effect for discharge of final effluent to Malibu Creek (Los Angeles RWQCB 2017a).

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July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: Engineering and External Affairs

Subject : Tapia Summer Season TMDL Compliance and Meter Replacement Projects: CEQA Determination and Call for Bids

SUMMARY:

On April 29, 2019, the JPA Board accepted a proposal, in the amount of $207,917, from Stantec Consulting Services and authorized the Administering Agent/General Manager to execute a professional services agreement for design and services during construction for the the Tapia Summer Season Total Maximum Daily Load (TMDL) Compliance Project. Additionally, on April 5, 2021, the JPA Board approved a change of scope to incorporate the Tapia Meter Replacement Project into the Tapia Summer Season TMDL Compliance Project bidding documents. The design of two combined projects is now complete and ready for construction. Staff recommends that the Board authorize the issuance of a Call for Bids for the Tapia Summer Season TMDL Compliance and Meter Replacement Projects.

RECOMMENDATION(S):

Find that the Tapia Meter Replacement Project is exempt from the provisions of California Environmental Quality Act and authorize the issuance of a call for bids for the Tapia Summer Season TMDL Compliance and Meter Replacement Projects.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with a call for bids. Sufficient funds for the projects are available in the adopted Fiscal Year 2021-22 JPA Budget. No additional appropriation is required at this time. The cost of the projects is allocated 70.6% to LVMWD and 29.4% to Triunfo Water and Sanitation District.

DISCUSSION:

The Tapia Summer Season Total Maximum Daily Load (TMDL) Compliance Project was developed in response to new nitrogen and phosphorus limits established by the 2017 Tapia National Pollutant Discharge Elimination System (NPDES) Permit. Nutrient limits were established in the permit for total nitrogen (TN) and total phosphorous (TP) discharged to Malibu Creek from the Tapia on a seasonal basis.

The less stringent, winter season limits of 4.0 mg/L TN and 0.20 mg/L TP become effective on November 16, 2030 and apply from November 16th through April 14th of each year. The JPA's plan for compliance with the winter season TMDL nutrient limits will be achieved through diversion of recycled water to the Pure Water Project Las Virgenes-Triunfo. The more stringent summer season limits of 1.0 mg/L TN and 0.10 mg/L TP become effective on May 16, 2022, and apply from April 15th through November 15th of each year.

On May 7, 2018, the JPA Board approved a technical memorandum selecting "breakpoint chlorination" (adding chlorine) and the discharge of potable water to Malibu Creek as the preferred method to comply with Tapia's summer season waste load allocation. The discharge of water to the creek is required to provide minimum flow rates as required by the NPDES Permit; the minimal flow is intended to sustain habitat for endangered Steelhead and other wildlife. Breakpoint chlorination of potable water was deemed to be the most feasible alternative for compliance, and involves adding enough chlorine to oxidize any nitrogen in the form of chloramine that is present in potable water – eliminating the effects that nitrogen can have on aquatic resources. Recycled water will not be discharged to the creek during the summer season as the additional treatment to achieve compliance would be cost prohibitive.

On April 29, 2019, the JPA Board accepted a proposal, in the amount of $207,917, from Stantec Consulting Services and authorized the Administering Agent/General Manager to execute a professional services agreement for design and services during construction for the Tapia Summer Season TMDL Compliance Project. On March 11, 2020, the Administering Agent/General Manager executed a professional services agreement, in the amount of $19,480, for design and services during construction for the Tapia Meter Replacement Project.

Stantec has completed the design of the Tapia Summer Season TMDL Compliance Project, which generally involves the extension of a potable water main from Piuma Road to the Tapia effluent overflow structure. Modifications to the effluent structure include baffles, analyzers, chemical storage tanks and piping for breakpoint chlorination treatment before discharge to Malibu Creek. AECOM completed the design for the Tapia Meter Replacement Project, which includes replacing three flow meters at Tapia. Incorporating the scope of the Tapia Meter Replacement Project with the Tapia Summer Season TMDL Compliance Project will reduce the overall costs associated with administering the projects separately, eliminate potential conflicts stemming from having two contractors working in the same area and prevent the interference of underground utilities for the two projects. Stantec has reviewed the meter replacement design and provided comments to address potential conflicts between the two projects that would arise when advertising the two sets of plans as a single project. Stantec and AECOM would each be responsible for engineering services during construction for their respective improvements.

The bid documents have been compiled, and the project is ready to advertised for construction bids.

Following is the proposed bid schedule:

Notice Inviting Sealed Proposals	July 7, 2021
1st Advertisement	July 7, 2021
2nd Advertisement	July 14, 2021
Mandatory Pre-bid Meeting	July 28, 2021
Bids Due	August 18, 2021
Award of Contract	September 13, 2021 (JPA Meeting)

The Tapia Summer Season TMDL Compliance Project followed the CEQA environmental review process, which identified potentially significant impacts related to biological resources, cultural resources and noise. As a result, a Mitigated Negative Declaration was prepared and adopted by the JPA Board on March 4, 2019. A Mitigation Monitoring and Reporting Program will be adhered to during construction.

The Tapia Meter Replacement Project is categorically exempt from the provisions of CEQA, pursuant to Section 15301(b) of the CEQA Guidelines, because it involves rehabilitation of existing facilities and no expansion of use. Attached is a Notice of Exemption that staff will complete and file with the County, pending Board approval of the CEQA determination.

Prepared by: Veronica Hurtado, Assistant Engineer

ATTACHMENTS:

Notice of Exemption for Tapia Meter Replacement Project
Notice Inviting Proposals for Tapia Summer Season TMDL Compliance and Meter Replacement Projects

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research

P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Los Angeles
12400 Imperial Highway
Norwalk, CA 90650

From: (Public Agency): Las Virgenes Municipal Water District

4232 Las Virgenes Road
Calabasas, CA 91302

(Address)

Project Title: Tapia Meter Replacement Project

Project Applicant: Las Virgenes – Triunfo Joint Powers Authority

Project Location - Specific:
Tapia Water Reclamation Facility: 731 Malibu Canyon Road, Calabasas, CA 91302

Project Location - City: Calabasas Project Location - County: Los Angeles

Description of Nature, Purpose and Beneficiaries of Project:
The purpose of the project is to replace three deteriorating fiberglass tanks with four new ones. The new tanks will be Housed in existing concrete storage facilities that act as secondary containment. The new tanks are slightly Smaller than the three being replaced, but hold a roughly equivalent volume; therefore there is no expansion of use.

Name of Public Agency Approving Project: Las Virgenes – Triunfo Joint Powers Authority

Name of Person or Agency Carrying Out Project: Las Virgenes Municipal Water District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Existing Facilities, Section 15301 (b)
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:
The project involves replacing flow meters at a water reclamation facility. Meter replacement is for existing facilities on private industrial property. The project would not have a significant effect on the environment.

Lead Agency
Contact Person: Veronica Hurtado Area Code/Telephone/Extension: (818) 251-2332

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature: _____ Date: _____ Title: _____

☐ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

NOTICE INVITING SEALED PROPOSALS (BIDS)

Tapia Water Reclamation Facility Summer Discharge Compliance Project

NOTICE IS HEREBY GIVEN that the Board of Directors of Las Virgenes Municipal Water District (LVMWD) invites and will receive sealed proposals (bids) up to the hour of 4:00PM on August 18, 2021, for furnishing the work described in the contract documents. Precautions are being taken by LVMWD in response to the COVID-19 outbreak in order to protect employees, customers, and our partners. LVMWD is currently limited to public access. Until further notice, LVMWD is suspending in-person meetings relating to bids (including in-person pre-bid meetings and public bid openings) to reduce the number of people coming into LVMWD facilities.

The policy was last updated on Monday, April 19, 2021, and remains in force until further notice. Bids can be sent by mail to, 4232 Las Virgenes Road, Calabasas, California 91302 or can be dropped into the mail box outside the District Headquarters' main entrance. Limited hours are available for hand delivered bids. Bidders must allowenough time for bids to be delivered to LVMWD by the due date. All submittals will be time stamped as soon as they are received. Bids received after the time stated in the Call for Bids will not be accepted and will be returned, unopened, to the bidder. The time shall be determined by the time on the receptionist telephone console in our Headquarters lobby. Said bids shall conform to and be responsive to the Specification and Contract Documents for said work as heretofore approved by the District.

Pre-bid meetings and other meetings associated with the bidding process will be held via web enabled video conference. Details for these meetings will be provided on bid announcements specific to each project. Any questions related to this announcement, including requests for special accommodations to attend the meetings, may be directed to the Project Manager, Veronica Hurtado, at (818) 251-2332 or via email at vhurtado@lvmwd.com.

*A **mandatory** pre-bid meeting and site walk will be conducted at 9:00AM on July 28, 2021 at the Tapia WRF, 731 Malibu Canyon Road, Calabasas, California 91302. Attendance at the pre-bid meeting is a condition precedent to submittal of the bid and the District will not consider a bid from any bidder not represented at the pre-bid meeting. The pre-bid meeting registration link will be posted on eBidboard under the project details or a request for the link can be made to Veronica Hurtado, well in advance of the meeting time. The District will observe CDC recommendations for mask requirements and social distancing at the time of gathering.*

Sets of contract documents may be downloaded for free by going to http://www.LVMWD.com/Ebidboard *and following the links to this project.*

In order to be placed on the plan holder's list, contractors shall register for free as a document holder for this project on Ebidboard by going to www.LVMWD.com/Ebidboard *and following the links to this project. Addendum notifications will be issued through Ebidboard.com, but may also be provided by calling the District's Project Manager. Although Ebidboard will fax and/or email all notifications to registered plan holders after the*

District uploads the information, Bidders are responsible for obtaining all addenda and updated contract documents.

Each bid must be on the District bid form and shall be sealed and filed with the secretary of the District at or before the time stated in the Notice.

No Contractor or Subcontractor may be listed on a bid proposal for a public works project submitted on or after March 1, 2015 unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. No Contractor or Subcontractor may be awarded a contract for public work on a public works project awarded on or after April 1, 2015 unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. Effective January 1, 2016, no Contractor or Subcontractor may perform on a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. This project is subject to compliance monitoring and enforcement by the DIR.

All terms and conditions contained in the Specifications and Contract Documents shall become part of the contract. The Board of Directors of Las Virgenes Municipal Water District reserves the right to reject any and all bids and to waive any and all irregularities in any bid.

No bidder may withdraw his bid after the said time for bid openings until 60-days thereafter or until the District has made a final award to the successful bidder or has rejected all bids, whichever event first occurs.

The Board of Directors of the District reserves the right to select the schedule(s) under which the bids are to be compared and contract(s) awarded.

BY ORDER OF THE GOVERNING BODY OF
LAS VIRGENES MUNICIPAL WATER DISTRICT

_____ _____

Dated *Jay Lewitt, President*

ITEM 10A

INFORMATION ONLY

July 6, 2021 JPA Board Meeting

TO: JPA Board of Directors

FROM: Engineering and External Affairs

Subject : Saddle Peak and Cordillera Tanks Rehabilitation Projects: Final Acceptance

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The Las Virgenes-Triunfo Joint Powers Authority (JPA) approved funding for this matter in the JPA Budget. On June 15, 2021, the LVMWD Board, acting as Administering Agent of the JPA, authorized the execution of Notices of Completion, and in the absence of claims from subcontractors and other, release of the retentions, in the amounts of $50,845.00 to Advanced Industrial Services, Inc., and $41,215.71 to Cal Sierra Construction for the Saddle Peak and Cordillera Tanks Rehabilitation Projects.

SUMMARY:

On October 20, 2020, the LVMWD Board, acting as Administering Agent of the JPA, awarded two construction contracts for the Saddle Peak and Cordillera Tank Rehabilitation Projects. The scope of work for both rehabilitations generally consisted of recoating the interior and exterior, while updating or replacing any deteriorated equipment.

A bid schedule was created for each tank site to provide flexibility when awarding the project and to track costs separately because one tank is owned by LVMWD (Saddle Peak) and the other by the JPA (Cordillera). Staff evaluated seven bids and determined that awarding the projects separately would provide a cost-savings of $131,600. Advanced Industrial Services, Inc. was awarded the Saddle Peak Tank Rehabilitation Project, in the amount of $994,500; Cal Sierra Construction, Inc. was awarded the Cordillera Tank Rehabilitation Project, in the amount of $772,100.

The work at both tanks is now complete and there are no significant outstanding issues to prevent final acceptance of the projects. Staff recommends filing the Notices of Completion, and releasing the retentions as stipulated in the contract documents.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with this action. The costs associated with the Saddle Peak Tank are allocated 100% to LVMWD. The costs for the Cordillera Tank are allocated 70.6% to LVMWD and 29.4% to Triunfo Water and Sanitation District.

DISCUSSION:

On October 20, 2020, the LVMWD Board, acting as Administering Agent of the JPA, awarded two construction contracts for the Saddle Peak Tank and Cordillera Tank Rehabilitation Projects. The projects are part of a Tank Coating Master Plan, which was developed as an asset management tool to plan, budget and prioritize the rehabilitation of District and JPA-owned water tanks. The scope of work for the renovation of both tanks generally consisted of recoating the interior and exterior, and updating or replacing any deteriorated equipment.

Cannon Corp. (Cannon) completed design plans and engineering services during construction for both tanks. Additionally, CSI Services, Inc. (CSI) provided professional coating inspections for the duration of construction. The purpose for having a third-party coating inspector was to have on-site quality control and quality assurance to ensure the maximum effective service life of the coatings applied to the tanks.

Advanced Industrial Services, Inc. received the construction contract for Saddle Peak Tank, in the amount of $994,500. During the course of the work, three change orders were administratively approved, totaling $22,400 or 2.2 percent of the original contract.

Following is a summary of construction change orders for Saddle Peak Tank:

- Change Order No. 1, approved December 28, 2020; cost for additional labor and materials required to modify installation of a temporary high-line from the main tank to the temporary storage tanks.
- Change Order No. 2, approved February 1, 2021; additional welding requested by the District to tack weld the ladder cage and add mounting tabs to the roof for the AMR/AMI solar panels.
- Change Order No. 3, approved March 18, 2021; costs for additional work required to slightly reposition the roof hatch, modify the inlet/outlet pipe, and add interior caulking at the roof/shell junction and roof plates.

Cal Sierra Construction, Inc. received the construction contract for Cordillera Tank, in the amount of $772,100. During the course of the work, one change order was administratively approved, in the amount of $61,714.28 or 8 percent of the original contract. Change order No. 1 included exchange credits for unused bid items and additional work provided, as well as additional costs for dehumidification needed for the duration of the interior coating work. Project costs are summarized below:

	Saddle Peak Tank	**Cordillera Tank**
Description	**Cost**	**Cost**
Professional Services:		
Design, Bidding, Construction Support	$29,550.00	$29,550.00

Coating Inspection Services	$14,760.00	$14,760.00
- Scope Change No. 1	$3,690.00	$23,985.00
Construction		
Construction Award	$994,500.00	$772,100.00
- Change Order No. 1	$5,900.00	$61,714.28
- Change Order No. 2	$4,900.00	
- Change Order No. 3	$11,600.00	
Administrative:		
District Labor	$26,464.36	$20,233.23
G&A	$101,840.94	$67,328.64
Total Project Cost	**$1,193,205.30**	**$989,671.15**
Existing Appropriation	$1,365,976.00	$1,201,267.00

Attached for reference are photos of the completed work.

Prepared by: Veronica Hurtado, Assistant Engineer

ATTACHMENTS:

Project Photos

Saddle Peak Tank Photos:

Figure 1: Before Picture - Saddle Peak Tank interior, removal of coal tar floor.

Figure 2: After picture – Saddle Peak Tank interior, recoating complete

Figure 3: New clean out door installed

Cordillera Tank Photos:

Figure 4: Cordillera Tank exterior, recoating complete

Figure 5: Cordillera Tank interior recoating complete.