

**AGENDA  
IRVINE RANCH WATER DISTRICT  
BOARD OF DIRECTORS  
REGULAR MEETING**

March 12, 2018

**PLEDGE OF ALLEGIANCE**

**CALL TO ORDER**

5:00 p.m., Board Room, District Office  
15600 Sand Canyon Avenue, Irvine, California

**ROLL CALL**

Directors LaMar, Matheis, Swan, Withers and President Reinhart

**NOTICE**

If you wish to address the Board on any item, including Consent Calendar items, please file your name with the Secretary. Forms are provided on the lobby table. Remarks are limited to three minutes per speaker on each subject. Consent Calendar items will be acted upon by one motion, without discussion, unless a request is made for specific items to be removed from the Calendar for separate action.

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**COMMUNICATIONS TO THE BOARD**

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1. A. Written:  
B. Oral:

2. **ITEMS RECEIVED TOO LATE TO BE AGENDIZED**

Recommendation: Determine the need to discuss and/or take immediate action on item(s).

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**CONSENT CALENDAR**

**Resolution No. 2018-8**

**Items 3-11**

3. **RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS**

Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Mary Aileen Matheis, Peer Swan, and John Withers, as described.

4. **MINUTES OF REGULAR BOARD MEETING**

Recommendation: That the minutes of the February 12, 2018 Regular Board Meeting be approved as presented.

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**CONSENT CALENDAR - Continued**

**Items 3-11**

5. 2018 LEGISLATIVE AND REGULATORY UPDATE

Recommendation: That the Board adopt an "OPPOSE/OPPOSE UNLESS AMENDED" position on the "Safe and Affordable Drinking Water Act" budget trailer bill and a "SUPPORT IN CONCEPT" position on AB 2050 (Caballero, D-Salina).

6. CULVER DRIVE RECYCLED WATER PIPELINE REPLACEMENT CONSULTANT SELECTION

Recommendation: That the Board authorize the addition of project 10588 in the amount of \$717,000 to the FY 2017-18 Capital Budget and authorize the General Manager to execute a Professional Services Agreement in the amount \$149,850.50 with RCE Consultants to provide design engineering services for the Culver Drive Recycled Water Pipeline Replacement, project 10588.

7. MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDER NO. 73

Recommendation: That the Board approve Contract Change Order No. 73 in the amount of \$150,755.29 with Filanc/Balfour Beatty for additional electrical conduits and circuits for control of the dewatering centrifuges for the Michelson Water Recycling Plant Biosolids and Energy Recovery Facilities, project 04286.

8. MICHELSON WATER RECYCLING PLANT ASPHALT REPLACEMENT CONTRACT AWARD

Recommendation: That the Board authorize the General Manager to execute a construction contract with Sanders Paving, Inc. in the amount of \$376,133.35 for replacement of approximately 127,350 square feet of asphalt at the Michelson Water Recycling Plant.

9. 2017 SEWER REHABILITATION FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the 2017 Sewer Rehabilitation, project 07100, authorize the General Manager to file a Notice of Completion; and authorize the payment of the retention 35 days after the date of recording the Notice of Completion.

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**CONSENT CALENDAR - Continued**

**Items 3-11**

10. BAKER WATER TREATMENT PLANT FINAL ACCEPTANCE

Recommendation: That the Board authorize the General Manager to accept construction of Baker Water Treatment Plant, project 05027,; authorize the General Manager to file a Notice of Completion, and authorize the release of retention 35 days after filing of the Notice of Completion.

11. ADDENDUM NO. 3 TO THE BAKER WATER TREATMENT PLANT PROJECT FINAL ENVIRONMENTAL IMPACT REPORT

Recommendation: That the Board approve the proposed Addendum No. 3 to the Baker Water Treatment Plant project final Environmental Impact Report, including the determinations set forth in Addendum No. 3, and authorize staff to post and file a Notice of Determination.

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**ACTION CALENDAR**

12. SEAWATCH RECYCLED WATER MAIN REHABILITATION CONSTRUCTION AWARD

Recommendation: That the Board authorize a budget increase in the amount of \$640,000, from \$720,500 to \$1,360,500, for project 07099; waive the requirement that T.E. Roberts shall not award work to subcontractors in excess of 50% of the contract price without prior written approval of the District; and authorize the General Manager to execute a construction contract with T.E. Roberts in the amount of \$1,071,100 for the Seawatch Recycled Water Main Rehabilitation, project 07099.

13. WITHDRAWAL FROM SOUTH ORANGE COUNTY WASTEWATER AUTHORITY RECYCLED WATER MASTER PERMIT (PROJECT COMMITTEE 12)

Recommendation: That the Board authorize the General Manager to notify the South Orange County Wastewater Authority of its intent to withdraw from the Recycled Water Master Permit (Project Committee 12) effective July 1, 2018.

14. LANDSCAPE AND IRRIGATION CONTRACT TWO-YEAR CONTRACT EXTENSION

Recommendation: That the Board authorize the General Manager to execute a two-year contract extension with Tropical Plaza Nursery, Inc. for a total of \$985,856.28, effective April 1, 2018.

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**ACTION CALENDAR - Continued**

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15. SAN JOAQUIN MARSH AND NATURAL TREATMENT SYSTEM FACILITIES THREE-YEAR LANDSCAPE MAINTENANCE SERVICES CONTRACT

Recommendation: That the Board authorize the General Manager to execute a contract with LandCare in the amount of \$2,616,874.33 and with Habitat Restoration Sciences in the amount of \$42,792 for landscape maintenance contract services for a three-year term.

16. CALIFORNIA WATERFIX PARTICIPATION THROUGH DUDLEY RIDGE WATER DISTRICT

Recommendation: That the Board authorize the General Manager to submit an election to fully participate in the California WaterFix through Dudley Ridge Water District at the 100% level, which will be subject to change by IRWD at a later date based on new substantive information.

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**OTHER BUSINESS**

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Pursuant to Government Code Section 54954.2, members of the Board of Directors or staff may ask questions for clarification, make brief announcements, and make brief reports on his/her own activities. The Board or a Board member may provide a reference to staff or other resources for factual information, request staff to report back at a subsequent meeting concerning any matter, or direct staff to place a matter of business on a future agenda. Such matters may be brought up under the General Manager's Report or Directors' Comments.

17. A. General Manager's Report

B. Directors' Comments

C. Closed Session

**CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION** - Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(2). (One (1) potential case);

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**OTHER BUSINESS - Continued**

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17. C. Closed Session

PUBLIC EMPLOYEE PERFORMANCE EVALUATION — Pursuant to  
Government Code Section 54957(b)

Title: Legal Counsel;

PUBLIC EMPLOYEE DISCIPLINE/DISMISSAL/RELEASE —  
Pursuant to Government Code Section 54957(b); and

PUBLIC EMPLOYEE APPOINTMENT — Pursuant to Government  
Code Section 54957(b)

Title: Legal Counsel

D. Open Session


E. Adjourn

Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Irvine Ranch Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Board Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance to the Board of Directors Room of the District Office. The Irvine Ranch Water District Board Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

March 12, 2018

Prepared and

Submitted by: K. Swan 

Approved by: Paul A. Cook 

CONSENT CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS'  
ATTENDANCE AT MEETINGS AND EVENTS

SUMMARY:

Pursuant to Resolution 2006-29 adopted on August 28, 2006, approval of attendance of the following events and meetings are required by the Board of Directors.

Events/Meetings

Steven LaMar

April 8-12 National Water Association's Federal Water Issues Conference, D.C.

Mary Aileen Matheis

February 23 South Orange County Economic Coalition's 2018 Economic Report Preview  
March 29 ISDOC Quarterly Luncheon Meeting

Peer Swan

January 24 A 21<sup>st</sup> Century Financing Framework to Support Water Sector Paradigm  
Shift, UCI

John Withers

January 11 Cushman & Wakefield's "The Source" Project Preview & Open House  
February 23 South Orange County Economic Coalition's 2018 Economic Report Preview  
March 29 ISDOC Quarterly Luncheon Meeting

RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE MEETINGS AND EVENTS FOR STEVEN LAMAR, MARY AILEEN MATHEIS, PEER SWAN, AND JOHN WITHERS AS DESCRIBED HEREIN.

LIST OF EXHIBITS:

None.

March 12, 2018

Prepared and

Submitted by: L. Bonkowski

Approved by: P. Cook



CONSENT CALENDAR

MINUTES OF BOARD MEETING

SUMMARY:

Provided are the minutes of the February 12 2018 Board Meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE FEBRUARY 12, 2018 BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – February 12, 2018 Minutes of Board Meeting

EXHIBIT "A"

MINUTES OF REGULAR MEETING – FEBRUARY 12, 2018

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:00 p.m. by President Reinhart on February 12, 2018 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: LaMar, Reinhart, Matheis, Swan, and Withers.

Directors Absent: None.

Also Present: General Manager Cook, Executive Director of Water Policy Weghorst, Executive Director of Engineering and Water Quality Burton, Executive Director of Finance and Administration Clary, Executive Director of Operations Shields, Director of Public Affairs Beeman, Public Affairs Manager Fabris, Director of Human Resources Roney, Director of Treasury and Risk Management Jacobson, Director of Water Operations Zepeda, Government Relations Officer Compton, Legal Counsel Smith, Secretary Bonkowski, Assistant Secretary Swan, Mr. Allen Shinbashi, Mr. Barkev Meserlian, Principle Engineer Malloy, Ms. Sunny Lee, Ms. Paige Midstokke, Ms. Ashley Armstrong, Mr. Bruce Newell, Ms. Barbara Daly, Mr. James Clark of Black and Veatch, and members of the public.

WRITTEN COMMUNICATIONS: None.

ORAL COMMUNICATIONS: Ms. Barbara Daly invited the Board and staff to attend a South Orange County's Economic Coalition luncheon on February 23, 2018.

ITEMS TOO LATE TO BE AGENDIZED: None.

CONSENT CALENDAR

On MOTION by Withers, seconded and unanimously carried, CONSENT CALENDAR ITEMS 3 THROUGH 4 WERE APPROVED AS FOLLOWS:

3. RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

Recommendation: That the Board ratify/approve the meetings and events for Steven LaMar, Mary Aileen Matheis, Peer Swan, Douglas Reinhart and John Withers, as described.

4. MINUTES OF REGULAR BOARD MEETING

Recommendation: That the minutes of the January 22, 2018 Regular Board Meeting be approved as presented.



## ACTION CALENDAR

### MICHELSON WATER RECYCLING PLANT SOUTH IRVINE INTERCEPTOR MANHOLE ACCESS CONSTRUCTION AWARD

The Michelson Water Recycling Plant (MWRP) South Irvine Interceptor Manhole Access project will construct a jetter hose reel on a concrete pad at the first manhole on the South Irvine Interceptor upstream from the MWRP headworks to allow more effective maintenance and cleaning of the sewer segments connected to the manhole.

Executive Director of Engineering and Water Quality Burton reported that the District's design consultant, JIG Consultants, completed the design in December 2017 and the project was advertised to a select bidders list of 17 contractors. Mr. Burton said that the bid opening was held on January 17, 2018. Bids were received from three contractors with the apparent low bidder being S.S. Mechanical Construction Corporation with a bid of \$170,333; the engineer's estimate was \$170,333.

On MOTION by Withers, seconded and unanimously carried, THE BOARD AUTHORIZED A BUDGET INCREASE IN THE AMOUNT OF \$35,400, FROM \$347,600 TO \$383,000, AND AUTHORIZED THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH S.S. MECHANICAL CONSTRUCTION CORPORATION IN THE AMOUNT OF \$170,333 FOR THE MWRP SOUTH IRVINE INTERCEPTOR MANHOLE ACCESS, PROJECT 07112.

### MICHELSON WATER RECYCLING PLANT MISCELLANEOUS REPAIRS CONSTRUCTION AWARD

General Manager Cook reported that this project will consist of miscellaneous repairs on the concrete decking at the secondary sedimentation tanks, filling an unused concrete trough adjacent to the primary clarifiers and the replacement of four electrical pull boxes that have subsided over time due to poor soil conditions.

The project was advertised for construction to a select list of 10 contractors. The bid opening was held on February 1, 2018 and four bids were received with Pacific Hydrotech as the apparent low bidder with a bid amount of \$398,021; the engineer's estimate was \$431,000.

On MOTION by Withers, seconded and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH PACIFIC HYDROTECH IN THE AMOUNT OF \$398,021 FOR THE MICHELSON WATER RECYCLING PLANT MISCELLANEOUS REPAIRS, PROJECT 04467.

### AGREEMENT WITH THE CITY OF NEWPORT BEACH REGARDING THE EMERGENCY DIVERSION RECYCLED WATER TO THE SAN DIEGO CREEK WATERSHED

General Manager Cook reported that the District has been working with stakeholders, including the City of Newport Beach, to develop an understanding of and support for an amendment to the National Pollution Discharge Elimination System permit for the District's Michelson Water

Recycling Plant (MWRP). Mr. Cook said that the permit amendment would allow for the emergency diversion of emergency water produced by the MWRP into the San Diego Creek watershed under certain conditions. He said that the City had requested the District execute an agreement to memorialize the understanding. He said that the agreement along with the “side letter” is provided in the exhibits. Following discussion, on MOTION by Swan, seconded and unanimously carried, **SUBJECT TO NON-SUBSTANTIVE CHANGES WITH DISCRETION GIVEN TO THE GENERAL MANAGER, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE AN AGREEMENT WITH THE CITY OF NEWPORT BEACH PERTAINING TO THE EMERGENCY DIVERSION OF RECYCLED WATER INTO THE SAN DIEGO CREEK WATERSHED.**

### GENERAL MANAGER’S REPORT

General Manager Cook said that as mentioned in his Weekly Report, the District successfully remarketed Index Tender Notes for \$83 million which was priced below SIFMA.

Mr. Cook reported on a meeting he and staff attended with Mr. Bob Hill and Mr. Dennis Cafferty of El Toro Water District relative to SOCWA, water banking and other mutual programs.

Mr. Cook introduced Ms. Paige Midstokke as the newest member of the General Manager’s office who will be working with Ms. Christine Compton. Ms. Ashley Armstrong was also introduced to the Board as Operations’ Executive Assistant. He further announced that Executive Director of Operations Shields would be leaving the District to work as General Manager of West Basin Municipal Water District, and thanked him for his service over the past five years.

### DIRECTORS’ COMMENTS

Director Withers reported on his attendance at a CASA conference, a southern California LAFCO meeting, an ISDOC Executive Committee meeting, an OCSD meeting, and an OCBC dinner. He said that tomorrow he will be attending an OCBC Infrastructure meeting and this Friday an OCWD and OCSD Winterfest to commemorate the 10<sup>th</sup> anniversary of the Groundwater Replenishment System.

Director Matheis reported on her attendance at an Urban Water Institute Spring conference in Palm Springs.

Director Swan reported on his attendance at a CASA conference, an Urban Water Institute conference, an economic forecast event, a lecture at UCI regarding water rates, and Newport Chamber of Commerce meetings.

Director LaMar reported on his attendance at ACWA’s Federal Affairs, Board and Executive Committee meetings, an ACC-OC and MWD WaterFix breakfast, and an Urban Water Institute conference.

Director Reinhart reported that he attended a SOCWA Board meeting, a WACO monthly meeting, an ACC-OC and MWD WaterFix breakfast meeting, and a MWDOC Board meeting.

CLOSED SESSION

President Reinhart said that the following Closed Sessions would be held this evening:

1) CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION - Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(2). (one potential case); and 2) CONFERENCE WITH LEGAL COUNSEL—ANTICIPATED LITIGATION- Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(2) (one potential case).

OPEN SESSION

Following the Closed Session, the meeting was reconvened with Directors LaMar, Reinhart, Withers, Swan and Matheis present. President Reinhart said that there was no action to report.

ADJOURNMENT

There being no further business, President Reinhart adjourned the meeting.

APPROVED and SIGNED this 12th day of March, 2018.

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President, IRVINE RANCH WATER DISTRICT

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Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

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Alfred Smith, Legal Counsel – Nossaman LLP

March 12, 2018

Prepared and

submitted by: C. Compton

Approved by: Paul A. Cook



## CONSENT CALENDAR

### 2018 LEGISLATIVE AND REGULATORY UPDATE

#### SUMMARY:

This report provides an update on the 2018 legislative session and IRWD's legislative and regulatory priorities. As legislation and regulations develop, staff will provide updates and recommendations to the Water Resources Policy and Communications Committee and the Board, as appropriate. Staff recommends that the Board consider the following actions / positions:

- *“Safe and Affordable Drinking Water Act” Budget Trailer Bill*— “OPPOSE/OPPOSE UNLESS AMENDED”; and
- *AB 2050 (Caballero, D-Salina) - Small Water System Authority Action of 2018* — “SUPPORT IN CONCEPT”.

#### BACKGROUND:

The second year of the 2017-2018 legislative session is in full swing. State Senator Toni Atkins (D-San Diego) has been formally elected President Pro Tem of the State Senate and will take office in her new role on March 21, 2018. In addition, members of the Legislature with two-year bills remaining in their house of origin at the beginning of the year had until January 31 to have the bill heard and passed over to the other house. Those bills failing to meet the house of origin deadline are now dead. Members had until February 16 to introduce any new bills.

A copy of the 2018 Legislative Matrix is attached as Exhibit “A”. Exhibit “B” is the 2018 Legislative Update Report Links to Bill and Regulatory Texts, which contains links to the bills and regulations discussed below, unless a separate exhibit is noted.

#### State of the State:

Governor Brown delivered his annual State of the State address to a joint session of the Legislature on January 25. The Governor's address focused on what the State has achieved during his Administration. Of particular note, he highlighted the passage of legislation related to pension reform, workers' compensation reform, the water bond, the Rainy Day Fund, and the Cap-and-Trade Program's reauthorization. Additionally, he focused on the destructive forest fires that have impacted the state saying:

“The devastating forest fires and the mudslides are a profound and growing challenge. Eight of the state's most destructive fires have occurred in the last five years. Last year's Thomas fire in Ventura and Santa Barbara counties was the largest in recorded history. The mudslides that followed were among the most lethal the state has ever encountered. In 2017, we had the highest average summer temperatures in recorded history. Over the

last 40 years, California's fire season has increased 78 days — and in some places it is nearly year-round.

So we have to be ready with the necessary firefighting capability and communication systems to warn residents of impending danger. We also have to manage our forests — and soils — more intelligently.

Toward that end, I will convene a task force composed of scientists and knowledgeable forest practitioners to review thoroughly the way our forests are managed and suggest ways to reduce the threat of devastating fires. They will also consider how California can increase resiliency and carbon storage capacity. Trees in California should absorb CO<sub>2</sub>, not generate huge amounts of black carbon and greenhouse gas as they do today when forest fires rage across the land.”

Governor Brown also emphasized water and water infrastructure during his State of the State. His comments on water consisted of the following statement:

“As the climate changes and more water arrives as rain instead of snow, it is crucial that we are able to capture the overflow in a timely and responsible way. That, together with recycling and rainwater recapture will put us in the best position to use water wisely and in the most efficient way possible. We are also restoring the Sacramento and San Joaquin watersheds to protect water supplies and improve California's iconic salmon runs.

Finally, we have the California Waterfix, a long studied and carefully designed project to modernize our broken water system. I am convinced that it will conserve water, protect the fish and the habitat in the Delta and ensure the delivery of badly needed water to the millions of people who depend on California's aqueducts. Local water districts — in both the North and South — are providing the leadership and the financing because they know it is vital for their communities, and for the whole state. That is true, and that is the reason why I have persisted.”

#### State Budget Update:

##### *January Revenue Numbers:*

On February 13, 2018, State Controller Betty Yee released her monthly report on the State's finances. She announced that the State took in \$17.35 billion during the month of January. This was \$2.37 billion, or 15.8 percent, higher than the proposed budget estimates and \$1.45 billion, or 9.1 percent, higher than projections contained in the FY 2017-2018 Budget Act.

Additionally, the Controller reported:

“For the first seven months of the 2017-18 fiscal year, total revenues of \$74.56 billion are higher than expected in the January budget proposal by 4.0 percent, 7.5 percent above the enacted budget's assumptions, and 11.7 percent higher than the same period in 2016-17.”

The State's outstanding loan balance was \$5.64 billion, which was \$5.19 billion, or 47.9 percent, less than proposed budget estimates and \$5.02 billion, or 47.1 percent, less than the FY 2017-2018 Budget Act.

2018 State Legislative Update:

*“Making Water Conservation a California Way of Life”:*

Since the beginning of last year, staff has worked with various stakeholders and the Association of California Water Agencies (ACWA) on long-term water use efficiency and drought planning legislation. As reported to the Board, at the end of session there remained two active bills on “Making Water Conservation a California Way of Life” — AB 1668 (Friedman, D-Glendale) and SB 606 (Hertzberg, D-Van Nuys/Skinner, D-Oakland). SB 606 and AB 1668 are two-year bills. SB 606 is currently located on the Assembly Third Reading File and AB 1668 is in the Senate Rules Committee.

Staff continues to meet with various stakeholders on the bills in order to seek amendments requested by the water community that would improve the proposals currently before the Legislature and ensure they can be implemented consistent with the intent of the authors and the Administration. Staff will provide an update on the ongoing discussions taking place on the legislation.

In addition to SB 606 and AB 1668, several other bills have been introduced that relate to water conservation and “Making Water Conservation a California Way of Life”. Those bills include:

- *AB 2038 (Gallagher, R- Chico), Countywide Drought and Water Shortage Contingency Plans*, relates to drought and water shortage vulnerability of small water suppliers and in rural communities;
- *AB 2241 (Rubio, D-West Covina), Sustainable Water Use and Demand Reduction: Legislative Finds and Declarations*, was introduced as a spot bill;
- *AB 2242 (Rubio, D-West Covina), Urban Water Management Planning*, was introduced as a spot bill;
- *AB 2266 (Bigelow, R-O’Neals), Urban Water Management Planning*, was introduced as a spot bill; and
- *SB 952 (Anderson, R-El Cajon), Water Conservation: Local Water Supplies*, was introduced as a spot bill.

*Water Tax- SB 623 (Monning, D-Santa Cruz) and Budget Trailer Bill Proposal:*

In 2017, Senator Bill Monning (D-Santa Cruz) authored SB 623. SB 623 would have established the Safe and Affordable Drinking Water Fund in the State Treasury and would have provided that the moneys in the fund be continuously appropriated to the State Water Resources Control Board for grants, loans, contracts, or services to assist those without access to safe and affordable drinking water consistent with a fund implementation plan to be adopted annually by the State

Board. On August 21, the bill was amended to include a fee on fertilizer, a fee on milk, and a monthly water tax of the following:

- \$0.95 per month for meters less than or equal to 1”;
- \$4.00 per month for meters less than or equal to 2”;
- \$6.00 per month for meters less than or equal to 4”;
- \$10.00 per month for meters greater than “4; and
- Customers without a meter would be taxed at a rate of \$0.95.

SB 623 remains a two-year bill and is being held in Assembly Rules Committees. Last year, IRWD adopted an “oppose/oppose unless amended” position on SB 623 and advocate against any water tax inconsistent with the Board-adopted policy on a public good charge/statewide user fee.

In addition, the Administration has released a budget trailer bill labeled as “Safe and Affordable Drinking Water Act” which proposes in the form of a budget trailer bill the agricultural fees and water tax included in SB 623. Given the budget trailer bills’ similarity to SB 623 and its inconsistency with the Board-adopted policy on a public good charge/statewide user fee, staff recommends that the Board adopt an “oppose/oppose unless amended” position on the budget trailer bill.

Staff has continued to work with ACWA and the District’s other industry partners to oppose a water tax. Staff will be available to provide an update on any new developments.

*AB 2050: Small Water System Authority Action of 2018:*

In addition to the discussions taking place on a water tax to address water quality issues within disadvantaged communities, the water community has continued to think about other ways to address the challenges facing many communities in the state. The Eastern Municipal Water District (EMWD), in partnership with the California Municipal Utilities Association (CMUA), has put forth a proposal that would address the management and governance challenges facing water systems within disadvantaged communities. The proposal has been authored and introduced by Assemblymember Anna Caballero (D-Salinas) in AB 2050.

AB 2050 is intended to create a new category of water agency — a Small System Water Authority with unique powers to absorb, improve and competently operate currently non-compliant public water systems with either contiguous or non-contiguous boundaries. Small System Water Authorities would consolidate failing small water systems that are voluntarily donated to the authority to provide technical, managerial and financial capabilities to ensure the provision of safe, clean, affordable, and accessible water and local governance. As currently in print, AB 2050 would create the Small System Water Authority Act of 2018 and state legislative findings and declarations relating to authorities of small system water authorities as EMWD and CMUA continue to refine legislative language related to the creation of small system water authorities.

Given the important role governance will play in California's ability to address water quality issues within disadvantaged communities, staff recommends that the Board adopt a "support in concept" position on AB 2050.

2018 State Regulatory Update:

*State Water Resources Control Board "Prohibiting Wasteful Water Use Practices" Regulations:*

At the end of last year, the State Water Resources Control Board (State Board) proposed and accepted comments on draft regulations "Prohibiting Wasteful Water Use Practices." The District, along with many others in the water community, submitted comments on the draft regulations. Of particular interest to the District was the inclusion of recycled water irrigation of publicly-owned or maintained turf within the draft regulations.

At the end of January, the State Board released revised draft regulations, which are attached as Exhibit "C". The revised regulations now exclude recycled water irrigation of publicly-owned and maintained turf from the prohibited uses if the recycled water irrigation system serving the landscape was installed prior to January 1, 2018. The State Board accepted public comments on the revised regulations until February 14, 2018. The District submitted comments on the revised regulation.

The State Board is scheduled to consider the revised regulations at its February 20 meeting. Staff will provide an update on any new developments related to the regulations.

2018 Federal Legislation:

*Trump Administration Infrastructure Proposal:*

As has been widely reported, President Donald Trump released his infrastructure plan for moving forward an infrastructure funding package to rebuild America's infrastructure and to get Americans back to work. The plan titled a "Legislative Outline for Rebuilding Infrastructure in America" is attached as Exhibit "D".

The plan proposes to stimulate \$1.5 trillion in new investments in the nation's infrastructure. The plan proposes to stimulate this investment through \$200 billion in Federal funding, and focuses on streamlining permitting timelines and an investment in rural infrastructure. Staff will be available to discuss the plan further.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.



COMMITTEE STATUS:

This item was reviewed by the Water Resources Policy and Communications Committee on February 20, 2018.

RECOMMENDATION:

THAT THE BOARD ADOPT AN “OPPOSE/OPPOSE UNLESS AMENDED” POSITION ON THE “SAFE AND AFFORDABLE DRINKING WATER ACT” BUDGET TRAILER BILL AND A “SUPPORT IN CONCEPT” POSITION ON AB 2050 (CABALLERO, D-SALINA).

LIST OF EXHIBITS:

- Exhibit “A” – IRWD Legislative Matrix
- Exhibit “B” – 2018 Legislative Update Report Links to Bill Texts
- Exhibit “C” – Revised “Prohibiting Wasteful Water Use Practices” Regulations
- Exhibit “D” – Legislative Outline for Rebuilding Infrastructure in America

**EXHIBIT "A"**  
**IRWD 2016 LEGISLATIVE MATRIX**  
**Updated 02/14/2018**

<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b>AB 18</b> Garcia E (D)	Clean Water, Climate, and Coastal Protection Act		Enacts the California Clean Water, Climate, Coastal Protection and Outdoor Access For All Act, which would authorize the issuance of bonds to finance a clean water, climate, and coastal protection and outdoor access for all program. Provides for the submission of these provisions to the voters at the statewide direct primary election.	08/31/2017 - In SENATE. Joint Rule 62(a) suspended.;08/31/2017 - From SENATE Committee on NATURAL RESOURCES AND WATER: Do pass to Committee on GOVERNANCE AND FINANCE.;08/31/2017 - From SENATE Committee on GOVERNANCE AND FINANCE: Do pass to Committee on APPROPRIATIONS.
<b>AB 161</b> Levine (D)	Department of Finance: Infrastructure Investment		Authorizes the Department of Finance to identify infrastructure projects in the state for which the department will guarantee a rate of return on investment for an investment made in that infrastructure project by the Public Employees' Retirement System.	08/21/2017 - In SENATE Committee on APPROPRIATIONS: Not heard.
<b>AB 196</b> Bigelow (R)	Greenhouse Gas Reduction Fund: Water Supply		Amends the Global Warming Solutions Act, which creates the Greenhouse Gas Reduction Fund and authorizes specified investments, including water use and supply. Authorizes the use of the moneys in the fund for electric pump efficiency, water and wastewater systems, pump and pump motor efficiency improvements, and drinking water transmission and distribution systems' water loss if the investment furthers the regulatory purposes of the act and is consistent with law.	09/01/2017 - In SENATE Committee on APPROPRIATIONS: Held in committee.
<b>AB 664</b> Steinorth (R)	Political Reform Act: Campaign Fund Expenditures		Prohibits a parent, grandparent, sibling, child, or grandchild of an elected officer or a candidate for elective office, from receiving, in exchange for goods, services, facilities, or anything of value.	01/29/2018 - In ASSEMBLY. Read third time. Passed ASSEMBLY. *****To SENATE.
<b>AB 732</b> Frazier (D)	Levee Maintenance		Extends indefinitely the operation of the authorization to advance funds to reimburse local agencies under a program for the maintenance or improvement of project or nonproject levees. Postpones the operation of certain related provisions.	09/01/2017 - In SENATE Committee on APPROPRIATIONS: Held in committee.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>AB 869</u></b> Rubio (D)	Sustainable Water Use: Recycled Water		Requires long-term standards for urban water conservation and water use to include a credit for recycled water. Prohibits an urban retailer water supplier from being required to reduce the amount of recycled water it produces, sells, or distributes for beneficial potable or nonpotable uses during a period when water conservation measures are in effect.	08/24/2017 - From SENATE Committee on NATURAL RESOURCES AND WATER with author's amendments.;08/24/2017 - In SENATE. Read second time and amended. Re-referred to Committee on NATURAL RESOURCES AND WATER.
<b><u>AB 987</u></b> Calderon I (D)	Water Quality, Supply, and Infrastructure Improvement		Amends existing law relating to the State General Obligation Bond Law. Relates to the capital asset exception provided under Proposition 1. Clarifies that a conflict exists for purposes of that exception if any provision of this division authorizes, either expressly or by necessary implication, a project or program that would not result in the creation of a capital asset, including projects relating to the prevention, cleanup, treatment, or remediation of contaminated groundwater, or other such projects.	09/11/2017 - In SENATE. Read second time. To third reading.;09/11/2017 - Re-referred to SENATE Committee on RULES.
<b><u>AB 1000</u></b> Friedman (D)	Water Conveyance: Unused Facility Capacity	WATCH	Prohibits a transferor of water from using a water conveyance facility that has unused capacity to transfer water from a groundwater basin underlying desert lands that is in the vicinity of specified federal lands or state lands to outside of the groundwater basin unless the State Lands Commission, in consultation with the Department of Fish and Wildlife, finds that the transfer of the water will not adversely affect the natural or cultural resources of those federal and state lands.	09/01/2017 - In SENATE Committee on APPROPRIATIONS: Held in committee.
<b><u>AB 1017</u></b> Santiago (D)	Collective Bargaining Agreements: Arbitration		Amends the existing law, with regard to disputes concerning collective bargaining agreements for private employees. Provides for such provision apply to public employment. Limits liability for attorney's fees under such provisions to a labor organization or employer.	09/15/2017 - In ASSEMBLY. Ordered returned to SENATE. *****To SENATE.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>AB 1270</u></b> Gallagher (R)	Dams and Reservoirs: Inspections and Reporting		Amends existing law that requires the Department of Water Resources to inspect dams, reservoirs, and appurtenant structures once per fiscal year. Requires the owner of a dam to operate critical outlet and spillway control features on an annual basis and to demonstrate their full operability in the presence of the Department. Provides certain inspection reports may be withheld from public release. Requires the Department to provides specified information on its website.	02/13/2018 - Enrolled.
<b><u>AB 1273</u></b> Gallagher (R)	Environmental Quality Act: Exemption: Levee Repairs		Amends the California Environmental Quality Act (CEQA). Exempts from the requirements of the CEQA, repairs of critical levees of the State Plan of Flood Control within an existing levee footprint to meet standards of public health and safety. Requires the lead agency to take certain actions regarding the repairs.	07/11/2017 - In SENATE Committee on NATURAL RESOURCES AND WATER: Failed passage.
<b><u>AB 1323</u></b> Weber (D)	Sustainable Water Use and Demand Reduction		Requires the Department of Water Resources to convene a stakeholder workgroup. Requires the workgroup to develop, evaluate, and recommend proposals for establishing new water use targets for urban water suppliers and report to the Governor and the Legislature. Requires all expenses to be the responsibility of the nonstate agency stakeholders.	08/21/2017 - In SENATE Committee on APPROPRIATIONS: To Suspense File.
<b><u>AB 1420</u></b> Aguiar-Curry (D)	Water Rights: Small Irrigation Use		Requires State Water Resources Control Board to give priority to adopting general conditions that permit a registrant to store water for small irrigation use during times of high streamflow in exchange for the registrant reducing diversions during periods of low streamflow. Exempts an entity from the requirement to enter into a lake or streambed alteration agreement with the department under specified circumstances.	09/01/2017 - In SENATE Committee on APPROPRIATIONS: Held in committee.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>AB 1529</u></b> Thurmond (D)	Cross Connection or Backflow Prevention Inspectors		Requires valid and current certifications for cross connection inspection or backflow prevention device inspection, testing, and maintenance that meet specified requirements for competency to be considered approved certification tests, until the Water Resources Control Board promulgates specified regulations or by a specified date. Prohibits a water supplier from refusing to recognize certifications tests that meet standards set by regulations of the board.	09/15/2017 - In SENATE. Read third time. Failed to pass SENATE.;09/15/2017 - In SENATE. Motion to reconsider.;09/15/2017 - In SENATE. Reconsideration granted.;09/15/2017 - In SENATE. From third reading. To Inactive File.
<b><u>AB 1654</u></b> Rubio (D)	Water Conservation	CO-SPONSOR & SUPPORT	States the intent of the Legislature to enact legislation necessary to help make water conservation a California way of life.	07/19/2017 - Re-referred to SENATE Committee on RULES.
<b><u>AB 1667</u></b> Friedman (D)	Water Management Planning	OPPOSE	Requires the State Water Resources Control Board to adopt long-term standards for urban water conservation and water use on or before the specified date. Requires the board to adopt performance measures for commercial, industrial, and institutional water use on or before that date. Require an urban water supplier to calculate a water use target beginning the calendar year after the board adopts long-term standards for urban water conservation and water use. Relates to submission of specified information.	07/11/2017 - In SENATE Committee on NATURAL RESOURCES AND WATER: Heard, remains in Committee.
<b><u>AB 1668</u></b> Friedman (D)	Water Management Planning	OPPOSE UNLESS AMENDED	Requires the State Water Resources Control Board to adopt long term standards for the efficient use of water and performance measures for certain water uses. Requires the department to conduct necessary studies. Establishes a specified number of gallons as a standard for indoor residential water use effective until a specified date. Requires use of available data to identify small water suppliers and rural communities that may be at risk of drought and water shortage no later than a specific date.	09/15/2017 - From SENATE Committee on APPROPRIATIONS: Do pass to Committee on RULES.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>AB 1740</u></b> Daly (D)	Fire Insurance: Valuation of Loss		Deletes the provisions regarding the actual cash value of the claim of total loss to the structure and instead requires that the actual cash value of the claim, for either a total or partial loss to the structure or its contents, be the amount it would cost the insured to repair, rebuild, or replace the thing lost or injured less a fair and reasonable deduction for physical depreciation based upon its condition at the time of the injury or the policy limit, whichever is less.	01/16/2018 - To ASSEMBLY Committee on INSURANCE.
<b><u>AB 1745</u></b> Ting (D)	Vehicles: Clean Cars 2040 Act		Requires all new passenger vehicles to be zero emissions vehicles after January 1, 2040. States that zero emissions vehicles cannot produce exhaust emissions of any criteria pollutant or greenhouse gas under any operational mode or condition. Exempts large commercial vehicles (larger than 10,000 pounds) and does not apply to vehicles owned by people moving into California from other states.	01/16/2018 - To ASSEMBLY Committee on TRANSPORTATION.
<b><u>AB 1748</u></b> Steinorth (R)	Property Taxation: Base Year Value Transfer		Requires, subject to specified procedures, the base year value of property that is eligible for the homeowner's exemption of any person, regardless of age or disability, to be transferred to any replacement dwelling, regardless of the value of the replacement property or whether the replacement property is located within the same county.	01/16/2018 - To ASSEMBLY Committee on REVENUE AND TAXATION.
<b><u>AB 1770</u></b> Steinorth (R)	Local Government: Investments		Revises the maximum 5-year maturity requirement regarding investment in securities by a local agency to instead require that the securities have a maximum remaining security of 5 years or less. Eliminates the requirement that the securities issuer be rated A or its equivalent or better for the issuer's debts as provided by an NRSRO.	01/22/2018 - To ASSEMBLY Committee on LOCAL GOVERNMENT.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>AB 1772</u></b> Aguiar-Curry (D)	Fire Insurance: Indemnity		Extends the minimum time limit during which an insured may collect the full replacement cost of a loss relating to a state of emergency to 36 months.	01/22/2018 - To ASSEMBLY Committee on INSURANCE.
<b><u>AB 1876</u></b> Frazier (D)	Sacramento-San Joaquin Delta: Stewardship Council		Increases the membership of the Delta Stewardship Council to 13 members, including 11 members and 2 nonvoting members.	01/29/2018 - To ASSEMBLY Committee on WATER, PARKS AND WILDLIFE.
<b><u>AB 1945</u></b> Garcia E (D)	Global Warming Solutions Act of 2006: Greenhouse Gas		Makes a nonsubstantive change to existing law which requires the Department of Finance to develop a 3-year investment plan for the moneys deposited in the Greenhouse Gas Reduction Fund.	01/29/2018 - INTRODUCED.
<b><u>AB 1989</u></b> Mathis (R)	California Safe Drinking Water Act		Makes nonsubstantive changes to existing law which requires any person who owns a public water system to ensure that the system, among other things, provides a reliable and adequate supply of pure, wholesome, healthful, and potable water.	02/01/2018 - INTRODUCED.
<b><u>AB 1991</u></b> Mathis (R)	Safe Drinking Water State Revolving Fund Law of 1997		Makes nonsubstantive changes to existing law establishing the Safe Drinking Water State Revolving Fund.	02/01/2018 - INTRODUCED.
<b><u>AB 2003</u></b> Daly (D)	Public Contracts: Sanitation Districts		Relates to existing law which requires a sanitation district, when an expenditure for work exceeds a specified amount, to contract with the lowest responsible bidder after notice. Requires the notice to be published in a manner that the district board determines to be reasonable, which may include, but is not limited to, newspapers, Internet Web sites, radio, television, or other means of mass communication.	02/12/2018 - To ASSEMBLY Committee on LOCAL GOVERNMENT.
<b><u>AB 2017</u></b> Chiu (D)	Public Employers: Employee Organizations		Prohibits a public employer from deterring or discouraging prospective public employees from becoming or remaining members of an employee organization.	02/12/2018 - To ASSEMBLY Committee on PUBLIC EMPLOYEES, RETIREMENT AND SOCIAL SECURITY.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>AB 2038</u></b> Gallagher (R)	Countywide drought and water shortage contingency plans		Requires the Department of Water Resources, in consultation with the State Water Resources Control Board and other relevant state and local agencies and stakeholders, to use available data to identify small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability and requires the department to notify counties and groundwater sustainability agencies of those suppliers or communities.	02/06/2018 - INTRODUCED.
<b><u>AB 2042</u></b> Steinorth (R)	Residential graywater reuse systems: incentives		Expresses the intent of the Legislature to enact legislation to extend financial incentives to single-family and multi-family homeowners to incentivize the purchase of residential graywater reuse systems.	02/06/2018 - INTRODUCED.
<b><u>AB 2050</u></b> Caballero (D)	Small System Water Authority Act of 2018		Creates the Small System Water Authority Act of 2018 and state legislative findings and declarations relating to authorizing the creation of small system water authorities that will have powers to absorb, improve, and competently operate noncompliant public water systems. Defines various terms and requires a change in organization to be carried out as set forth in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.	02/06/2018 - INTRODUCED.
<b><u>AB 2060</u></b> Garcia E (D)	Water: grants: advanced payments		Requires the Department of Water Resources to provide advanced payment for specified water projects of a specified amount or specified percentage of a grant award, whichever is less. Eliminates the requirement that the grant award for the project be less than a specified amount to obtain advanced payment. Eliminates the repeal of advanced payment provisions.	02/06/2018 - INTRODUCED.
<b><u>AB 2064</u></b> Gloria (D)	Integrated Regional Water Management Plans: Grants		Requires a project proponent, upon completion of the first one-half of a project receiving a regional water management grant award, to provide a first one-half project accountability report to the Department of Water Resources that reports the completion of objectives for the first one-half of the project and documents the expenditure and use of advanced grant funds.	02/07/2018 - INTRODUCED.



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<b><u>AB 2065</u></b> Ting (D)	Local agencies: surplus land		Expands the definition of local agency to include sewer, water, utility, and local and regional park districts, joint powers authorities, successor agencies to former redevelopment agencies, housing authorities, and other political subdivisions of this state and any instrumentality thereof that is empowered to acquire and hold real property, thereby requiring these entities to comply with the requirements for the disposal of surplus land.	02/07/2018 - INTRODUCED.
<b><u>AB 2071</u></b> Bloom (D)	Accessory dwelling units: improvements: liability		Provides that a public entity, public officer, or an employee of a public entity, is not liable for any personal injury, death, property damage, or inverse condemnation, that has arisen from or is related to the use of an accessory dwelling unit and that is proximately caused by any utility system that the public entity owns, operates, or maintains if the legislative body of a local agency has permitted the equipment, or accessory dwelling unit, to remain in the same location prior to January 2018.	02/07/2018 - INTRODUCED.
<b><u>AB 2072</u></b> Quirk (D)	State Water Resources Control Board: contaminants		Requires the State Water Resources Control Board, to the extent that the state board determines funds are available, to establish and maintain a dedicated program to research contaminants of emerging concern to understand the contaminants entering drinking water supplies. Requires the program to research the impacts of contaminants of emerging concern on human health and the environment.	02/07/2018 - INTRODUCED.
<b><u>AB 2077</u></b> Limon (D)	Electricity: Net Energy Metering: Eligible Customer		Relates to net energy metering of eligible customer-generators of electricity.	02/07/2018 - INTRODUCED.
<b><u>AB 2154</u></b> Bonta (D)	Public Employment: Labor Relations: Release Time		Prescribes requirements relating to release time that would apply to all of the public employers and employees subject to specified public employee acts and would generally repeal the provisions relating to release time in those acts.	02/12/2018 - INTRODUCED.

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<b><u>AB 2179</u></b> Gipson (D)	Municipal Corporations: Public Utility Service		Authorizes a municipal corporation to utilize the alternative procedures to lease, sell, or transfer that portion of a municipal utility used for furnishing sewer service outside the boundaries of the municipal corporation.	02/12/2018 - INTRODUCED.
<b><u>AB 2225</u></b> Limon (D)	Public Agencies: Data Protection: Standards		States the intent of the Legislature to enact legislation that would require public agencies to meet increased data protection standards by enhancing password protection requirements and annually assessing cybersecurity responses.	02/13/2018 - INTRODUCED.
<b><u>AB 2241</u></b> Rubio (D)	Sustainable Water Use and Demand Reduction		Makes nonsubstantive changes in legislative findings and declarations regarding the need to reduce urban water use statewide by 20% and to effectively measure a water supplier's efforts to reduce urban water use in its service area.	02/13/2018 - INTRODUCED.
<b><u>AB 2242</u></b> Rubio (D)	Urban Water Management Planning		Makes nonsubstantive changes in findings and declarations relating to urban water management planning.	02/13/2018 - INTRODUCED.
<b><u>AB 2249</u></b> Cooley (D)	Public Contracts: Local Agencies: Alternative Procedure		Authorizes public projects of \$60,000 or less to be performed by the employees of a public agency, authorize public projects of \$200,000 or less to be let to contract by informal procedures, and require public projects of more than \$200,000 to be let to contract by formal bidding procedures.	02/13/2018 - INTRODUCED.
<b><u>AB 2266</u></b> Bigelow (R)	Urban water management planning		Makes a nonsubstantive change in findings and declarations concerning urban water management planning.	02/13/2018 - INTRODUCED.

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<b><u>AB 2277</u></b> Mathis (R)	Solid Waste Facilities: Pharmaceutical Waste		Vests the Department of Resources Recycling and Recovery with the primary responsibility for the disposal of home-generated pharmaceutical waste and would require the Department of Resources Recycling and Recovery, in collaboration with the State Department of Public Health, the Department of Toxic Substances control, and the California State Board of Pharmacy, to adopt regulations authorizing the incineration of home-generated pharmaceutical waste by solid waste facilities.	02/13/2018 - INTRODUCED.
<b><u>AB 2278</u></b> Berman (D)	Local Government Renewable Energy Program		Repeals the requirement that when the last billing cycle of a 12-month period is reached, any remaining credit is reset to zero. Repeals the Local Government Renewable Energy Self-Generated Program.	02/13/2018 - INTRODUCED.
<b><u>AB 2283</u></b> Holden (D)	Income taxes: exclusion: turf removal program		Extends the operation of existing law which provides an exclusion from gross income for any amount received as a rebate, voucher, or other financial incentive issued by a local water agency or supplier for participation in a turf removal water conservation program.	02/13/2018 - INTRODUCED.
<b><u>AB 2305</u></b> Rodriguez (D)	Local public employee labor relations		Makes nonsubstantive changes to provisions of the Meyers-Milias-Brown Act.	02/13/2018 - INTRODUCED.
<b><u>AB 2341</u></b> Mathis (R)	California Environmental Quality Act		Specifies that, except as provided, the aesthetic effects of projects meeting certain requirements are not significant effects on the environment for the purposes of California Environmental Quality Act and that the lead agency is not required to evaluate the aesthetic of those projects.	02/10/2018 - INTRODUCED.
<b><u>SB 24</u></b> Portantino (D)	Political Reform Act of 1974: Economic Interest		Amends the Political Reform Act which requires certain disclosures to include a statement indicating the fair market value of investments or interests in real property and the aggregate value of income received from each reportable source. Revises the dollar amounts associated with these ranges.	08/31/2017 - In ASSEMBLY. To Inactive File.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b>SB 49</b> de Leon (D)	Environmental and Workers' Defense Act		Relates to the California Environmental, Public Health, and Workers Defense Act of 2017. Relates to clean air, drinking water, discharge of pollutants into the atmosphere and waters, and endangered species. Requires specified agencies to take prescribed actions to maintain and enforce standards pertaining to air, water, and protected species. Prohibits a state agency from amending rules to be less stringent in protection of workers' rights and workers' safety than established by federal law.	09/12/2017 - From ASSEMBLY Committee on RULES with author's amendments.;09/12/2017 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on RULES.
<b>SB 80</b> Wieckowski (D)	California Environmental Quality Act: Notices		Amends the California Environmental Quality Act. Requires a lead agency to post certain notices on the agency's Internet Web site and to offer to provide those notices by e-mail. Requires a county clerk to post notices regarding an environmental impact report or a negative declaration on the county's Internet Web site. Requires the filing of a notice in certain cases.	10/15/2017 - Vetoed by GOVERNOR.
<b>SB 210</b> Leyva (D)	Heavy Duty Vehicle Inspection and Maintenance Program		Authorizes the State Air Resources Board to develop and implement a Heavy-Duty Vehicle Inspection and Maintenance Program for nongasoline heavy-duty on road motor vehicles. Authorizes the state board to assess a fee and penalty as part of the program. Creates the Truck Emission Check Fund and the Diesel Emission System Inspection and Smoke Test Account in the fund, with all the moneys deposited in each fund to be available upon appropriation.	08/28/2017 - In ASSEMBLY. Suspend Assembly Rule 96.;08/28/2017 - Re-referred to ASSEMBLY Committee on RULES.
<b>SB 224</b> Jackson (D)	Personal Rights: Sexual Harassment		Amends existing law which establishes liability for sexual harassment when the plaintiff proves specified elements and existing law which states that a relationship may exist between a plaintiff and certain persons. Includes an investor, elected official, lobbyist, director, and producer among those listed persons who may be liable to a plaintiff for sexual harassment.	01/22/2018 - In SENATE. Read third time. Passed SENATE. *****To ASSEMBLY.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b>SB 473</b> Hertzberg (D)	California Endangered Species Act		Amends the California Endangered Species Act which prohibits the taking of an endangered or threatened species. Provides that the accidental take of candidate, threatened, or endangered species resulting from acts that occur on a farm or a ranch in the course of otherwise lawful routine and ongoing agricultural activities is not prohibited by the act.	09/08/2017 - In ASSEMBLY. To Inactive File.
<b>SB 606</b> Skinner (D)	Water Management Planning	OPPOSE UNLESS AMENDED	Requires an urban retail water supplier to calculate an urban water use objective and its actual urban water use by specified dates and requires a report. Imposes civil liability for a violation of an order or regulation issued pursuant to certain provisions. Authorizes the State Water Resources Control Board to issue a regulation or information order requiring a wholesale water supplier, urban retail water supplier, or distributor of a public water supply to provide a monthly report of certain information.	09/13/2017 - Withdrawn from ASSEMBLY Committee on RULES.;09/13/2017 - In ASSEMBLY. Ordered to third reading.;09/13/2017 - In ASSEMBLY. Suspend Assembly Rule 96.
<b>SB 623</b> Monning (D)	Water Quality: Safe and Affordable Drinking Water Fund	OPPOSE	Establishes the Safe and Affordable Drinking Water Fund in the State Treasury and would provide that moneys in the fund are continuously appropriated to the state board. requires the state board to expend moneys in the fund for grants, loans, contracts, or services to assist eligible applicants with projects relating to safe and affordable drinking water.	09/01/2017 - Re-referred to ASSEMBLY Committee on RULES.
<b>SB 700</b> Wiener (D)	Energy Storage Initiative		Requires the Public Utilities Commission and the governing boards of local publicly owned electric utilities to establish an Energy Storage Initiative to provide rebates to customers of electrical corporations for the installation of energy storage systems consistent with certain requirements. Requires the PUC to ensure an orderly transition of the funding for energy storage systems from the self-generation incentive program to the Energy Storage Initiative to minimize disruption.	07/05/2017 - From ASSEMBLY Committee on UTILITIES AND ENERGY with author's amendments.;07/05/2017 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on UTILITIES AND ENERGY.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>SB 771</u></b> de Leon (D)	California Environmental Quality Act		Relates to The California Environmental Quality Act. Establishes a continuing education requirement for employees of public agencies who have primary responsibility to administer the act.	09/13/2017 - In ASSEMBLY. To Inactive File.
<b><u>SB 778</u></b> Hertzberg (D)	Safe Drinking Water Fund		Requires the State Water Resources Control Board to track and publish on its Internet Web site an analysis of all voluntary and ordered consolidations of water systems that have occurred on or after a certain date. Requires the published information to include the resulting outcomes of the consolidations and whether the consolidations have succeeded or failed in providing an adequate supply of safe drinking water to the communities served by the consolidated water systems.	09/01/2017 - In ASSEMBLY Committee on APPROPRIATIONS: Held in committee.
<b><u>SB 831</u></b> Wieckowski (D)	Land use: accessory dwelling units		Relates to accessory dwelling units in single-family and multi-family residential zones. Deletes the requirement that the area be zoned to allow single-family and multi-family use. Specifies that if a local agency does not act on an application for an accessory dwelling unit within 120 days, then the application shall be deemed approved.	01/16/2018 - To SENATE Committees on TRANSPORTATION AND HOUSING and GOVERNANCE AND FINANCE.
<b><u>SB 919</u></b> Dodd (D)	Water resources: stream gages		Requires the State Water Resources Control Board, upon appropriation, to develop a plan to deploy a network of stream gages that includes a determination of funding needs and opportunities for reactivating existing gages. Requires the board to prioritize the deployment of stream gages based upon gaps in the existing system of gages and specified considerations.	02/01/2018 - To SENATE Committee on NATURAL RESOURCES AND WATER.
<b><u>SB 934</u></b> Allen (D)	Water quality: minor violations		Makes nonsubstantive changes to provisions relative to minor water quality violations.	02/08/2018 - To SENATE Committee on RULES.

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<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b>SB 952</b> Anderson (R)	Water Conservation: Local Water Supplies		States the intent of the Legislature to enact legislation that would require the State Water Resources Control Board to recognize local water agency investment in water supply and ensure that local agencies receive sufficient credit for these investments in meeting any water conservation or efficiency mandates.	02/08/2018 - To SENATE Committee on RULES.
<b>SB 966</b> Wiener (D)	Onsite Treated Nonpotable Water Systems		Requires the State Water Resources Control Board in consultation with the California Building Standards Commission, to adopt regulations for risk-based water quality standards for the onsite treatment and reuse of nonpotable water, as provided. Authorizes the state board to contract with public or private entities regarding the content of the standards and exempts those contracts from review and approval of the Department of General Services.	02/08/2018 - To SENATE Committee on ENVIRONMENTAL QUALITY.
<b>SB 998</b> Dodd (D)	Water Shutoffs: Urban and Community Water Systems		Requires an urban and community water system as a public water system that supplies water to more than 200 service connections, to have a written policy on residential service shutoff available in specified languages of the people residing in its service area. Requires certain aspect to be available on it's system web site and be provided annually to customers in writing.	02/05/2018 - INTRODUCED.
<b>SB 1032</b> Moorlach (R)	California Public Employees' Retirement System		Authorizes a contracting agency to terminate its contract with the Board of Administration of the Public Employees' Retirement System the agency's will and would not require the contracting agency to fully fund the board's pension liability upon termination of the contract. Authorizes the board to reduce the member's benefits in the terminated agency pool by the percentage of liability unfunded.	02/08/2018 - INTRODUCED.

**IRWD 2016 LEGISLATIVE MATRIX**  
**Updated 02/14/2018**

<b>Bill No. Author</b>	<b>Title</b>	<b>IRWD Position</b>	<b>Summary/Effects</b>	<b>Status</b>
<b><u>SB 1033</u></b> Moorlach (R)	Public Employees Retirement: Reciprocal Benefits		Requires an agency participating in the public employees retirement system that increases the compensation of a member who was previously employed by a different agency to bear all actuarial liability for the action, if it results in an increased actuarial liability beyond what would have been reasonably expected for the member. Requires the increased liability be in addition to reasonable compensation growth that is anticipated for a member who works for employer or employers over an extended time.	02/08/2018 - INTRODUCED.
<b><u>SCA 4</u></b> Hertzberg (D)	Water Conservation		Declares the intent of the Legislature to amend the California Constitution to provide a program that would ensure that affordable water is available to all Californians and to ensure that water conservation is given a permanent role in California's future.	02/16/2017 - To SENATE Committee on RULES.
<b><u>HR 23</u></b> Valadao (R)	Gaining Responsibility on Water Act		Amends the Gaining Responsibility on Water Act of 2017, provides drought relief in the State of California.	07/18/2017 - In SENATE. Read second time.;07/18/2017 - To SENATE Committee on ENERGY AND NATURAL RESOURCES.
<b><u>HR 434</u></b> Denham (R)	Water Project Financing Program Pilot Project		Authorizes a pilot project for an innovative water project financing program.	02/07/2017 - In HOUSE Committee on NATURAL RESOURCES: Referred to Subcommittee on WATER, POWER AND OCEANS.
<b><u>HR 448</u></b> Huffman (D)	Conservation Subsidies Water Conservation Exclusion		Amends the Internal Revenue Code of 1986, expands the exclusion for certain conservation subsidies to include subsidies for water conservation or efficiency measures and storm water management measures.	01/11/2017 - INTRODUCED.;01/11/2017 - To HOUSE Committee on WAYS AND MEANS.



## Exhibit “B”

### 2018 Legislative Update Report: Links to Bill & Regulatory Texts (as of February 14, 2018)

Bill Number/Version/Date	Link to Bill Text
AB 1668 (Friedman) as amended	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB1668">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB1668</a>
AB 2038 (Gallagher) as introduced	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2038">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2038</a>
AB 2050 (Caballero) as introduced	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2050">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2050</a>
AB 2241 (Rubio) as introduced	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2241">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2241</a>
AB 2242 (Rubio) as introduced	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2242">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2242</a>
AB 2266 (Bigelow) as introduced	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2266">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2266</a>
SB 606 (Hertzberg/Skinner), as amended	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB606">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB606</a>
SB 623 (Monning), as amended	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB623">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB623</a>
SB 952 (Anderson) as introduced	<a href="http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB952">http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB952</a>
“Safe and Affordable Drinking Water” Budget Trailer Bill	<a href="http://dof.ca.gov/Budget/Trailer_Bill_Language/documents/SafeandAffordableDrinkingWater.pdf">http://dof.ca.gov/Budget/Trailer_Bill_Language/documents/SafeandAffordableDrinkingWater.pdf</a>

EXHIBIT "C"

PROPOSED TEXT OF REGULATION

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**Title 23. Waters**  
**Division 3. State Water Resources Control Board and Regional Water Quality Control Boards**  
**Chapter 2. Appropriation of Water**  
~~Article 22. Prevention of Waste and Unreasonable Use~~  
**Chapter 3. Determination of Right to the Use of Water**  
**Article 2. Adjudications Under Water Code Sections 2500 Through 2900**  
**Chapter 3.5. Conservation and the Prevention of Waste and Unreasonable Use**  
**Article 1. Prevention of Waste and Unreasonable Use**

~~§ 955. Claims to Water Supplied by District or Water Company. [Renumbered]~~  
~~§ 855. § 955.~~ Policy and Definition.  
(a) In investigating any uses of water and making the determinations required by this article, the board shall give particular consideration to the reasonableness of use of ~~reclaimed recycled~~ water or reuse of water.  
(b) As used in this article, "misuse of water" or "misuse" means any waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water.

Authority cited: Section 1058, Water Code.  
Reference: Sections 100, 275, 1240, 1251, 1253 and 1257, Water Code; and Section 2, Article X, California Constitution.

~~§ 956. Divided Interests. [Renumbered]~~  
~~§ 856. § 956.~~ Investigations.  
The board staff shall investigate an allegation of misuse of water:  
(1) when an interested person shows good cause, or  
(2) when the board itself believes that a misuse may exist.

Authority cited: Section 1058, Water Code.  
Reference: Sections 100, 183, 275 and 1051, Water Code; and Section 2, Article X, California Constitution.

~~§ 957. Undivided Interests. [Renumbered]~~  
~~§ 857. § 957.~~ Notifications, Hearings and Orders.  
(a) If the investigation indicates that a misuse of water has occurred, the board staff shall notify interested persons and allow a reasonable period of time in which to terminate such misuse or demonstrate to the satisfaction of the board staff that misuse has not occurred.  
(b) At the end of the time set by the board staff, and upon application of any interested person or upon its own motion, the board may hold a hearing to determine if misuse has occurred or continues to occur.  
(c) If the misuse is alleged to have occurred or to continue to occur in connection with exercise of rights evidenced by a permit or license issued by the board, the board shall notice the hearing as a permit revocation hearing pursuant to Water Code Section 1410.1, or as a license revocation hearing pursuant to Water Code Section 1675.1, as

51 appropriate; or as a preliminary cease and desist order hearing pursuant to Water Code  
52 Section 1834.

53 (d) The board may issue an order requiring prevention or termination thereof.

54

55 Authority cited: Section 1058, Water Code.

56 Reference: Sections 100, 275, 183, 1051, 1401, 1675.1 and 1834, Water Code.

57

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59 ~~§ 958. General Requirements for Proofs of Claims. [Repealed]~~

60 ~~§ 858. § 958. Noncompliance with Order Regarding Misuse Under Water Right~~  
61 ~~Entitlement.~~

62 If a permittee or licensee does not comply with any order issued pursuant to Section  
63 ~~857957~~ within such reasonable period of time as allowed by the board, or such  
64 extension thereof as may for good cause be allowed by the board, and if such order  
65 includes a finding that waste, unreasonable use, method of use, or method of diversion  
66 has occurred in connection with exercise of a right evidenced by a permit or license  
67 issued by the board, a revocation action may be commenced by the board:

68 (a) If the hearing has been noticed as a permit or license revocation hearing, and if the  
69 board finds that misuse has occurred or continues to occur, the board may order the  
70 permit or license revoked or impose appropriate additional or amended terms or  
71 conditions on the entitlement to prevent recurrence of the misuse;

72 (b) If the hearing pursuant to Section ~~857957~~ has been noticed as a preliminary cease  
73 and desist order hearing, and if the board finds that misuse has occurred or continues to  
74 occur, the board may issue a preliminary cease and desist order.

75

76 Authority cited: Section 1058, Water Code.

77 Reference: Sections 1410, 1675 and 1831, Water Code.

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80 ~~§ 959. Specific Requirements for Irrigation Proofs. [Repealed]~~

81 ~~§ 859. § 959. Noncompliance with Other Order.~~

82 If a person other than a permittee or licensee does not comply with any order issued  
83 pursuant to Section ~~857957~~ within such reasonable period of time as allowed by the  
84 board, or such extension thereof as may for good cause be allowed, and if such order  
85 includes a finding that such person has misused or continues to misuse water, the board  
86 may request appropriate legal action by the Attorney General.

87

88 Authority cited: Section 1058, Water Code.

89 Reference: Section 275, Water Code.

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91

92 ~~§ 960. Uses Other than Irrigation. [Repealed]~~

93 ~~§ 860. § 960. Alternative Procedure.~~

94 The procedure established in this article shall be construed as alternative to, and not  
95 exclusive of, the procedures established in Chapter 5 of Title 23, California  
96 Administrative Code, in accordance with Section 4007 therein.

97

98 Authority cited: Section 1058, Water Code.

99 Reference: Section 275, Water Code.

100

101

102 ~~§ 961. Signature of Deponent. [Renumbered]~~

103 ~~§ 735-§ 961. Napa River, Special.~~

104 (a) Budding grape vines and certain other crops in the Napa Valley may be severely  
105 damaged by spring frosts. During a frost, the high instantaneous demand for water for  
106 frost protection by numerous vineyardists and other water users frequently exceeds the  
107 supply in the Napa River stream system. This results in uncoordinated diversions and  
108 possible infringements upon other rights. Therefore, all diversions of water from the  
109 stream system between March 15 and May 15 determined to be significant by the board  
110 or a court of competent jurisdiction shall be considered unreasonably unreasonable and  
111 a violation of Water Code Section 100 unless controlled by a watermaster administering  
112 a board or court approved distribution program. Diversions for frost protection and  
113 irrigation during this period shall be restricted to: (1) replenishment of reservoirs filled  
114 prior to March 15 under an appropriative water right permit, or (2) diversions permitted  
115 by the court.

116  
117 (b) The service area of the distribution program may be revised at any time by order of  
118 the board or the court. The board will retain jurisdiction to revise terms and conditions of  
119 all frost protection permits should future conditions warrant.

120  
121 (c) Under this section diversion of water during the spring frost season from March 15 to  
122 May 15 to replenish water stored in reservoirs prior to the frost season is "regulation," as  
123 defined in Chapter 2, Article 2, Section 657: Replenishment diversion must be to  
124 reservoirs for which a permit or license authorizing winter storage prior to the frost  
125 season has been issued.

126  
127 Authority cited: Section 1058, Water Code.

128 Reference: Section 2, Article X, California Constitution; and Sections 100, 275 and  
129 1051.5, Water Code.

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131

132 ~~§ 962. Objections. [Renumbered]~~

133 ~~§ 862-§ 962. Russian River, Special.~~

134 Budding grape vines and certain other crops in the Russian River watershed may be  
135 severely damaged by spring frosts. Frost protection of crops is a beneficial use of water  
136 under section 671 of this chapter 2 of this division. During a frost, however, the high  
137 instantaneous demand for water for frost protection by numerous vineyardists and other  
138 water users may contribute to a rapid decrease in stream stage that results in the  
139 mortality of salmonids due to stranding. Stranding mortality can be avoided by  
140 coordinating or otherwise managing diversions to reduce instantaneous demand.  
141 Because a reasonable alternative to current practices exists, the Board has determined  
142 these diversions must be conducted in accordance with this section.

143

144 (a) After March 14, 2012, except for diversion upstream of Warm Springs Dam in  
145 Sonoma County or Coyote Dam in Mendocino County, any diversion of water from the  
146 Russian River stream system, including the pumping of hydraulically connected  
147 groundwater, for purposes of frost protection from March 15 through May 15, shall be  
148 diverted in accordance with a board approved water demand management program  
149 (WDMP). For purposes of this section, groundwater pumped within the Russian River  
150 watershed is considered hydraulically connected to the Russian River stream system if  
151 that pumping contributes to a reduction in stream stage to any surface stream in the  
152 Russian River watershed during any single frost event.

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(b) The purpose of the WDMP is to assess the extent to which diversions for frost protection affect stream stage and manage diversions to prevent cumulative diversions for frost protection from causing a reduction in stream stage that causes stranding mortality. The WDMP, and any revisions thereto, shall be administered by an individual or governing body (governing body) capable of ensuring that the requirements of the program are met. Any WDMP developed pursuant to this section shall be submitted to the board by February 1 prior to the frost season.

(c) At a minimum, the WDMP shall include (1) an inventory of the frost diversion systems within the area subject to the WDMP, (2) a stream stage monitoring program, (3) an assessment of the potential risk of stranding mortality due to frost diversions, (4) the identification and timelines for implementation of any corrective actions necessary to prevent stranding mortality caused by frost diversions, and (5) annual reporting of program data, activities, and results. In addition, the WDMP shall identify the diverters participating in the program and any known diverters within the area subject to the WDMP who declined to participate. The WDMP also shall include a schedule for conducting the frost inventory, developing and implementing the stream stage monitoring program, and conducting the risk assessment.

(1) Inventory of frost diversion systems: The governing body shall establish an inventory of all frost diversions included in the WDMP. The inventory, except for diversion data, shall be completed within three months after board approval of a WDMP. The inventory shall be updated annually with any changes to the inventory and with frost diversion data. The inventory shall include for each frost diversion:

- (A) Name of the diverter;
- (B) Source of water used and location of diversion;
- (C) A description of the diversion system and its capacity;
- (D) Acreage frost protected and acres frost protected by means other than water diverted from the Russian River stream system; and
- (E) The rate of diversion, hours of operation, and volume of water diverted during each frost event for the year.

(2) Stream stage monitoring program: The governing body shall develop a stream stage monitoring program in consultation with National Marine Fisheries Service (NMFS) and California Department of Fish and Game (DFG). For the purposes of this section, consultation involves an open exchange of information for the purposes of obtaining recommendations. The governing body is authorized to include its own expert scientists and engineers in the consultation, and request board staff to participate, when desired.

The stream stage monitoring program shall include the following:

- (A) A determination of the number, type, and location of stream gages necessary for the WDMP to monitor and assess the extent to which frost diversions may affect stream stage and cause stranding mortality;
- (B) A determination of the stream stage that should be maintained at each page to prevent stranding mortality;
- (C) Provisions for the installation and ongoing calibration and maintenance of stream gages; and
- (D) Monitoring and recording of stream stage at intervals not to exceed 15 minutes.

(3) Risk assessment: Based on the inventory and stream stage information described above, and information regarding the presence of habitat for salmonids, the governing body shall conduct a risk assessment that evaluates the potential for frost diversions to cause stranding mortality. The risk assessment shall be conducted in consultation with

204 NMFS and DFG. The governing body is authorized to include its own expert scientists  
205 and engineers in the consultation, and request board staff to participate, when desired.  
206 The risk assessment shall be evaluated and updated annually.

207 (4) Corrective Actions: If the governing body determines that diversions for purposes of  
208 frost protection have the potential to cause stranding mortality, the governing body shall  
209 notify the diverter(s) of the potential risk. The governing body, in consultation with the  
210 diverters, shall develop a corrective action plan that will prevent stranding mortality.  
211 Corrective actions may include alternative methods for frost protection, best  
212 management practices, better coordination of diversions, construction of off-stream  
213 storage facilities, real-time stream gage and diversion monitoring, or other alternative  
214 methods of diversion. Corrective actions also may include revisions to the number,  
215 location and type of stream stage monitoring pages, or to the stream stages considered  
216 necessary to prevent stranding mortality. In developing the corrective action plan the  
217 governing body shall consider the relative water right priorities of the diverters and any  
218 time delay between groundwater diversions and a reduction in stream stage. The  
219 corrective action plan shall include a schedule of implementation. To the extent feasible,  
220 the corrective action plan shall include interim corrective actions if long-term corrective  
221 actions are anticipated to take over three years to fully implement. The diverters shall  
222 implement corrective actions in accordance with the corrective action plan, or cease  
223 diverting water for frost protection.

224 (5) Annual Reporting: The governing body shall submit a publically available annual  
225 report of program operations, risk assessment, and corrective actions by September 1  
226 following the frost season that is the subject of the report. The report shall include:

227 (A) The frost inventory, including diversion data.  
228 (B) Stream stage monitoring data.  
229 (C) The risk assessment and its results, identification of the need for any  
230 additional data or analysis, and a schedule for obtaining the data or completing  
231 the analysis.  
232 (D) A description of any corrective action plan that has been developed, any  
233 corrective actions implemented to date, and a schedule for implementing any  
234 additional corrective actions.  
235 (E) Any instances of noncompliance with the WDMP or with a corrective action  
236 plan, including the failure to implement identified corrective actions. The report  
237 shall document consultations with DFG and NMFS regarding the stream stage  
238 monitoring program and risk assessment and shall explain any deviations from  
239 recommendations made by DFG or NMFS during the consultation process. In  
240 addition, the annual report shall evaluate the effectiveness of the WDMP and  
241 recommend any necessary changes to the WDMP, including any proposed  
242 additions or subtractions of program participants. Any recommendations for  
243 revisions to the WDMP shall include a program implementation plan and  
244 schedule. The board may require changes to the WDMP, including but not limited  
245 to the risk assessment, corrective action plan, and schedule of implementation,  
246 at any time.  
247

248 (d) The governing body may develop and submit for the Deputy Director for Water  
249 Rights' approval, criteria, applicable to any participant in its WDMP, for identifying  
250 groundwater diversions that are not hydraulically connected to the Russian River stream  
251 system. The governing body may submit to the Deputy Director a list of groundwater  
252 diverters that appear to meet these criteria and could be exempted from this section.  
253 The Deputy Director is authorized to exempt the listed groundwater diverters, or identify  
254 the reason for not exempting the listed groundwater diverters. Beginning three years

255 from the effective date of this section, if an individual groundwater diverter can  
256 independently demonstrate to the satisfaction of the Deputy Director that the diversion is  
257 not hydraulically connected to the Russian River stream system, the Deputy Director is  
258 authorized to exempt the groundwater diverter from this section.

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260 (e) Compliance with this section shall constitute a condition of all water right permits and  
261 licenses that authorize the diversion of water from the Russian River stream system for  
262 purposes of frost protection. The diversion of water in violation of this section, including  
263 the failure to implement the corrective actions included in any corrective action plan  
264 developed by the governing body, is an unreasonable method of diversion and use and  
265 a violation of Water Code section 100, and shall be subject to enforcement by the board.  
266 The board has continuing authority to revise terms and conditions of all permits and  
267 licenses that authorize the diversion of water for purposes of frost protection should  
268 future conditions warrant.

269  
270 Authority cited: Section 1058, Water Code.

271 Reference: Section 2, Article X, California Constitution; and Sections 100, 275 and  
272 1051.5, Water Code.

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## 275 **Article 2. Wasteful and Unreasonable Water Uses**

276

### 277 **§ 963. Wasteful and Unreasonable Water Use Practices.**

278

279 The State Water Resources Control Board (State Board) has determined that it is a  
280 waste and unreasonable use of water under Article X, section 2 of the California  
281 Constitution to divert or use water inconsistent with subdivision (a) regardless of water  
282 right seniority, given the need for the water to support other more critical uses.

283

284 (a) As used in this article:

285 (1) "Commercial agricultural use meeting the definition of Government Code section  
286 51201, subdivision (b)" includes irrigation, frost protection and heat control, but does not  
287 include cleaning, processing or other similar post-harvest activities.

288 ~~(2) "Total potable water production" means all potable water that enters into a water~~  
289 ~~supplier's distribution system, excluding water placed into storage and not withdrawn for~~  
290 ~~use during the reporting period, or water exported outside the supplier's service area.~~

291 ~~(3) (2) "Urban water supplier" means a supplier that meets the definition set forth in~~  
292 ~~Water Code section 10617, except it does not refer to suppliers when they are~~  
293 ~~functioning solely in a wholesale capacity, but does apply to suppliers when they are~~  
294 ~~functioning in a retail capacity.~~

295 ~~(4) "Water year" means the period from October 1 through the following September 30.~~  
296 ~~Where a water year is designated by year number, the designation is by the calendar~~  
297 ~~year number in which the water year ends.~~

298 ~~(3) "Turf" has the same meaning as in Section 491.~~

299 ~~(4) "Incidental runoff" means unintended amounts (volume) of runoff, such as~~  
300 ~~unintended, minimal overspray from sprinklers that escapes the area of intended use.~~  
301 ~~Water leaving an intended use area is not considered incidental if it is part of the facility~~  
302 ~~or system design, if it is due to excessive application, if it is due to intentional overflow or~~  
303 ~~application, or if it is due to negligence.~~

304

305 (b)(1) The use of water is prohibited as identified in this subdivision for ~~any of the~~  
306 following actions:

307 (A) The application of water to outdoor landscapes in a manner that causes ~~more~~  
308 ~~than incidental~~ runoff such that water flows onto adjacent property, non-irrigated  
309 areas, private and public walkways, roadways, parking lots, or structures;

310 (B) The use of a hose that dispenses water to wash a motor vehicle, except  
311 where the hose is fitted with a shut-off nozzle or device attached to it that causes  
312 it to cease dispensing water immediately when not in use;

313 (C) The application of potable water directly to driveways and sidewalks;

314 (D) The use of potable water in an ornamental fountain or other decorative water  
315 feature, except where: (D)(i) the water is part of a recirculating system; or (D)(ii)  
316 the fountain is registered on the National Register of Historic Places;

317 (E) The application of water to irrigate turf and ornamental landscapes during and  
318 within 48 hours after measurable rainfall of at least one-tenth fourth of one inch of  
319 rain. In determining whether measurable rainfall of at least tenth fourth of one  
320 inch of rain occurred in a given area, enforcement may be based on records of  
321 the National Weather Service, the closest CIMIS station to the parcel, or any  
322 other reliable source of rainfall data available to the entity undertaking  
323 enforcement of this subdivision;

324 (F) The serving of drinking water other than upon request in eating or drinking  
325 establishments, including but not limited to restaurants, hotels, cafes, cafeterias,  
326 bars, or other public places where food or drink are served ~~and/or~~ purchased,  
327 during a period for which the Governor has issued a proclamation of a state of  
328 emergency under the California Emergency Services Act (Chapter 7  
329 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code)  
330 based on drought conditions; and

331 (G) As of January 1, 2025, the irrigation of turf on public street medians or  
332 publicly owned ~~or~~ and maintained landscaped areas between the street and  
333 sidewalk, except where:

334 \_\_\_\_\_ (i) the turf serves a community or neighborhood function, including, but  
335 not limited to, recreational uses and civic or community events;

336 \_\_\_\_\_ (ii) the turf is irrigated incidentally by an irrigation system, the primary  
337 purpose of which is the irrigation of trees; or

338 \_\_\_\_\_ (iii) the turf is irrigated with recycled water through an irrigation system  
339 installed prior to January 1, 2018; and.

340 (2) Notwithstanding subdivision (b)(1), the use of water is not prohibited by this article  
341 under the following circumstances:

342 (A) To the extent necessary to address an ~~immediate~~ health and safety need.  
343 This may include, but is not limited to, street sweeping and pressure washing of  
344 public sidewalks and the use of potable water in a fountain or water feature when  
345 required by law to be potable.

346 (B) To the extent necessary to comply with a term or condition in a permit issued  
347 by a state or federal agency.

348 (C) When the water is used exclusively for commercial agricultural use meeting  
349 the definition of Government Code section 51201, subdivision (b).

350

351 (c) To promote water conservation, operators of hotels and motels shall provide guests  
352 with the option of choosing not to have towels and linens laundered daily. The hotel or  
353 motel shall prominently display notice of this option in each guestroom using clear and  
354 easily understood language.

355



356 (d)(1) To prevent the waste and unreasonable use of water and to promote water  
357 conservation, any homeowners' association or community service organization or similar  
358 entity is prohibited from:

359 (A) Taking or threatening to take any action to enforce any provision of the  
360 governing documents or architectural or landscaping guidelines or policies of a  
361 common interest development where that provision is void or unenforceable  
362 under section 4735, subdivisions (a) and (b) of the Civil Code;

363 (B) Imposing or threatening to impose a fine, assessment, or other monetary  
364 penalty against any owner of a separate interest for reducing or eliminating the  
365 watering of vegetation or lawns during a declared drought emergency, as  
366 described in section 4735, subdivision (c) of the Civil Code; or

367 (C) Requiring an owner of a separate interest upon which water-efficient  
368 landscaping measures have been installed in response to a declared drought  
369 emergency, as described in section 4735, subdivisions (c) and (d) of the Civil  
370 Code, to reverse or remove the water-efficient landscaping measures upon the  
371 conclusion of the state of emergency.

372  
373 (2) As used in this subdivision:

374 (A) "Architectural or landscaping guidelines or policies" includes any formal or  
375 informal rules other than the governing documents of a common interest  
376 development.

377 (B) "Homeowners' association" means an "association" as defined in section  
378 4080 of the Civil Code.

379 (C) "Common interest development" has the same meaning as in section 4100  
380 of the Civil Code.

381 (D) "Community service organization or similar entity" has the same meaning as  
382 in section 4110 of the Civil Code.

383 (E) "Governing documents" has the same meaning as in section 4150 of the  
384 Civil Code.

385 (F) "Separate interest" has the same meaning as in section 4185 of the Civil  
386 Code.

387 (3) If a disciplinary proceeding or other proceeding to enforce a rule in violation of  
388 subdivision (d)(1) is initiated, each day the proceeding remains pending shall constitute  
389 a separate violation of this regulation.

390  
391 (e) To prevent the waste and unreasonable use of water and to promote water  
392 conservation, any city, county, or city and county is prohibited from imposing a fine  
393 under any local maintenance ordinance or other relevant ordinance as prohibited by  
394 section 8627.7 of the Government Code.

395  
396 (f) The taking of any action prohibited in subdivision (b) (d) or (e), or the failure to take  
397 any action required in subdivision (c), is an infraction punishable by a fine of up to five  
398 hundred dollars (\$500) for each day in which the violation occurs. The fine for the  
399 infraction is in addition to, and does not supersede or limit, any other remedies, civil or  
400 criminal.

401  
402 (g) A decision or order issued under this article by the Board or an officer or employee of  
403 the Board is subject to reconsideration under article 2 (commencing with section 1122)  
404 of chapter 4 of part 1 of division 2 of the Water Code.

405  
406

407 Authority: Section 1058, Water Code.  
408 References: Article X, Section 2, California Constitution; Sections 4080, 4100, 4110,  
409 4150, 4185, and 4735, Civil Code; Sections 102, 104, 105, 275, 350, and 10617, Water  
410 Code; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

EXHIBIT "D"



# Legislative Outline for Rebuilding Infrastructure in America

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THE WHITE HOUSE

**TO THE CONGRESS OF THE UNITED STATES:**

I have enclosed with this message my Administration's framework for rebuilding infrastructure in America. Our Nation's infrastructure is in an unacceptable state of disrepair, which damages our country's competitiveness and our citizens' quality of life. For too long, lawmakers have invested in infrastructure inefficiently, ignored critical needs, and allowed it to deteriorate. As a result, the United States has fallen further and further behind other countries. It is time to give Americans the working, modern infrastructure they deserve.

To help build a better future for all Americans, I ask the Congress to act soon on an infrastructure bill that will: stimulate at least \$1.5 trillion in new investment over the next 10 years, shorten the process for approving projects to 2 years or less, address unmet rural infrastructure needs, empower State and local authorities, and train the American workforce of the future.

To develop the infrastructure framework I am transmitting today, my Administration engaged with Governors, mayors, Federal agencies, State and local agencies, Members of Congress, industry, and most importantly, the American people who depend on upgraded infrastructure. The product of these efforts is a roadmap for the Congress to draft and pass the most comprehensive infrastructure bill in our Nation's history. My Administration's plan addresses more than traditional infrastructure -- like roads, bridges, and airports -- but addresses other needs like drinking and wastewater systems, waterways, water resources, energy, rural infrastructure, public lands, veterans' hospitals, and Brownfield and Superfund sites. The reforms set forth in my plan will strengthen the economy, make our country more competitive, reduce the costs of goods and services for American families, and enable Americans to build their lives on top of the best infrastructure in the world.

My Administration is committed to working with the Congress to enact a law that will enable America's builders to construct new, modern, and efficient infrastructure throughout our beautiful land.

**THE WHITE HOUSE,**

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## **PART 1—FUNDING AND FINANCING INFRASTRUCTURE IMPROVEMENTS**

### **I. INFRASTRUCTURE INCENTIVES PROGRAM**

States and localities are best equipped to understand the infrastructure investment needs of their communities. The infrastructure incentives program, described below, would encourage increased State, local, and private investment in infrastructure. This program would provide for targeted Federal investments, encourage innovation, streamline project delivery, and help transform the way infrastructure is designed, built, and maintained.

Under this program, States and localities would receive incentives in the form of grants. Project sponsors selected for award would execute an agreement with express progress milestones. Federal incentive funds would be conditioned upon achieving the milestones within identified time frames.

#### **A. Establishment of the Incentives Program**

This provision would establish the Incentives Program to maximize investment in infrastructure. The purposes of this program would include—

- attracting significant new, non-Federal revenue streams dedicated to infrastructure investments;
- creating significant leverage of Federal infrastructure investments;
- assuring long-term performance of capital infrastructure investments;
- modernizing infrastructure project delivery practices;
- increasing economic growth;
- spurring the development and use of new and rapidly evolving infrastructure technology to improve cost and improve performance; and
- ensuring Federal grant recipients are accountable for achieving specific, measurable milestones.

#### **B. Applicability**

The Incentives Program would provide support to wide-ranging classes of assets, including the following governmental infrastructure: surface transportation and airports, passenger rail, ports and waterways, flood control, water supply, hydropower, water resources, drinking water facilities, wastewater facilities, stormwater facilities, and Brownfield and Superfund sites.

#### **C. Funding**

- \$100 billion would be made available for the Incentives Program. The funds would be divided in specific amounts to be administered by the United States Department of Transportation (DOT), United States Army Corps of Engineers (USACE), and Environmental Protection Agency (EPA).

- Other Federal agencies seeking to incentivize eligible projects within their areas of jurisdiction could petition DOT, USACE, or EPA to transfer Incentives Program funds to be used consistent with the requirements under the program.
- A percentage of the Incentives Program funds would be set aside for temporary administrative expenses necessary to administer the program.

#### **D. Applications and Evaluation Criteria**

- Each lead Federal agency would solicit applications as soon as practicable after enactment of the Incentives Program and every six months thereafter.
- Each lead Federal agency would determine the content, format, and timing of applications and would make incentive awards. Applications also would include information on each of the evaluation criteria.
- The evaluation criteria would be—
  - the dollar value of the project or program of projects (weighted at 10 percent);
  - evidence supporting how the applicant will secure and commit new, non-Federal revenue to create sustainable, long-term funding for infrastructure investments (weighted at 50 percent);
  - evidence supporting how the applicant will secure and commit new, non-Federal revenue for operations, maintenance and rehabilitation (weighted at 20 percent);
  - updates to procurement policies and project delivery approaches to improve efficiency in project delivery and operations (weighted at 10 percent);
  - plans to incorporate new and evolving technologies (weighted at 5 percent); and
  - evidence supporting how the project will spur economic and social returns on investment (weighted at 5 percent).
- Each lead Federal agency would calculate each application score by multiplying the weighted score from the evaluation criteria by the percentage of non-Federal revenues (out of total revenues) that would be used to fund the project or program of projects.
- To ensure that applicants could receive credit for actions that occurred prior to the enactment of the Incentives Program that align with the desired outcomes of the program, the Incentives Program would include a look-back period. The look-back period would be defined as the time preceding the project sponsor's completed application during which the new revenue generation was implemented. Subsequent applications in later years would add such additional time to the time after enactment of the program. The look-back period would be three years before the date of application to the program, and the determination would be made based on the implementation date (or take effect date) of the new revenue source. In evaluating applications, the project sponsor's new revenue application score would be multiplied by a relevant multiplier to determine scoring as illustrated below:



Years Passed	New Revenue Credit Score Multiplier
>3	X percent
2-3	X percent
1-2	X percent
0-1	X percent
After February 2018	100 percent

- The lead Federal agency would have sole discretion to provide credit for previous revenue generation. The agency could request additional information from a project sponsor to clarify how the revenue source has met expectations and revise forecasts to reflect actual performance. The amount of funds dedicated to the look-back would not exceed 5 percent of the total amount for the Incentives Program.

**E. Incentive Grant Awards**

- An incentive grant could not exceed 20 percent of new revenue.
- Any individual State could not receive more than 10 percent of the total amount available under the Incentives Program.
- The lead Federal agency and the grant recipient would enter into an infrastructure incentives agreement setting forth progress milestones toward obtaining increased revenue that the recipient would achieve prior to receiving the grant award, which could include advance grant disbursements.
- Any agreement with incomplete milestones after two years would be voided, except upon determination by the lead Federal agency that good cause exists to renew the agreement for an additional period not to exceed one year. Any funds available from a voided agreement could be re-allocated through a new application process.

**II. RURAL INFRASTRUCTURE PROGRAM**

The Rural Infrastructure Program, described, below would provide for significant investment in rural infrastructure to address long-unmet needs. This investment is needed to spur prosperous rural economies, facilitate freight movement, improve access to reliable and affordable transportation options and enhance health and safety for residents and businesses. Under this program, States would be incentivized to partner with local and private investments for completion and operation of rural infrastructure projects.

**A. Establishment of Rural Infrastructure Program**

This provision would establish a Rural Infrastructure Program to—

- improve the condition and capability of rural infrastructure through capital improvements and outcomes-driven planning efforts that enhance private

sector productivity, modernize existing infrastructure systems, and prioritize projects essential for efficiency and safety;

- expand access to markets, customers, and employment opportunities with projects that sustain and grow business revenue and personal income for rural Americans;
- enhance regional connectivity through public and private interregional and interstate rural projects and initiatives that reduce costs for sustaining safe, quality rural communities; and
- increase rural economic growth and competitiveness by closing local infrastructure gaps in development-ready areas to attract manufacturing and economic growth to rural America.

#### **B. Applicability**

- Eligible asset classes under the Rural Infrastructure Program would include:
  - Transportation: roads, bridges, public transit, rail, airports, and maritime and inland waterway ports.
  - Broadband (and other high-speed data and communication conduits).
  - Water and Waste: drinking water, wastewater, stormwater, land revitalization and Brownfields.
  - Power and Electric: governmental generation, transmission and distribution facilities.
  - Water Resources: flood risk management, water supply, and waterways.
- This program only would apply to the specified asset classes and to other infrastructure assets directly attributable to, and essential to, the operation of those assets.

#### **C. Funding**

- \$50 billion would be made available to the Rural Infrastructure Program for capital investments in rural infrastructure investments.
- 80 percent of the funds under the Rural Infrastructure Program would be provided to the governor of each State via formula distribution. The governors, in consultation with a designated Federal agency and State directors of rural development, would have discretion to choose individual investments to respond to the unique rural needs of their States.
- 20 percent of the funds under the Rural Infrastructure Program would be reserved for rural performance grants within eligible asset classes and according to specified criteria.
- Funds made available to States under this program would be distributed as block grants to be used for infrastructure projects in rural areas with populations of less than 50,000.
- A portion of the Rural Infrastructure Program funds would be set aside for Tribal infrastructure and territorial infrastructure, with the remainder available for States.

#### **D. Distribution of Rural Infrastructure Program Formula Funds**

- The statute would create a “rural formula,” calculated based on rural lane miles and rural population adjusted to reflect policy objectives. Each State would receive no less than a specified statutory minimum and no more than a specified statutory maximum of the Rural Infrastructure Program formula funds, automatically.

**E. Applications and Evaluation Criteria for Rural Performance Grants**

- In addition to receiving formula funds under the Rural Infrastructure Program, States also could apply for rural performance grants and would be encouraged to do so within two years after enactment. Rural performance grants would be available for up to ten years after enactment or until funds were expended. In order to qualify for rural performance grants, a State would be required to:
  - Publish a comprehensive rural infrastructure investment plan (RIIP) within 180 days of receiving rural formula funds. The RIIP would demonstrate how the State’s intended rural projects align with the evaluation criteria in the infrastructure incentives program, including State, local and private sector investment in eligible projects.
  - Demonstrate the quality of any investments planned with rural performance funds.
  - Demonstrate performance in leveraging formula distributions with Federal credit programs and rewarding rural interstate projects through the infrastructure incentives program.
  - Demonstrate the State’s performance in utilization of Rural Infrastructure Program formula funds, consistent with the RIIP based on stated general criteria.
- For specific sectors, a State also would demonstrate other criteria the administering agency determines appropriate consistent with this program, including increased broadband availability and investment.

**F. Tribal Infrastructure**

- The Rural Infrastructure Program also would ensure investment in Tribal infrastructure by providing dedicated funding to the Secretary of Transportation for distribution through the Tribal Transportation Program and to the Secretary of Interior for distribution through grants or awards to Tribes determined by a process created in consultation with Tribes.

**G. Territorial Infrastructure**

- The Rural Infrastructure Program also would provide dedicated funding to address infrastructure needs of U.S. Territories.

**III. TRANSFORMATIVE PROJECTS PROGRAM**

The Transformative Projects Program, described below, would provide Federal funding and technical assistance for bold, innovative, and transformative infrastructure projects that could dramatically improve infrastructure. Funding under this program would be awarded on a competitive basis to projects that are likely to be commercially viable, but that possess unique technical and risk characteristics that otherwise deter private sector investment. The Transformative Projects Program would support projects that, with Federal support, are capable of generating revenue, would provide net public benefits, and would have a significant positive impact on the Nation, a region, State, or metropolitan area.

**A. Establishment of Transformative Projects Program**

This provision would establish a program to advance transformative projects. The purposes of the Transformative Projects Program would include—

- significantly improving performance, from the perspective of availability, safety, reliability, frequency, and service speed;
- substantially reducing user costs for services;
- introducing new types of services; and
- improving services based on other related metrics.

**B. Applicability**

- The Transformative Projects Program would fundamentally transform the way infrastructure is delivered or operated. They would be ambitious, exploratory, and ground-breaking project ideas that have significantly more risk than standard infrastructure projects, but offer a much larger reward profile.
- Infrastructure sectors covered by this program could include, but would not be limited to, the transportation, clean water, drinking water, energy, commercial space, and broadband sectors.

**C. Funding**

- \$20 billion would be made available for the Transformative Projects Program.
- The Department of Commerce (DOC) would serve as the Chair for the purposes of program administration and could request other relevant Federal agency employees to serve on a temporary assignment to assist in the administration of this program.
- A percentage of the Transformative Projects Program funds would be set aside for temporary administrative expenses necessary to administer the program, including technical assistance.

**D. Funding Tracks**

- Funding under this program would be available under three tracks, each of which would be designed to support a distinct phase of the project life cycle:

demonstration, project planning, and capital construction. Applicants could apply for funding under all three tracks or under individual tracks.

- To optimize the return on taxpayer investment, funding under this program could be used for—
  - up to 30 percent of eligible costs under the demonstration track;
  - up to 50 percent of eligible costs under the project planning track; and
  - up to 80 percent of eligible costs under the capital construction track.

#### **E. Technical Assistance**

- An applicant could seek technical assistance from the Federal Government in addition to the funding tracks, or could seek technical assistance alone under the Transformative Projects Program.

#### **F. Applications and Evaluation Criteria**

- The DOC would administer the Transformative Projects Program with an interagency selection committee composed of representatives of relevant Federal agencies. The Secretary of Commerce would serve as the chair of the committee. Given the multidisciplinary nature of the Transformative Projects Program, interagency evaluation panels comprised of individuals from the applicable Federal agencies would review and evaluate all applications.

#### **G. Partnership Agreement and Project Milestones**

- Applicants selected for award under the Transformative Projects Program would enter into a partnership agreement with the Federal Government, which would specify the terms and conditions of the award, major milestones, and other key metrics to assess performance.

#### **H. Value Sharing Structure for Capital Construction Track**

- As a condition of receiving any financial assistance for a construction project under the capital construction track, an applicant would be required to include in its partnership agreement a value share agreement with the Federal Government. The terms of the value share agreement would vary by project based on the characteristics of the specific project and its projected revenue profile. Each agreement would provide the terms for the Federal Government to share in any project value.

#### **I. Performance Monitoring and Oversight**

- Given the innovation and substantial Federal support projects would receive under this program, the recipients would be required to publish performance information upon achieving milestones and upon project completion. The lead

Federal agencies also would conduct regular audits to ensure that funds were used for eligible costs.

#### **IV. INFRASTRUCTURE FINANCING PROGRAMS**

The below infrastructure financing proposals would dedicate \$20 billion of the overall amount to advance major, complex infrastructure projects by increasing the capacity of existing Federal credit programs to fund investments and by broadening the use of Private Activity Bonds (PABs).

Of the appropriated funds, \$14 billion would be made available for the expansion of existing credit programs to address a broader range of infrastructure needs, giving State and local governments increased opportunity to finance large-scale infrastructure projects under terms that are more advantageous than in the financial market. All funds remaining in credit programs ten years after enactment would be diverted to the Federal capital financing fund, to allow for efficient acquisition of real property.

The budgetary cost for the expansion of PABs would be \$6 billion. These provisions would provide tools and mechanisms for market participants to invest in public infrastructure.

##### **A. Expand Transportation Infrastructure Finance and Innovation Act (TIFIA) Funding and Broaden Program Eligibility**

- Additional budget authority would be made available to DOT for subsidy costs under TIFIA. Specific funds set aside from the appropriated subsidy would be appropriated to DOT, notwithstanding Section 2001 of the Fixing America's Surface Transportation Act of 2015, and would remain available until end of Fiscal Year 2028.
- *Support airport and non-Federal waterways and ports financing options.* TIFIA currently limits project eligibility to those that are eligible for Federal assistance through existing surface transportation programs (highway projects and transit capital projects). Port and airport infrastructure enhancement and expansion projects across the United States do not have access to the credit assistance that is available via TIFIA for other types of transportation infrastructure projects, making it more difficult for project sponsors to pursue alternative project delivery for airports and to implement critical airport infrastructure improvements. Amending the project eligibility in the TIFIA statute to enable TIFIA to offer loans and other credit assistance to non-Federal waterways and ports and airport projects (such as renovated or new passenger terminals, runways, and related facilities) would incentivize project delivery for airports and ports and would accelerate overall improvements in airport and seaport infrastructure.

##### **B. Expand Railroad Rehabilitation and Improvement Financing (RRIF) and Broaden Program Eligibility**

- Additional budget authority would be made available to DOT for subsidy costs under RRIF. Specific funds set aside from the appropriated subsidy would be appropriated to DOT, notwithstanding Section 2001 of the Fixing America's Surface Transportation Act of 2015, and would remain available until end of Fiscal Year 2028.
- **Subsidize RRIF for short-line freight and passenger rail.** The current RRIF law does not provide specific subsidies or incentives for either short-line freight rail or passenger rail projects. A subsidy is not currently provided to cover the cost of the RRIF credit risk premium, so the project sponsor is always required to pay that amount at the time of the loan disbursement. The cost of the credit risk premium is often cited as one of the reasons that project sponsors, including those in the short-line freight rail and passenger rail sectors, are reluctant to pursue RRIF financing. Amending the law (45 U.S.C. 822) to provide a subsidy to cover the RRIF credit risk premium for short-line freight and passenger rail project sponsors would incentivize more project sponsors to pursue RRIF credit assistance for projects. This, in turn, would leverage more State and local funds for rail infrastructure development.

**C. Expand Water Infrastructure Finance and Innovation Act (WIFIA) Funding and Broaden Program Eligibility**

- Additional budget authority would be made available to EPA for subsidy costs under WIFIA, and the current lending limit of \$3.2 billion would be removed. Specific funds set aside from the appropriated subsidy would be appropriated to the EPA, notwithstanding Section 5033 of the Water Infrastructure Finance and Innovation Act of 2014, and would remain available until end of Fiscal Year 2028.
- This proposal includes the following additional reforms to WIFIA:
  - **Expand EPA's WIFIA authorization to include non-Federal flood mitigation, navigation and water supply.** Currently, WIFIA is authorized for almost all types of water projects. While EPA has drought mitigation and stormwater mitigation authorities, it lacks authority for flood mitigation, hurricane and storm damage reduction, navigation, environmental restoration, and restoration of aquatic ecosystems (which has principally been within USACE's jurisdiction). This creates an unnecessary and arbitrary carve-out of integrated water projects to which EPA is unable to provide loans because those types of projects are not authorized by EPA, only by USACE. Amending the law (33 U.S.C. 3905) to include flood mitigation, navigation and water supply would allow EPA to service the full water cycle and provide one streamlined and integrated lending process to project sponsors.
  - **Eliminate requirement under WIFIA for borrowers to be community water systems.** Currently, a public authority that sells water directly to another water provider is not a community water system and is not eligible for WIFIA funding unless specific statutory authority is provided. Without explicit statutory eligibility, this type of public authority (e.g., a desalination

- plant) is unable to receive WIFIA funding. Removing the restriction that requires borrowers to be “community water systems” instead of just “water systems” (33 U.S.C. 3905) would allow drinking water providers and other public authorities to participate in WIFIA and the Drinking Water State Revolving Fund (DWSRF) programs.
- **Authorize Brownfield rehabilitation and cleanup of Superfund sites under WIFIA.** Currently, only specific water sector projects are authorized under WIFIA. Brownfield and Superfund programs do not have access to a Federal lending program that requires large upfront funding and repayment based on later development. Broadening eligibility under WIFIA (33 U.S.C. 3905) to include remediation of water quality contamination by non-liable parties at Brownfield and Superfund sites would enable greater use of the program to address water quality issues. A separate account would be appropriate for individual eligibilities and ranking metrics because new revenues would be more speculative and would lower the leveragability ratio for all WIFIA loans.
  - **Reduce rating agency opinions from two to one for all borrowers.** Current law requires borrowers to provide two opinion letters from rating agencies for WIFIA loans. Opinion letters can be expensive and time intensive for borrowers to obtain. Reducing from the number of required rating agency final opinions for borrowers (33 U.S.C. 3907) to allow for one opinion letter instead of two would reduce WIFIA borrowing costs for borrowers. At the same time, retaining agency authority to request two letters from a borrower under WIFIA would ensure continued protection of Federal interests and would minimize default risk when a project warrants a second letter.
  - **Provide EPA authority to waive the springing lien in certain lending situations.** Currently, loans under WIFIA must have a springing lien in place. This is a problem when a project sponsor has outstanding senior debt obligations. Without a waiver to the springing lien requirement, the sponsor has to use more expensive debt, and WIFIA has less security in the special purpose vehicle. Amending the law (33 U.S.C. 3908(b)) to allow for a waiver of the WIFIA springing lien in certain instances similar to the TIFIA statute (23 U.S.C. 603(b)) (i.e., where a project has an A category rating, where the pledge is not dependent on project revenue, or where the borrower is a public sector borrower) would allow for the most efficient capital structure for agencies with existing senior debt.
  - **Increase the base level of administrative funding authorized to ensure EPA has sufficient funding to operate the WIFIA program.** The current authorized administrative funds level for EPA was determined when WIFIA was a pilot program and may not be sufficient to cover both administrative costs and the fronting of underwriting costs, especially with our proposed expansion of WIFIA. Authorizing an administrative set-aside (33 U.S.C. 3912(b)) to an amount in line with similar programs would more accurately reflect the costs required to administer the WIFIA program and would allow for hiring appropriate staff for the oversight efforts associated with a larger portfolio.



- ***Remove the restriction on the ability to reimburse costs incurred prior to loan closing under WIFIA.*** A recent amendment to WIFIA restricts the WIFIA program's ability to reimburse costs incurred prior to loan closing. This amendment, part of the Water Infrastructure Improvements for the Nation Act (WIIN Act), attempts to ensure that costs incurred prior to loan closing may be considered eligible project costs. However, the WIIN amendment only allows non-WIFIA funds to reimburse the costs. Revising the law (33 U.S.C. 3908(b)) to provide that costs incurred prior to loan closing are eligible costs that can be covered by the WIFIA loan would prevent the borrower from having to raise significant sums of money prior to loan closing.
- ***Expand the WIFIA program to authorize eligibility for credit assistance for water system acquisitions and restructurings.*** Currently, projects only are allowed to access WIFIA for acquisitions of water systems prior to substantial completion, similar to TIFIA. This prevents WIFIA funds from being used for acquisition of water systems after they are completed, or substantially completed. Expanding WIFIA authorization (33 U.S.C. 3905) to allow for acquisitions and restructurings would enable WIFIA as a mechanism for consolidation in the water industry.
- ***Expand WIFIA authorization to include Federal deauthorized water resource projects.*** Currently, WIFIA is authorized for non-Federal water resource projects unless they are deemed Federal projects. Once deemed Federal, a project is no longer eligible for WIFIA borrowing, even if no Federal funding is used. This hinders the ability to incentivize non-Federal involvement for USACE projects. Authorizing USACE to defederalize water resource projects upon transfer of title and ownership from the Federal Government to a willing and capable non-Federal entity would enable WIFIA to be used for these projects.

**D. Expand Department of Agriculture Rural Utilities Service (RUS) Lending Programs Funding**

- Additional budget authority would be made available to the USDA for loan subsidy costs under RUS lending programs. Specific funds set aside from the appropriated subsidy would be made available to the USDA, notwithstanding applicable sections of the Agriculture Act of 2014, and would remain available until end of Fiscal Year 2028.

**E. Create Flexibility and Broaden Eligibility to Facilitate use of Private Activity Bonds (PABs)**

- These provisions would create flexibility and broaden eligibility to facilitate use of PABs to leverage financing for public-purpose infrastructure projects. These provisions also would allow for greater Federal leverage and therefore more efficient infrastructure improvements.

- **Require public attributes for public infrastructure projects.** In extending tax exemptions to private enterprises, tax benefits could go to purely private enterprises, which would not be beneficial to the public or a sound use of public tax benefits. Requiring public infrastructure projects to have the following public attributes would ensure the public nature of eligible infrastructure—
  - either State or local governmental ownership or private ownership under arrangements in which rates charged for services or use of projects are subject to State or local governmental regulatory or contractual control or approval; and
  - availability of projects for general public use (e.g., public roads) or provision of services to the general public (e.g., water service).

For purposes of the governmental ownership alternative under the public attributes requirement, a new safe harbor would treat a project as governmentally owned when a State or local governmental unit leases the project to a private business provided that—

- the term of the private lease is no longer than 95 percent (rather than 80 percent under the existing safe harbor) of the reasonably expected economic life of the project;
  - the private lessee irrevocably agrees not to take depreciation or investment tax credit with respect to the project; and
  - the private lessee has no option to purchase the project other than at fair market value.
- **Broaden eligibility of PABs.** Current law includes a limited list of exempt facilities eligible to be financed with tax-exempt bonds. Additionally, different categories of exempt facilities are subject to varying requirements, which restricts the usefulness of PABs. This limits the potential financing tools that can be used to facilitate performance-based infrastructure, both for a wide variety of transportation projects and other public-purpose infrastructure projects. The revised parameters would allow longer-term private leases and concession arrangements for projects financed with PABs. Amending the law (26 U.S.C. 142) to allow broader categories of public-purpose infrastructure, including reconstruction projects, to take advantage of PABs would encourage more private investment in projects that benefit the public. Allowing privately financed infrastructure projects to benefit from similar tax-exempt financing as publicly financed infrastructure projects would increase infrastructure investment. This proposal would expand and modify eligible exempt facilities for PABs to include the following public infrastructure projects.
    - Existing categories:
      - airports (existing category);
      - docks, wharves, maritime and inland waterway ports, and waterway infrastructure, including dredging and navigation improvements (expanded existing category);
      - mass commuting facilities (existing category);
      - facilities for the furnishing of water (existing category);
      - sewage facilities (existing category);
      - solid waste disposal facilities (existing category);

- Modified categories:
  - qualified surface transportation facilities, including roads, bridges, tunnels, passenger railroads, surface freight transfer facilities, and other facilities that are eligible for Federal credit assistance under title 23 or 49 (i.e., qualified projects under TIFIA) (existing category with modified description);
  - hydroelectric power generating facilities (expanded existing category beyond environmental enhancements to include new construction);
  - flood control and stormwater facilities (new category);
  - rural broadband service facilities (new category); and
  - environmental remediation costs on Brownfield and Superfund sites (new category).
- ***Eliminate the Alternative Minimum Tax preference on PABs.*** One reason why PABs have been underutilized is due to the punitive market interest rate effect of the Alternative Minimum Tax (AMT) tax preference on PABs, which adds an estimated 30–40 basis points (0.30–0.40 percent) yield premium to the borrowing rate for PABs compared to traditional governmental municipal bonds due to the more limited demand. This creates inconsistent premiums for service providers and disincentives for borrowers to use this financing mechanisms. Eliminating the AMT preference on PABs would lower borrowing costs and increase the utilization of PABs.
- ***Remove State volume caps and transportation volume caps on PABs for public purpose infrastructure projects and expand eligibility to ports and airports.*** Clean water and drinking water projects currently are subject to State volume caps for PABs, based on population. In recent years, as little as 1–1.5 percent of all exempt bonds were issued to water and wastewater projects. Exceptions from the volume cap currently are provided for other governmentally owned facilities such as airports, ports, housing, high-speed intercity rail, and solid waste disposal sites. Additionally, many performance-based infrastructure projects for transportation facilities described in 26 U.S.C. 142(m) have taken advantage of PABs, which allow private sector developers to benefit from similar tax-exempt subsidies provided to public sector borrowers. The law establishes a nationwide volume cap of \$15 billion for these projects, to be allocated by the Secretary of Transportation.
  - These caps create uncertainty as to the availability of PABs in the future, as projects require long lead times for development, and no additional PABs may be issued for this type of facility once the cap has been exhausted.
  - Amending 26 U.S.C. 146 to remove the population-based volume cap applicable to PABs for public purpose infrastructure projects of the types covered by this proposal that have the requisite public attributes would level the playing field between public and private service providers.
  - Amending 26 U.S.C. 142(m) to eliminate the nationwide cap would provide certainty that PABs would be available to a project sponsor as it developed and evaluated a project's financial strategy. This provision would apply only if a State volume cap did not already apply.

- ***Provide change-of-use provisions to preserve the tax-exempt status of governmental bonds.*** Currently, when a public project is purchased by a private service provider, the tax-exempt status is eliminated when the private use limits on government bonds are exceeded. This creates a structural barrier to the private sector acquiring projects because that cost premium must be funded at closing. Adding change-of-use curative provisions (26 U.S.C. 150) to protect the tax-exempt status of governmental bonds in transactions involving private business use of projects financed with governmental bonds that otherwise would violate private business use limits on those bonds (e.g., private leases) would eliminate this private sector barrier. One curative action would allow alternative business use of the public project in a manner that would qualify as an infrastructure project eligible for a new issuance of PABs under the proposal. Another curative action would allow recycling of an amount equal to the total present value of a private lease of any project financed with governmental bonds into expenditures for governmental use within two years of the lease.
- ***Provide change-of-use cures for private leasing of projects to ensure preservation of tax exemption for infrastructure projects.*** Currently, Treasury regulations allow certain change-of-use remedial actions to preserve the tax exemption for the tax-exempt governmental bonds upon a violation of private business use restrictions. Existing remedial actions include: defeasance of the outstanding bonds, “recycling” amounts received to qualifying government uses within two years, or alternative use of a project in a way that would qualify for tax-exempt bonds (including PABs) if retested at the time of use. These change-of-use cures do not include private leasing as a remedial action that would preserve tax-exempt status of the bonds. Therefore, the private sector market participants are not able to access the tax-exempt debt market for public infrastructure. Providing for tailored change-of-use remedial actions that preserve the tax exemption status upon private leasing of projects subject to outstanding tax-exempt government bonds or allowing “recycling” the total present value of the private lease payments into public and governmental uses within two years would ensure the assets retain the tax-exempt status of the associated debt obligations.

## V. PUBLIC LANDS INFRASTRUCTURE

The below public lands provisions would enable the additional revenues generated from energy development on public lands to pay for capital and maintenance needs of public lands infrastructure. The Department of the Interior (DOI) manages an extensive infrastructure asset portfolio. The infrastructure managed by the DOI includes approximately 100,000 miles of roads as well as dams, bridges, and irrigation and power infrastructure. Taking care of this significant asset portfolio is a persistent challenge. The National Park Service (NPS) has a deferred maintenance backlog of \$11.3 billion, half of which is for roads, bridges and tunnels, and the U.S. Fish and Wildlife Service also has a deferred maintenance backlog of \$1.2 billion. To address this infrastructure need, this provision would establish a new infrastructure fund in the U.S. Treasury entitled the Interior Maintenance Fund (Fund) comprised of

additional revenues from the amounts due and payable to the United States from mineral and energy development on Federal lands and waters.

**A. Establish Interior Maintenance Fund**

- Currently, receipts generated from mineral and energy development on public lands are not available for capital and maintenance of public infrastructure.
- This limitation perpetuates the deferred maintenance backlog for public lands infrastructure.
- Allowing half of additional receipts generated by expanded Federal energy development to be deposited into the Fund would help the DOI address this backlog. Such receipts would be deposited into the Fund until the cumulative amount deposited had reached \$18 billion.
- The receipts deposited in the Fund would be made available to the Secretary of the Interior, without fiscal year limitation, to address the deferred maintenance and capital needs for infrastructure in national parks and wildlife refuges.
- The DOI would use its capital asset management systems to prioritize projects, monitor implementation, and measure results.

**VI. DISPOSITION OF FEDERAL REAL PROPERTY**

The below provisions would establish authority to allow for the disposal of Federal assets to improve the allocation of economic resources in infrastructure investment.

**A. Codify Accelerated Depreciation for the Disposition of Non-Federal Assets with a Federal Interest Due to Grant Receipt**

- Currently, it is unclear which disposition actions utilities and municipalities may have undertaken with assets funded by Federal construction grants and earmarks. Prior to Executive Order 12803—Infrastructure Privatization (1992)—the federally funded share of any disposed asset was to be returned to Treasury.
- This lack of clarity results in project sponsors not understanding their responsibilities and benefits when disposing of federally funded assets and some sponsors choosing not to dispose of assets due to incorrect assumptions.
- Codifying Executive Order 12803 would allow accelerated depreciation for the disposition of non-Federal assets and application of those rules to any dispositions undertaken since issuance of the Executive Order. Directing the agencies to provide guidance on implementation also would provide clarity for utilities and municipalities when divesting or privatizing assets.

**B. Streamline and Improve the Federal Real Property Disposal Process**

- The current statutory disposal process for real property is governed primarily by title 40 of the United States Code, with many requirements that are burdensome and delay sale or disposal of federally owned assets.

- The Federal real property civilian inventory is comprised of facilities with an average age of 47 years, many of which are inefficient and outdated. Today, agencies require more flexible work environments; however, the Government largely is unable to tap into the value of the portfolio due to the current statutory limitations.
- Amending the statute to allow agencies to move property to market more quickly and retain the gross proceeds of sale would allow the Government to be more nimble and lower costs.
  - **Allow the Government to take assets no longer needed by any Federal agency directly to market.** Currently, title 40 of the United States Code requires agencies to screen a potential disposal for at least 12 public benefit conveyance requirements. State and local governments and certain non-profit institutions may acquire surplus real property at discounts of up to 100 percent for various types of public use. This process can take years to complete. Allowing the Government to take assets no longer needed by any Federal agency directly to market would allow any interested party to purchase assets at fair market value without any preferences or right of first refusal.
  - **Retain proceeds for reinvestment in agency real property requirements.** Under current law, most agencies lack retention of proceeds authority, and nearly all agencies with retention authority require an appropriation to access the funds. This creates a disincentive to agency disposition action and prevents reinvestment in mission-critical Federal facilities. Amending the statute to allow retention of proceeds and expenditure without future authorization or appropriation would allow agencies to take immediate action reinvesting in critical real property assets, reconfiguring space to improve utilization and lower costs, and disposing of additional unneeded assets. This provision also would allow proceeds to be retained without fiscal year limitation.
  - **Expand the allowable uses of the General Services Administration (GSA) Disposal Fund.** Current authority limits GSA assistance to other Federal agencies for those activities that occur after a report of excess (which highlights unneeded real property). GSA does not have authority to help agencies on activities that prepare for the report of excess, which inhibits the agencies' ability to dispose of assets. Additionally, agencies do not always complete these activities because agencies must fund them from their limited resources. Expanding authority to allow GSA to support activities that occur prior to the report of excess, including identifying, preparing, and divesting properties prior to the report of excess, would reduce the Federal footprint and allow more efficient asset management. Under this provision, the same account properties would remain, allowing GSA to recover costs from the gross proceeds prior to agency retention.
  - **Eliminate the requirement to transfer funds above the identified threshold to the Land and Water Conservation Fund.** Current non-GSA property disposal under title 40 requires a transfer to the Land and Water Conservation Fund. Eliminating the requirement to transfer funds above the identified

threshold to the Land and Water Conservation Fund would maximize the funds available to support disposition actions.

**C. Authorize Federal Divestiture of Assets that Would Be Better Managed by State, Local, or Private Entities**

- The Federal Government owns and operates certain infrastructure that would be more appropriately owned by State, local, or private entities.
- For example, the vast majority of the Nation's electricity needs are met through for-profit investor-owned utilities. Federal ownership of these assets can result in sub-optimal investment decisions and create risk for taxpayers.
- Providing Federal agencies authority to divest of Federal assets where the agencies can demonstrate an increase in value from the sale would optimize the taxpayer value for Federal assets. To utilize this authority, an agency would delineate how proceeds would be spent and identify appropriate conditions under which sales would be made. An agency also would conduct a study or analysis to show the increase in value from divestiture. Examples of assets for potential divestiture include—
  - Southwestern Power Administration's transmission assets;
  - Western Area Power Administration's transmission assets;
  - Ronald Reagan Washington National and Dulles International Airports;
  - George Washington and Baltimore Washington Parkways;
  - Tennessee Valley Authority transmission assets;
  - Bonneville Power Administration's transmission assets; and
  - Washington Aqueduct.

**VII. FEDERAL CAPITAL FINANCING FUND**

Before an agency can purchase real property, it must receive an appropriation for the full purchase price. The full appropriation scores in that year against the discretionary caps and against the maximum funding (the 302(b) allocation) that the Appropriations Subcommittee can provide. This is problematic for large-dollar, irregular acquisitions because they must compete with agency operating and programmatic expenses for the limited resources available. The below provisions would create a funding mechanism to address this issue.

**A. Create Federal Capital Financing Fund**

- Too often, tight spending limits mean that purchases are not funded, and agencies must resort to signing long-term leases. These are always more expensive to taxpayers over the long run because Treasury can always borrow at the lowest rate. Because rent is obligated one year at a time, the lease payments can fit within an agency's budget without disrupting other needs. In contrast, private firms and State and local governments budget for purchases of real property in separate capital budgets so that real property purchases do not compete with annual operating needs. Their system allows proposed purchases

- to be compared to each other and ranked such that the ones with the highest return on investment are funded within the total capital budget.
- This provision would create a funding mechanism that is similar to a capital budget but operates within the traditional rules used for the Federal budget by establishing a mandatory revolving fund to finance purchases of federally owned civilian real property. Of the total appropriation, \$10 billion would be made available to capitalize the revolving fund. Upon approval in an Appropriations Act, the revolving fund would transfer money to agencies to finance large-dollar real property purchases. Purchasing agencies would then be required to repay the fund in 15 equal annual amounts using discretionary appropriations.
  - As a result, purchases of real property assets would no longer compete with annual operating and programmatic expenses for the limited funding available under tight discretionary caps. Instead, agencies would pay for real property over time as the property were utilized. The repayments would be made from future appropriations, which would provide an incentive to select projects with the highest return on investment, including future cost avoidance. The repayments also would replenish the revolving fund so that real property could continually be replaced as needed.

## **PART 2—ADDITIONAL PROVISIONS FOR INFRASTRUCTURE IMPROVEMENTS**

### **I. TRANSPORTATION**

These provisions would incentivize and remove barriers to the development and improvement of transportation infrastructure in our Nation. These provisions would encourage and incentivize alternative project delivery, including State, tribal, local and private investment, in transportation; streamline Federal procedures for delivering transportation projects; and decrease barriers and reduce unnecessary Federal oversight to facilitate timely delivery of projects. This renewed investment in transportation would strengthen our economy, enhance our competitiveness in world trade, create jobs and increase wages for our workers, and reduce the costs of goods and services for our families.

#### **A. Financing**

##### **1. Provide States Tolling Flexibility**

- **Provide States flexibility to toll on Interstates and reinvest toll revenues in infrastructure.** Currently, Federal law allows tolling Interstates in limited circumstances. Tolling restrictions foreclose what might otherwise serve as a major source of revenue for infrastructure investment. Providing States flexibility to toll existing Interstates would generate additional revenues for States to invest in surface transportation infrastructure. Current requirements that States must reinvest toll revenues in infrastructure would continue to apply.



- **Reconcile the grandfathered restrictions on use of highway toll revenues with current law.** Toll facilities that received Federal approval under the Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURRA) may use toll revenues only for the construction, reconstruction, operation, and debt service of the toll facility itself. Current law, however, allows other toll facilities to use toll revenues (in addition to the costs noted above) on other title 23 projects. The tighter restrictions, specific to the STURRA toll facilities, prevent some States from devoting existing toll revenues to other critical highway projects. Adjusting the STURRA “use of revenues” provisions to align with current toll authorities would free these resources and allow other critical highway projects to go forward.
2. ***Extend Streamlined Passenger Facility Charge Process from Non-hub Airports to Small Hub Airports***
    - Current law (49 U.S.C. 40117) outlines the application process to impose passenger facility charges (PFCs), as well as the approval process and pilot program for alternative procedures. Small, medium, and large hub airports must provide extensive documentation in PFC applications to demonstrate the eligibility, justification, objective, project costs, significant contribution (large and medium hubs) and other requirements. The streamlined non-hub process requires reduced information, primarily relating to project descriptions and costs.
    - Current law creates an unreasonable burden on small hub airports filing PFC applications.
    - Extending the streamlined PFC process to small hub airports would allow these airports to more readily fund needed development as well as reduce delays and unnecessary requirements in the PFC process.
  3. ***Provide States Flexibility to Commercialize Interstate Rest Areas***
    - Federal law prohibits most commercial activity within the Interstate right-of-way, including at Interstate rest areas.
    - This limits infrastructure investment opportunities and the ability to generate revenues to operate and maintain Interstates.
    - Amending the law (23 U.S.C. 111) to provide States flexibility to commercialize Interstate rest areas, and requiring the revenues to be reinvested in the corridor in which they are generated, would support new infrastructure investment. States would not be permitted to charge fees for essential services such as water or access to restrooms.
  4. ***Provide New Flexibility for Transportation Projects with De Minimis Federal Share***
    - Under current law, even when a State or private sector entity provides the majority of the funding for a project, it still must seek review and approval under the laws of any Federal agency with jurisdiction.

- The additional procedures, costs and time delays associated with Federal requirements discourage infrastructure investments by State and local entities and private investors. Federal requirements also contribute to unnecessary delays in delivering needed projects even when the Federal interest is small.
  - Amending titles 23 and 49 to provide targeted flexibility pertaining to the application of Federal requirements where the project funding is primarily non-Federal and the Federal share is minimal would increase investments in infrastructure and reduce project delays and costs.
5. *Expand Qualified Credit Assistance and Other Capabilities for State Infrastructure Banks*
- State infrastructure banks (SIBs) currently are underutilized.
  - This underutilization can inhibit State and local governments from best directing Federal funds to infrastructure projects.
  - Providing incentives to use SIBs, such as reducing federalization requirements on funds lent to SIBs that are deployed locally, could encourage the use of SIBs. Expanding the legal capabilities of SIBs, in addition to direct appropriations, would allow SIBs to take responsibility for infrastructure funding in an effective manner that may not be possible for the Federal Government, particularly for rural projects or projects of smaller total cost.
- B. Highways**
1. *Authorize Federal Land Management Agencies to Use Contracting Methods Available to States*
- Current law authorizes State departments of transportation (State DOTs) and local governments to use a range of commonly used project delivery methods (e.g., electronic bidding, bridge bundling, project bundling, construction manager-general contractor), but does not authorize Federal Land Management Agencies (FLMAs) to use these same methods—even when the FLMAs are delivering projects with title 23 funds.
  - This constrains FLMAs' procurement options, which in some cases increases the cost or timeline for delivering Federal lands highway projects.
  - Expanding to FLMAs all title 23 contracting methods (for projects funded with title 23 funds) would enable more efficient delivery of these projects.
2. *Raise the Cost Threshold for Major Project Requirements to \$1 Billion*
- Current law (23 U.S.C. 106(h)) defines a major project as any project that receives Federal financial assistance and has an estimated total project cost of \$500 million or more. Financial plans and project management plans must be submitted to the Federal Highway Administration (FHWA) for all major projects.

- For projects that are routinely managed by FHWA and State DOTs, these requirements do very little to ensure the success of the project. Instead, the requirements create an administrative burden that wastes resources and delays project delivery.
  - Amending the law to raise the threshold for major projects from \$500 million to \$1 billion would remove unnecessary oversight requirements from smaller, less complex projects that are routinely managed by FHWA and State DOTs.
3. *Authorize Utility Relocation to Take Place Prior to NEPA Completion*
- Current law requires any utility relocation to occur after completion of the NEPA review process. Utility relocation is similarly restricted for transit projects.
  - Most projects with pre-construction activities include utility relocation, which typically is a long lead item that cannot start until NEPA is completed. This contributes to construction delays and cost escalation.
  - Amending the law to allow utility relocation to take place prior to NEPA completion would streamline the building process, reduce overall construction time, and lower costs. Under this proposal, appropriate limitations would be included to ensure the integrity of the NEPA process, such as making the reimbursement of costs incurred dependent on the selection of an alternative that requires the utilities to be relocated. Relocation costs only would be reimbursed if a project were completed.
4. *Authorize Repayment of Federal Investment to Eliminate Perpetual Application of Federal Requirements*
- Projects that use of Federal-aid highway funds for the construction of a highway or bridge are constrained by Federal requirements. Many of these requirements continue to apply to the facility after the project is complete. These requirements include restrictions on tolling; requirements pertaining to the location of a commercial plaza within the right-of-way of an Interstate highway; restrictions on Interstate access; and compliance with size and weight standards, highway beautification standards, and high occupancy vehicle lane operation standards.
  - These perpetual Federal requirements can inhibit a State's ability to obtain value from the facility and have flexibility with respect to its future operations and maintenance. In the past, whenever a State wished to be released from the application of these requirements, Congress enacted a specific statutory provision that permitted the State to refund the Federal investment in that facility. Upon repayment of Federal funds, the State was relieved of compliance with the Federal requirements that attached to the facility.
  - Amending the law to provide general authority for States to repay the Federal investment in a facility would provide States with the ability to obtain value from their assets and flexibility in how their highways and bridges are operated and maintained. The repayment of Federal funds invested in a facility would be

the actual amount of Federal investment, unadjusted for inflation. Any funds repaid in this manner would be credited to the Highway Trust Fund, and the State would receive an equal amount of funding (available for obligation) under the Surface Transportation Block Grant Program.

5. *Provide Small Highway Projects with Relief for the Same Federal Requirements as Major Projects*

- Currently, some smaller scale projects (e.g., those typically eligible for transportation alternatives) funded under the Surface Transportation Block Grant Program must be treated as major highway projects, even if they are not located within the right-of-way of a Federal-aid highway (23 U.S.C. 133).
- This means that smaller, simpler projects that could be implemented and open to the public quickly often are delayed by lengthy procurement procedures and Federal requirements that are more appropriate for larger, more complex projects.
- Amending this requirement for smaller projects that predominantly are outside the Federal-aid highway right-of-way would eliminate Federal procurement requirements for these infrastructure projects. This would allow States to use their own procedures to implement these projects.

C. **Transit**

1. *Require Value Capture Financing as Condition of Receipt of Transit Funds for Capital Investment Grants*

- Federal programs for transit capital projects do not require value capture financing. Current law includes a broad definition of “value capture” to mean “recovering the increased property value to property located near public transportation resulting from investments in public transportation.” (49 U.S.C. 5302(24)). Value capture can include joint development, land value taxes, tax increment financing, special assessment districts, transportation utility fees, development impact fees, negotiated extractions, transit oriented development, and air rights.
- Failure of transit authorities to use value capture financing reduces funds available for transit capital projects.
- Amending the law to include value capture financing as a prerequisite for Section 5309 Capital Investment (Discretionary) Grants, excluding Small Starts projects, would increase resources available for transit capital projects and decrease dependence on Federal grant programs for continued development.

2. *Eliminate Constraints on Use of Public-Private and Public-Public Partnerships in Transit*

- Current law (49 U.S.C. Chapter 53 and its implementing regulations) impedes the greater use of public-private and public-public partnerships in transit capital projects.
  - These constraints reduce the funds available for transit capital projects.
  - Eliminating these constraints would encourage greater investment in transit capital projects.
3. *Codify Expedited Project Delivery for Capital Investment Grants Pilot Program*
- Currently, the Federal Transit Administration's (FTA) framework for public-private partnerships is a non-codified pilot program limiting the number of projects eligible to participate and capping the Federal share at 25 percent (Section 3005(b) of the FAST Act). The program also requires participants to utilize existing union staff.
  - The current pilot program is structured to offer participants a more streamlined approach to the full-funding grant agreement approval process and broader authority to proceed with construction. These attributes are appealing to potential concessionaires and State and local jurisdictions. However, the constraints placed on the program undermine the goals of expediting project delivery.
  - Codifying the pilot program, ensuring it is allowable for all Capital Investment Grant projects and not just on a pilot basis, and increasing the Federal share to 50 percent would attract increased private investment and further expedite project delivery.

#### D. Rail

1. *Apply FAST Act Streamlining Provisions to Rail Projects and Shorten the Statute of Limitations*
- The FAST Act directed DOT to review all previously enacted highway permit reforms and project streamlining procedures under title 23 and to apply them to railroad projects under jurisdiction of the DOT.
  - This created a discrepancy between a two-year statute of limitations for rail projects and a 150-day statute of limitations for transit and highway projects. In addition, this created a discrepancy between railroad projects administered by DOT and many large railroad projects administered by agencies other than the DOT (e.g., USACE and the United States Coast Guard) which are not subject to the FAST Act streamlining provisions under title 23.
  - Amending the law to clarify that all rail projects, regardless of lead Federal agency, can take advantage of FAST Act streamlining provisions would help expedite rail project delivery. Amending the statute of limitations from two years to 150 days for rail projects would make the time frame for legal challenges on rail projects consistent with those for transit and highway projects.

## **E. Airports**

### **1. *Create More Efficient Federal Aviation Administration Oversight of Non-aviation Development Activities at Airports***

- The Federal Aviation Administration (FAA) has conducted long-standing reviews of projects other than critical airfield infrastructure (including terminals, access and service roads, hangars, and other types of facilities) (based on statutory requirements set forth in 49 U.S.C. Chapter 471, particularly Sections 47102-47113 and Section 50101).
- This burdens FAA to review projects other than critical airfield infrastructure, and as a result, slows project delivery.
- Amending the law (49 U.S.C. 47107) to limit FAA approval and oversight of non-aviation development activities at airports would create more efficient FAA oversight of critical airfield infrastructure.

### **2. *Reduce Barriers to Alternative Project Delivery for Airports***

- Current law (49 U.S.C. 47134) provides that, under an existing pilot program, 65 percent of carriers at an airport must approve privatization to privatize an airport. The current pilot program is limited to only 10 airports, including only one large hub airport.
- The pilot program allows individual air carriers to overturn an airport's desire to privatize, blocking private investments in airports.
- Removing the limitation on the number and size of airports that can participate in the pilot program and decreasing the percentage of airlines needed to approve privatization from 65 percent to a majority vote would reduce barriers to alternative project delivery for airports and provide more flexibility for carriers to approve privatization.

### **3. *Clarify Authority for Incentive Payments under the Airport Improvement Program***

- Currently, the Airport Improvement Program (AIP) does not allow incentive payments for accelerated construction.
- This adds time to AIP projects, since they cannot pay for accelerated completion.
- Clarifying the authority under the AIP (49 U.S.C. 47110) to permit additional financial incentives, along with profit margin, for contractors would increase work efficiency and reduce project completion times.

### **4. *Move Oversight of AIP Funds to Post-expenditure Audits***

- Current law (49 U.S.C. 47104-47106) requires FAA to review and approve grant applications under the AIP.

- This oversight sometimes causes delays in sponsors receiving funds assigned to their airports.
- Revising the statutory requirements for AIP to shift FAA oversight from grant applications to post-expenditure audits would expedite conveyance of funds to sponsors.

## II. WATER INFRASTRUCTURE

The below water infrastructure provisions would incentivize the development of effective and efficient water infrastructure, outcome-based procurement, and full life-cycle asset management to improve water infrastructure. These changes would provide greater flexibilities for USACE and its non-Federal partners to use available Federal and non-Federal funds, generate new revenues and retain certain revenues in support of project requirements, make greater use of contributed funds, and allow for innovative use of contracting tools.

### A. Financing

1. *Authorize Clean Water Revolving Fund for Privately Owned Public-purpose Treatment Works*
  - Current law allows the DWSRF to lend to private owners. However, the Clean Water State Revolving Fund (CWSRF) is generally restricted to publicly owned wastewater projects.
  - Privately owned public-purpose treatment works are not eligible for CWSRF funding at the Federal level.
  - Authorizing the CWSRF (33 U.S.C. 1383) to provide financial assistance to publicly owned and privately owned public-purpose treatment works would make more funding available for treatment works.
2. *Provide New Flexibility for Water Projects with De Minimis Federal Share*
  - Under current law, even when a State or private sector entity provides the majority of the funding for a project, a project must still obtain review and approval under the laws of any Federal agency with jurisdiction.
  - The additional procedures, costs, and time delays associated with Federal requirements discourage infrastructure investments by State and local entities and private investors. These legal restrictions also contribute to delays in delivering needed projects even when the Federal interest is small.
  - Amending the law to provide targeted flexibility pertaining to the application of Federal requirements where the project funding is primarily non-Federal and the Federal share is minimal would increase investments in water infrastructure and reduce project delays and costs.

### B. Water Programs

1. *Provide EPA Infrastructure Programs with “SEP-15” Authorizing Language*
    - Currently, the EPA Administrator has limited authority to test and experiment within its programs.
    - This limits the EPA’s ability to explore new approaches that might increase project management flexibility, increase innovation, improve efficiency, assure timely project implementation, and develop new revenue streams.
    - Providing the EPA Administrator authority (similar to 23 U.S.C. 502) to encourage tests and experimentation in the water projects development process to permit the Administrator to explore alternative and innovative approaches to the overall project development process and to develop more effective approaches to project planning, project development, finance, design, construction, maintenance, and operations.
  
  2. *Apply Identical Regulatory Requirements to Privately Owned Public-purpose Treatment Works and Publicly Owned Treatment Works*
    - Currently, different requirements may apply to privately versus publicly owned treatment works.
    - This creates an unnecessary market distortion that puts private treatment works under more stringent and costly regulatory requirements than public sector equivalents, despite both serving public communities.
    - Modifying the Clean Water Act to ensure identical requirements apply to privately owned public-purpose treatment works and privately owned treatment works would provide a level playing field for all service providers.
- C. Inland Waterways**
1. *Expand Authority Related to Non-Federal Construction and Operation of Inland Waterways Projects*
    - Currently, Congress individually authorizes inland waterways projects to be constructed, maintained and operated by USACE. Only USACE is authorized to use funds appropriated from the Inland Waterways Trust Fund (IWTF) or from the General Fund (GF) of the Treasury for construction, repair, rehabilitation, maintenance, and operation of inland waterways projects. Fuel taxes paid by commercial users of the inland waterway system contribute to the IWTF, which pays for 50 percent of construction and major rehabilitation on the system, with the rest coming from the General Fund; once completed, project maintenance and operations are entirely paid for from the General Fund.
    - This means that only USACE can perform construction and operations, even if there is a less costly alternative. In addition, this constrains projects to USACE operational capacity limits, which has resulted in a backlog of projects and deferred maintenance, lower operational effectiveness, and increased down time of waterway assets.



- Authorizing the Secretary of the Army to execute agreements with non-Federal public or private entities to use IWTF and GF funds for construction, repair, rehabilitation, maintenance and operation activities, and the ability to enter into third party contracts, concessions, and operating agreements, would enable greater innovation and efficiency by allowing non-Federal entities a greater role in performing work on these projects.

#### **D. Water Infrastructure Resources**

##### **1. *Authorize User Fee Collection and Retention under the WRRDA Section 5014 Pilot Program and Recreation User Fees for Operation and Maintenance of Public Facilities***

- Currently, neither the Federal Government nor non-Federal service providers have authority to impose user fees under the water infrastructure pilot program authorized under Section 5014 of the Water Resources Reform and Development Act (WRRDA) of 2014. When user fees are permitted, they are sent to Treasury once collected, not returned to operate and maintain the site from which they were generated.
- Without a dedicated revenue source, innovative partnerships are nearly impossible to execute because third parties would be subject to appropriation risk. This risk makes transactions uneconomical and highly unlikely to close. Aging infrastructure at USACE-managed recreation sites is in need of significant repair and rehabilitation, and annual USACE appropriations have not been sufficient to address long-term operation and maintenance needs and safety concerns.
- Authorizing the Federal Government and third party service providers to impose and retain fees under WRRDA to use or defray costs associated with carrying out a project would enable effective infrastructure partnerships. This proposal would limit application to no more than ten projects and would specify that the respective non-Federal interests indemnify and hold the Federal Government harmless as a result of non-Federal actions, including that the Federal Government assumes no responsibility for costs of said non-Federal actions. Amending the law (16 U.S.C. 460d-3) to provide USACE the authority to retain recreation user fees generated at USACE-managed recreation sites and facilities would enable USACE to address the backlog of infrastructure, public safety and visitor use management needs at sites where user fees are collected.

##### **2. *Expand U.S. Army Corps of Engineers' Authority to Engage in Long-term Contracts***

- Current law generally restricts the award of multi-year contracts to a period of no more than five years.
- Infrastructure asset contracts typically are much longer than five years, and therefore the cost and risk associated with five-year contracts creates a cost and resource prohibitive barrier to successful transactions.

- Extending the contract period to allow the Secretary of the Army to enter into contracts for a period up to 50 years would enable USACE to enter into long-term contracts that encompass the full life-cycle management of infrastructure assets in the program (Section 5014 of WRRDA). This amendment would specify that the respective non-Federal interests indemnify and hold the Federal Government harmless as a result of non-Federal actions, including that the Federal Government assumes no responsibility for costs of said non-Federal actions.
3. *Authorize Commercial Operation and Maintenance Activities at Hydropower Facilities*
- Current law defines operation and maintenance activities at hydropower facilities undertaken by Civil Works personnel as of the date of enactment of the Water Resources Development Act of 1990 as inherently governmental and not commercial activities. (Section 314 of the Water Resources Development Act of 1990; 33 U.S.C. 2321).
  - This designation creates unnecessary bureaucracy and restricts open competition that leads to excess costs for operations that can easily be done at a lower cost and more efficiently.
  - Amending the law to restore the authority of the Secretary of the Army to determine whether operation and maintenance functions at hydropower facilities on USACE projects are commercial activities and appropriate for performance by non-Federal entities would increase the opportunity for open competition and lead to more efficient operations and maintenance.
4. *Deauthorize Certain Federal Civil Works Projects*
- Currently, all USACE projects remain authorized in perpetuity. This includes completed projects that are under USACE control but are approaching the end of their service life, as well as projects that were built by USACE but are operated and maintained by non-Federal entities. Extensive regulatory and statutory compliance provisions apply to non-Federal sponsors associated with USACE projects, including Section 14 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. 408, commonly referred to as “Section 408”).
  - These provisions can make local alterations to federally constructed projects expensive and difficult, as even simple modifications to a Federal project by an applicant trigger a Section 408 review, which increases the costs to both the Government and the applicant.
  - Amending the law to establish a streamlined deauthorization process that allows for those USACE projects approaching the end of their service life and for those projects operated and maintained by non-Federal interests that do not require Federal oversight would release Federal and non-Federal resources to be used for other purposes.
5. *Expand Authority for Acceptance of Contributed and Advanced Funds*

- A non-Federal sponsor can provide non-Federal funds to the Federal Government through contributed and advanced funds, to advance investments in infrastructure. However, under current law, the process to accept contributed and advanced funds is protracted and limited by several factors.
  - Projects therefore suffer years of delay, unable to take full benefit of a willing sponsor to provide non-Federal funds.
  - Amending the law (33 U.S.C. 701h) to expand authority for the acceptance of contributed funds even if no Federal funds have been appropriated for the authorized project, changing individual notifications to an annual reporting requirement, and expanding applicability of advanced funds authority to all authorized water resources development studies and projects would increase non-Federal spending and expedite project execution.
6. *Amend Water Resources Development Act to Allow for Waiver of Cost Limits*
- Current law provides a maximum total cost for congressionally authorized projects.
  - Projects that exceed the cost limitation (Section 902 of the Water Resources Development Act of 1986) require authorization by Congress to raise the maximum total project cost, which can add significant delays in delivering infrastructure projects.
  - Amending the law to allow the maximum total cost limitation to be waived upon the recommendation of the Secretary of the Army would provide flexibility to avoid delays in delivering infrastructure projects.

### III. VETERANS AFFAIRS

The following provisions would provide flexibility to the Department of Veterans Affairs (VA) to use the value of its existing assets to provide our Nation's veterans the state-of-the-art facilities they deserve. The VA has a nationwide physical footprint that includes aging facilities. While the physical assets owned by the VA are growing outdated, the underlying property values continue to increase.

#### A. **Provide VA Real Property Flexibilities**

- ***Authorize VA to retain proceeds from sales of properties and exchange existing facilities for construction of new facilities.*** Under current law, the VA cannot retain the proceeds from sales of its properties, nor can the VA exchange its existing facilities for the construction of new facilities. This hinders the VA's ability to make needed capital improvements, including new construction and renovations. Authorizing the VA to retain proceeds from sales of its properties and exchange its existing facilities or land for new construction would provide the VA flexibility to better fulfill its mission, including making capital improvements for new construction and renovations and for funding lease or service costs in a facility.

- **Authorize pilot program for VA to exchange land or facilities for lease of space in multi-tenant facilities.** Congress should create a pilot program, for up to five projects, to allow the VA to exchange existing VA land or facilities for a lease of space in a resulting private facility built on the former VA land. The VA-occupied space would be built to the same commercial standards as the remainder of the facility and could be in a stand-alone building or part of another building. The private sector financing could not be based on the full faith and credit of the U.S. Government or guaranteed U.S. Government tenancy. The lease term after credits would be a maximum of seven years, and any future lease or extension after the initial term also would be limited to seven years. The lease and service rates during the credit timeframe and any subsequent lease term would be at market or less. The explicit dollar amount of termination (e.g., one year of rent payments) would be required to be included in the agreement, and VA would budget rent and termination in accordance with OMB Circular A-11. The lease would be structured to assure that VA had exit privileges, and that VA would have an exclusive right, but not the obligation, to renew or extend the term of the lease.
- **Increase the threshold above which VA is required to obtain congressional authorization for leases.** Current law requires VA to obtain congressional authorization for any lease above \$1 million in annual costs. This differs from the GSA prospectus threshold established under title 40 of the United States Code. The GSA prospectus currently carries a threshold of \$3.095 million and is reevaluated periodically. These differing thresholds require the VA to seek authorization for more leases. Increasing the authorization threshold for VA major medical leases (38 U.S.C. 8104) from the current threshold of \$1 million in annual costs to the current GSA prospectus threshold which is \$3.095 million and updated periodically would reduce the number of VA authorizations and align the authorization levels across the two programs.

#### IV. LAND REVITALIZATION (BROWNFIELD/SUPERFUND REFORM)

The below provisions would expand funding eligibility for revitalization projects and establish tools to manage and address legal and financial risks. These provisions would incentivize the development and dissemination of strong infrastructure risk mitigation and asset management standards to accelerate the desired transformational shifts for the public good—increases in revenue generation, risk allocation to the parties best equipped to mitigate concerns, and greater attention to maintenance and innovative design.

##### A. **Create a Superfund Revolving Loan Fund and Grant Program and Authorize National Priorities List Sites to be Eligible for Brownfield Grants**

- Currently, the Brownfield program has a revolving loan/grant fund, but under CERCLA Sections 101(39)(B) and 101(41)(C), Superfund sites are not eligible for the program. National Priorities List (NPL) sites currently are not eligible for Brownfield grants.

- Therefore, low interest loan funds are not available to clean up Superfund sites and because NPL sites cannot access Brownfield grants, they cannot fund any development unrelated to the response action.
  - Amending the Small Business Liability Relief and Brownfields Revitalization Act to include a Superfund revolving fund would facilitate new investment into Superfund cleanup and reuse and would provide non-liable third parties a low interest source of funds to perform removals, remedial design, remedial action and long-term stewardship. Amending the law (CERCLA Section 101(40)) to allow NPL sites or portions thereof to be eligible for Brownfield grants at EPA's discretion would make funds available to eligible entities to conduct assessments, complete cleanups, and implement remedy enhancements to accommodate development and perform long-term stewardship. This proposal would include areas of the NPL site that are not related to the response action; areas that can be parceled out from the NPL response action; areas where the NPL response action is complete but the site has not been delisted yet; or areas where the NPL response action is complete but the facility is still subject to orders or consent decrees under CERCLA. This would be a new Brownfields grant program targeted to Superfund sites.
- B. Provide Liability Relief for States and Municipalities Acquiring Contaminated Property through Actions as Sovereign Governments**
- Currently, State and local governments may be exempt from CERCLA liability as an "owner or operator" if they acquire ownership or control of contaminated property involuntarily through bankruptcy, tax delinquency, abandonment, or other circumstances under which the State or local government involuntarily acquires title by virtue of its function as a sovereign government.
  - However, confusion exists regarding the meaning of "a unit of State or local government," "involuntary acquisition," and "acquires title by virtue of its function as sovereign," which inhibits State and local governments from becoming full partners in the cleanup and reuse of Superfund sites.
  - Clarifying and expanding the current liability exemption (CERCLA Section 101(20)(D)) to afford State and local governments an exemption from liability for all property acquisitions undertaken by virtue of their sovereign function would encourage these entities to become full partners in the cleanup and reuse of Superfund sites. Additionally, these changes would allow more State and local governments to be eligible for grants and to acquire property without fear of liability. Such relief from liability would be conditioned upon State and local governments not contributing to the contamination and meeting the obligations imposed on Bona Fide Prospective Purchasers (BFPPs) in Section 101(40)(C)-(G), including exercising appropriate care with respect to releases of hazardous substances at the facility.
- C. Provide EPA Express Settlement Authority to Enter into Administrative Agreements**

- Currently, CERCLA does not provide express authority for EPA to enter into certain administrative settlement agreements to clean up and reuse sites. EPA does not have express authority to settle with BFPPs or other third parties who may be subject to a statutory defense or exemption or to settle administratively with a potentially responsible party who is willing to perform remedial action. CERCLA (Section 122(a)) provides the President with authority to enter into an agreement with any person to perform a response action when the President determines the action will be done properly. CERCLA further requires that when EPA enters into a settlement for a remedial action with a potentially responsible party, the settlement must be approved by the Attorney General and entered into the United States District Court as a consent decree.
- CERCLA limitations hinder the cleanup and reuse of Superfund sites and contribute to delays in cleanups due to negotiations.
- Amending the law to provide EPA with express settlement authority to enter into administrative agreements with BFPPs and other statutorily protected parties and to enter into administrative agreements with any party to perform remedial action in appropriate circumstances (e.g., partial, early remedial action) would promote and expedite the cleanup and reuse of Superfund sites.

**D. Integrate Cleanup, Infrastructure and Long-term Stewardship Needs by Creating Flexibility in Funding and Execution Requirements**

- CERCLA and appropriations laws restrict EPA's ability to creatively integrate cleanup, rebuilding infrastructure, and long-term stewardship. Additionally, EPA is subject to a number of restrictions on its ability incorporate infrastructure needs into cleanup design and implementation, particularly with respect to coordinating funding of such activities.
- These restrictions prevent EPA from incorporating infrastructure needs into cleanup design and implementation.
- Removing these restrictions for infrastructure projects that could easily be integrated with the cleanup work and funded by a third party, would enable EPA to better incorporate infrastructure needs (e.g., pipelines, power lines) into cleanup design and implementation and would promote site reuse.

## PART 3—INFRASTRUCTURE PERMITTING IMPROVEMENT

### I. FEDERAL ROLE

The below provisions would protect the environment while at the same time delivering projects in a less costly and more time effective manner by:

- creating a new, expedited structure for environmental reviews;
- delegating more decision-making to States and enhancing coordination between State and Federal reviews; and
- authorizing pilot programs through which agencies may experiment with innovative approaches to environmental reviews while enhancing environmental protections.

#### A. Establishing a “One Agency, One Decision” Environmental Review Structure

##### 1. *Protect the Environment through a Structure that Establishes Firm Deadlines to Complete Environmental Reviews and Permits*

- Under current law, project sponsors of infrastructure projects must navigate environmental reviews under the National Environmental Policy Act (NEPA) and permitting processes with multiple Federal agencies with separate decision-making authority and often counter-viewpoints. These many hoops affect the ability of project sponsors to construct projects in a timely and cost effective manner.
- This creates inefficiencies in project environmental protection, review and permitting decisions, which delays infrastructure investments, increases project costs, generates uncertainty, and prevents the American people from receiving the benefits of improved infrastructure and environmental protections in a timely manner.
- This proposal would establish a firm deadline of 21 months for lead agencies to complete their environmental reviews through the issuance of a Finding of No Significant Impact (FONSI) or Record of Decision (ROD), as appropriate.
- Additionally, the proposal would establish a firm deadline of 3 months after the lead agency's FONSI or ROD for Federal agencies to make decisions with respect to the necessary permits. (This 3-month deadline also would apply to any permits issued by State agencies under Federal law pursuant to delegations of authority from a Federal oversight agency where such permits are a prerequisite to the completion of a Federal agency's ability to issue a permit.) Appropriate enforcement mechanisms would be established to ensure that permit decisions are issued.

#### B. Reducing Inefficiencies in Environmental Reviews

##### 1. *Require a Single Environmental Review Document and a Single Record of Decision Coordinated by the Lead Agency*

- Currently, Federal NEPA reviews are conducted by the Federal agencies with jurisdiction over the same project. Agencies are encouraged, but not required, to prepare joint analyses. Requiring joint analyses can reduce the potential for delay caused by separate analyses.
  - When not coordinated, these reviews can be duplicative and difficult for a project sponsor to navigate. Decisions are not issued in the same time frame and frequently are spread out over long periods of time. This additional time can add months, or even years, to the environmental review process, with little benefit to the environment.
  - Requiring the lead Federal agency under NEPA to develop a single Federal environmental review document to be utilized by all agencies, and a single ROD to be signed by the lead Federal agency and all cooperating agencies, would reduce duplication and create a more efficient, timely review process.
2. *Clarify that Alternatives Outside of the Scope of an Agency's Authority or Applicant's Capability Are Not Feasible Alternatives*
- The heart of the NEPA process is the evaluation of alternatives. The development, analysis, and weighing of alternatives serves to ensure that Federal officials make informed decisions.
  - However, an agency should not be required to consider alternatives that are outside its authority or outside the capability of the applicant. Such alternatives are not feasible and do not need to be considered in an environmental review.
  - Clarifying that alternatives outside the scope of an agency's authority or an applicant's capability are not feasible alternatives for purposes of NEPA would allow agencies and applicants to focus their resources and analyses on those alternatives that are actually legally, technically, and economically feasible.
3. *Direct the Council on Environmental Quality to Issue Regulations to Streamline the NEPA Process*
- Council on Environmental Quality (CEQ) regulations and guidance provide an important basis for the implementation of NEPA. The environmental review process under NEPA as it exists today is lengthy, inefficient, and costly.
  - CEQ's regulations were issued in 1978, before the advent of the Internet, and have been subject to only one revision since then.
  - Requiring CEQ to revise its regulations to streamline NEPA would reduce the time and costs associated with the NEPA process and would increase efficiency, predictability, and transparency in environmental reviews.
4. *Eliminate Redundancy in EPA Reviews of Environmental Impact Statements under Section 309 of the Clean Air Act*
- Currently, Section 309 of the Clean Air Act requires that EPA review and publish comments on most Environmental Impact Statements (EISs) (42 U.S.C. 4332).



Under this authority, EPA publishes comments on draft and final EISs. EPA also provides a rating for EISs. In addition to its responsibility under Section 309, EPA has a separate regulatory responsibility to review and comment on EISs on matters within its jurisdiction and typically would be included as a cooperating agency for areas within its technical expertise.

- The extra review under Section 309 adds a step to the environmental review process that can cause delays without increasing protection to the environment. Issues are sometimes raised late in the process or go beyond the bounds of EPA's subject matter expertise. Lead Federal agencies must take time to respond to EPA's additional comments in the Section 309 review, even if the comments are outside of EPA's special expertise. This review is no longer necessary, given that Federal agencies have gained significant NEPA experience since this law was enacted and because EPA has other authority to review and comment on matters within its jurisdiction.
  - Eliminating EPA's additional review and assessment of EISs would remove duplication and make the environmental review process more efficient. This change would not eliminate EPA's regulatory responsibilities to comment during the development of EISs on matters within EPA's jurisdiction or EPA's responsibilities to collect and publish EISs. It also would not prevent EPA from providing technical assistance to the lead or other cooperating agencies upon request.
5. *Focus the Scope of Federal Resource Agency NEPA Analysis on Areas of Special Expertise or Jurisdiction*
- Currently, disagreements often occur regarding the proper scope of NEPA review, particularly a resource agency's review for a large or complex project. Federal agencies sometimes provide comments or raise objections to issues beyond the scope of their areas of special expertise or jurisdiction.
  - These objections and comments create confusion for the public and result in untimely decisions and additional workload.
  - Focusing Federal resource agencies' authority to comment on portions of the NEPA analysis that are relevant to their areas of special expertise or jurisdiction would maximize the effectiveness of agency reviews and streamline project delivery.
6. *Reduce Duplication and Increase Flexibility in Establishing and Using Categorical Exclusions*
- Currently, each Federal agency establishes its own categorical exclusions (CEs) by developing a record to substantiate that an activity would not result in significant environmental impacts. All categorical exclusions that a Federal agency proposes to establish or change are reviewed and approved by CEQ.
  - Even when a CE has been substantiated by a Federal agency and approved by CEQ, it may not be used by another Federal agency without a separate substantiation and approval process to incorporate the CE into the other

Federal agency's NEPA procedures. A Federal agency also may not change its internal documentation requirements related to CEs, such as moving a "documented" CE to the "undocumented" list, even if experience shows that documentation is no longer needed.

- Authorizing any Federal agency to use a CE that has been established by another Federal agency and identifying documented CEs that can be moved to an agency's undocumented CE list without undergoing the CE substantiation and approval process would reduce duplication and unnecessary environmental analysis for actions that do not create a significant environmental impact. Each agency would track and catalogue its use of another agency's CEs under this provision.

7. *More Effectively Address Environmental Impacts by Allowing Design-Build Contractors for Highway Projects to Conduct Final Design Activities before NEPA Is Complete*

- Under current law, a design-build contractor for a Federal-aid highway project is not authorized to commence final design activities until after the conclusion of the NEPA process (23 U.S.C. 112(b)(3)).
- This restriction diminishes the flexibility afforded with the design-build procurement method, because States are not permitted to allow designers to proceed with final design activities with their own funds under the traditional design-bid-build method.
- Allowing design-build contractors to conduct final design activities would facilitate better environmental reviews in conjunction with the design of projects and would facilitate more efficient and more effective efforts to address environmental impacts. The lead Federal agency would continue to conduct an independent review of the environmental documents and prohibit the agency from taking any action that would prevent the objective consideration of alternatives.

8. *Curtail Costs by Allowing for Advance Acquisition and Preservation of Rail Rights-of-Way before NEPA Is Complete*

- Currently, real property generally cannot be acquired for rail rights-of-way prior to the completion of the NEPA environmental review process.
- While project sponsors might have an opportunity to purchase better and less expensive rights-of-way in advance, the lack of clear statutory direction impedes preservation of rail rights-of-way in advance of project approval.
- Allowing the advance property acquisition and preservation of rail corridors for rail projects would help control costs and improve project delivery. Right-of-way purchase still would be eligible for Federal funding only if used for a project selected through the NEPA process. The risk of bias in the evaluation of alternatives under these circumstances would be minimal, because project sponsors would be able to recoup the value of property if a different alternative ultimately was selected.

9. *Enhance Integration of Transportation Planning and NEPA by Removing an Unneeded Concurrence Point for Using Transportation Planning Documents and Decisions in NEPA*
  - Under current law, lead Federal agencies have been encouraged to adopt or incorporate by reference relevant documents and decisions into their NEPA documents. This includes documents from the transportation planning process. The transportation planning process includes robust study and public engagement to develop transportation plans for metropolitan areas. In the Moving Ahead for Progress in the 21st Century Act (MAP-21), Congress formalized the practice of incorporating transportation planning documents but added a new requirement that cooperating agencies had to concur (23 U.S.C. 168(d)).
  - Concurrence for incorporating transportation planning documents and decisions was not previously required and is not required for the adoption of other documentation. The transportation planning documents already undergo review and consideration by agencies and the public during plan development. The additional concurrence point adds an unnecessary step that impedes efficient environmental review and the integration of the planning and environmental review process. It also can result in substantial duplication of work, if a cooperating agency does not concur in the incorporation of documentation from planning.
  - Eliminating the requirement for concurrence by a cooperating agency would reduce duplication and delay, and would facilitate the integration of the NEPA process with the transportation planning process.
  
10. *Remove Duplication in the Review Process for Mitigation Banking by Eliminating the Interagency Review Team*
  - The 2008 Mitigation Rule that USACE and EPA jointly promulgated includes specified timelines for various tasks associated with the approval and oversight of mitigation banks. The Mitigation Rule provides an opportunity for public and agency review and comment on mitigation banks during the approval process. In addition to this review, the Mitigation Rule requires a second review by an interagency review team, consisting of reviewing agencies, Tribal nations, and the mitigation banking sponsor.
  - Approval timelines often are extended beyond those specified in the Mitigation Rule, due to protracted consultation among the interagency review team. The final approval of a mitigation bank often is delayed because of the time it takes to resolve disagreements among the entities participating in the second review.
  - Removing the second review would enhance the efficiency of the mitigation bank approval time frames. The members of the interagency review team would still have an opportunity to review and comment through the public participation process required in the Mitigation Rule.

11. *Authorize All Lead Federal Agencies for Infrastructure Projects to Opt into Highway and Transit Streamlining Procedures*
  - Highway and transit projects currently have specific statutory authority that promotes efficiencies in the environmental review process for their projects (23 U.S.C. 139). This authority promotes efficiency without changing any substantive environmental laws.
  - However, these benefits are limited because they do not apply to other types of infrastructure projects.
  - Amending the current law to allow other lead Federal agencies to opt into these provisions could make environmental reviews on other infrastructure projects more efficient. This option would not apply to projects that are eligible under FAST 41 because they already have separate streamlining provisions.
  
12. *Increase Efficiency by Expediting Certain Small Telecommunications Equipment in NEPA and the National Historic Preservation Act*
  - Current law requires that wireless deployers comply with both NEPA and the National Historic Preservation Act (NHPA) for small cells and Wi-Fi attachments in the same way that they obtain permits for large towers.
  - Small cells and Wi-Fi attachments do not have an environmental footprint, nor do they disturb the environment or historic property. However, despite this lack of impact, small cells and Wi-Fi attachments typically go through the same level of analysis and review under NEPA and the NHPA, which needlessly adds both delays and costs to the process.
  - Amending the law to expedite small cells and Wi-Fi attachments in NEPA and the NHPA would eliminate unnecessary reviews without adversely affecting the environment.
  
13. *Create Incentives for Enhanced Mitigation*
  - Current environmental laws focus primarily on adverse environmental impacts of infrastructure projects, without also recognizing their potential environmental benefits.
  - Opportunities for enhancing mitigation or environmentally friendly designs often are lost, because they delay project development without providing any benefit to the project sponsor.
  - Establishing procedures that expedite environmental or permitting reviews for projects that enhance the environment through mitigation, design, or other means would provide incentives for project sponsors to propose more environmentally beneficial projects. This would streamline the environmental and permitting review process for those projects that demonstrate an improvement to the environment.
  
14. *Modify the Federal Power Act and Other Laws to Prohibit the Ability of Federal Agencies to Intervene in FERC Proceedings*

- Under current FERC policy and regulations, agencies that participate as cooperating agencies in FERC's preparation of NEPA documents cannot also intervene in the FERC licensing proceeding. The rationale for FERC's policy is that cooperating agency staff will necessarily engage in off-the-record communications with FERC staff concerning the merits of issues in the proceeding. If the agency is subsequently allowed to become an intervenor in the licensing proceeding, the agency would then have access to information that is not available to other parties, in violation of the prohibition on ex parte communications in both FERC's rules and in the Administrative Procedure Act.
  - FERC's rules force Federal agencies to choose either to waive their right to intervene in the proceeding or their right to participate, upon request, as a cooperating agency in FERC's preparation of an environmental document. By choosing not to participate as a cooperating agency, FERC loses the benefit of the agency's technical expertise on important environmental issues, thus inhibiting the identification and resolution of key issues early in the NEPA process.
  - Modifying the Federal Power Act and other laws to require Federal agencies, upon request, to participate as a cooperating agency to a FERC NEPA review would ensure that agencies fully participate in the preparation of FERC NEPA documents. Agency participation as a cooperating agency, however, would not impede that agency's ability to file comments to the FERC docket for the relevant proceeding nor impede the agency's ability to defend any requested conditions in court.
15. *Authorize Federal Agencies to Accept Funding from Non-Federal Entities to Support Environmental and Permitting Reviews*
- Currently, some legal authority exists for project proponents to contribute funds to Federal agencies to support such reviews and decisions. This includes authority for public entities to support Federal agencies, State agencies, and Indian tribes participating in environmental planning and review processes for transportation projects (49 U.S.C. 307), as well as authority for USACE to accept funds from non-Federal public entities to provide priority review of permit applications (33 U.S.C. 2352). However, there is no universal authority to accept funding from non-Federal entities for infrastructure projects.
  - This limits the ability of Federal agencies to obtain additional resources to help with the permitting and review process, thus causing further delays in project development.
  - Amending the law to provide broader authority for Federal agencies to accept funds from non-Federal entities to support review of permit applications and other environmental documents would provide additional resources to streamline project delivery and would help defray the costs of the environmental review. This provision would include appropriate controls for potential conflicts of interest and would maintain the Federal agency's responsibility to conduct its review independently.

### **C. Protecting Clean Water with Greater Efficiency**

#### **1. *Eliminate Redundancy, Duplication, and Inconsistency in the Application of Clean Water Provisions***

These provisions would make the following reforms to create greater efficiencies in the application of clean water provisions:

- a. Authorize Federal agencies to select and use nationwide permits without additional USACE review. Currently, Federal agencies are required to submit permit applications to USACE for some projects that meet nationwide permit (NWP) requirements, including general and regional conditions. Federal agencies employ staff who are environmental experts and review these projects before submitting the application to determine whether they meet the criteria for the applicable NWP. Eliminating the additional USACE review and allowing Federal agencies to move forward on NWP projects, subject to permit conditions, would streamline the process and allow USACE to focus on projects that do not qualify for NWPs, which have greater environmental impacts. USACE would retain the right to reinitiate its review for any agency that it finds has incorrectly determined that NWP criteria were met.
- b. Consolidate authority to make jurisdictional determinations for 404 permits. Under current interpretation of the Clean Water Act, the EPA Administrator, not the Secretary of the Army, has final authority to construe the jurisdictional term “navigable waters” under Section 404 of the Clean Water Act. USACE has decades of experience and expertise in jurisdictional matters, providing the public approximately 59,000 written jurisdictional determinations per year. Establishing the Secretary of the Army’s authority to make jurisdictional determinations under the Clean Water Act would eliminate duplication of work and streamline permit decisions. EPA and USACE would continue to coordinate on rulemaking to ensure consistency in the definition of “waters of the U.S.” under the Clean Water Act and to reconcile differences in determinations under other sections of the Clean Water Act.
- c. Eliminate duplicative oversight by removing EPA’s authority to veto a 404 permit under Section 404(c). The Secretary of the Army, acting through the Chief of Engineers, has authority to grant permits for the discharge of dredged or fill material under Section 404 of the Clean Water Act. EPA can exercise veto authority prior to, during, and after permit decisions. The threat of the veto creates significant uncertainty and delays permit decisions, because project proponents and USACE address perceived concerns to avoid elevation or veto. Removing EPA’s authority to veto a 404 permit would make the permitting process more efficient and predictable.
- d. Allow use of one NEPA document for both Section 404 and Section 408 actions. Section 408 authorizes the Secretary of the Army to grant permission for the

alteration, occupation, or use of a USACE civil works project if the activity will not be injurious to the public interest and will not impair the usefulness of the project (33 U.S.C. 408). To make this determination, Section 408 requires a very similar environmental review to the review required for a Section 404 permit. For actions where both Sections 404 and 408 apply, two independent environmental reviews are required, creating unnecessary duplication of work and delays in issuing permitting decisions.

- e. Eliminate duplication in environmental documentation for authorized USACE projects pursued by non-Federal interests. Under current law, if a non-Federal entity intends to implement an authorized USACE civil works project without an executed project partnership agreement, the non-Federal entity would need a permit from the Department of the Army prior to construction (33 U.S.C. 403 and 33 U.S.C. 1344). To authorize the same civil works project, the USACE also would prepare an environmental review and compliance document. Allowing the non-Federal interest to use the completed USACE environmental compliance documentation and decision (e.g., ROD or FONSI) as the environmental review for the Federal permit decision would reduce duplication without removing environmental protections.
2. *Clarify Time Frames and Reduce Delays for Section 401 Certification Decisions*
    - Current law requires receipt of a State Water Quality Certification (Section 401 Certification) prior to USACE issuing a Department of the Army (DA) permit (Section 404 and Section 10) decision. Under current law, a State is given a period not to exceed one year to issue its Water Quality Certification, or the requirement is waived.
    - In spite of the statutory time frame, States increasingly do not issue permits within the applicable time frames, or they require applicants to re-file prior to the one-year lapse, which produces a loop of repeated lack of issuance and re-filing.
    - Amending the Clean Water Act to change the time period for issuance of a State 401 Certification by addressing the time periods for making a completeness determination and the time for a State decision would reduce this delay.
  3. *Stabilize Utility Investments by Lengthening the Term of a National Pollutant Discharge Elimination System Permit and Providing for Automatic Renewals*
    - Currently, the Clean Water Act places a five-year limitation on the term of permits granted.
    - This limitation serves as a disincentive to public and private investments in investor-owned and publicly owned utilities when major investments typically are financed over 20 to 30 years. Moreover, administrative resources in granting permit renewals can significantly impact the timeliness of permit renewal requests.

- Lengthening the permit time limit from five years to fifteen years and providing for automatic renewals of such permits, if the water quality needs do not require more stringent permit limits, would bring more stability to such investments.

#### **D. Reducing Inefficiencies in the Magnuson Stevens Act**

##### **1. *Require Timelines to be Met under the Magnuson Stevens Act or Allow Agency to Proceed with Action***

- The Magnuson Stevens Act allows for both an abbreviated consultation process (National Marine Fisheries Service (NMFS) must respond within 30 days) and an expanded consultation process (NMFS must respond within 60 days) when evaluating effects to Essential Fish Habitat.
- Even with these relatively short time frames, consultations tend to take much longer to complete, and thus impact the delivery of infrastructure projects.
- Requiring NMFS to respond to all consultations within 30 days in all cases (unless a 30-day request for extension is received from NMFS and approved by the action agency) would improve time frames and eliminate delays. If no response were received from NMFS within the required time frame, the action agency could then move to final agency action.

#### **E. Reducing Inefficiencies in Protecting Clean Air**

##### **1. *Eliminate Confusion by Clarifying that Metropolitan Planning Organizations Need only Conform to the Most Recent National Ambient Air Quality Standard***

- Currently, the Clean Air Act requires EPA to establish National Ambient Air Quality Standards (NAAQS) for certain pollutants. It also requires EPA to periodically review and, if necessary, update these standards.
- This creates a problem every time EPA promulgates newly updated NAAQS before prior standards are revoked. State DOTs and metropolitan planning organizations (MPOs) may be required to demonstrate conformity to both the old and new standards for the same pollutant, creating redundancy and uncertainty, and causing State DOTs and MPOs to spend their limited resources unnecessarily.
- Amending the Clean Air Act to clarify that conformity requirements apply only to the latest NAAQS for the same pollutant would avoid this confusion and reduce legal challenges.

##### **2. *Reduce Uncertainty by Establishing Motor Vehicle Emissions Budgets before Requiring Initial Transportation Conformity Determinations for Newly Designated Areas***

- Currently, the Clean Air Act requires a newly designated area to comply with conformity requirements one year after the effective date of the final



nonattainment designation (42 U.S.C. 7506(c)). Conformity typically is demonstrated by showing that an area's transportation plans will not exceed the motor vehicle emissions budget established for that area.

- This creates a problem for newly designated areas because the emissions budget usually takes longer than a year to establish and for EPA to approve. Therefore, in order to demonstrate conformity, MPOs in newly designated areas have to use other less suitable tests, such as "an interim emissions test" or a test based on emissions budgets developed for a previous standard for the same pollutant. These requirements have created confusion and uncertainty.
- Allowing transportation conformity to apply one year after EPA approves or finds the emissions budgets adequate for conformity purposes would eliminate confusion and give MPOs certainty in meeting Federal requirements.

## **F. Reducing Inefficiencies in Preserving Publicly Owned Land and Historic Properties**

### **1. Remove Overlapping DOI, USDA, and HUD Reviews from Individual Section 4(f) Evaluations**

- Under current law, DOT is prohibited from using parklands or historic sites unless it determines that there is no other prudent and feasible alternative. Current law requires consultation with DOI, USDA, and the Department of Housing and Urban Development (HUD) in making these determinations. The FHWA/FTA implementing regulations for Section 4(f) of the DOT Act (23 CFR 774.5) require Section 4(f) determinations to be sent to DOI, USDA, and HUD for review and provide a minimum of 45 days for the agencies to comment. Current law also provides for an additional 15-day period after the comment deadline for DOI, USDA, and HUD to transmit comments before FHWA may assume no objection (49 U.S.C. 303 and 23 U.S.C. 138).
- The DOI, USDA, and HUD reviews can delay project delivery even though the review generally does not produce any changes in the determinations, because the agencies have had little direct involvement in a project.
- Removing DOI, USDA, and HUD responsibilities to review individual Section 4(f) determinations would reduce delays in the project development process while not reducing protections to parklands and historic sites.

### **2. Eliminate Duplicative Reviews of Historic Property Impacts for Transportation Projects**

- Under current law, potential impacts of transportation projects on historic sites must undergo a review under both Section 106 of the NHPA and Section 4(f). These two laws are different in approach (Section 4(f) results in a substantive determination and Section 106 is a process resulting in an agreement), but both are designed to protect the same historic resources. The FAST Act added an optional process for historic preservation reviews to address this issue, but it

- added new steps and concurrence points that do not exist in the current regulatory process.
- Conducting two reviews to protect historic properties is redundant and creates substantial additional work. It is also inconsistent with requirements for other infrastructure projects, which only need to comply with Section 106. Because of the additional concurrence points, the optional process included in the FAST Act is a more cumbersome process and has not been used.
  - Specifying that an action taken pursuant to a Section 106 agreement does not constitute a “use” under Section 4(f), and therefore would not require a different analysis, would reduce duplication and delay, without reducing protections for the historic properties.
3. *Eliminate Redundancy in Conversion Requirements When Land Purchased with Land and Water Conservation Fund Money Is Impacted*
- Currently, parks and other sites that have been the subject of Land and Water grants of any type cannot be converted to other than public outdoor recreation uses without approval of the NPS. This includes approval of equivalent property to substitute for the converted area. This requirement applies to infrastructure projects that might use parks or other recreational facilities that were funded by Land and Water grants.
  - Consulting with the NPS and obtaining its approval for equivalent substitution property can be a lengthy process leading to delayed project delivery. The work of the NPS often duplicates the work of the lead Federal agency in identifying equivalent substitute property.
  - Eliminating the requirement for the NPS approval in identifying and procuring replacement property would eliminate duplicative work and speed project delivery (including where authority has been delegated to States).
4. *Reduce Uncertainty by Establishing Reclamation Title Transfer Authorization*
- Currently, there is no blanket authorization for Bureau of Reclamation to transfer title to certain federally owned facilities currently operated by non-Federal partners, who are the primary beneficiaries. Congress provides title transfer authority with respect to individual facilities.
  - Obtaining authority from Congress to transfer title for each facility individually is arduous and very time consuming, often taking several years. Delays in obtaining title negatively impact the ability of non-Federal partners to obtain private financing to perform required major rehabilitation and replacement needs. As a result, entities may need to request funding from the Federal Government to perform required work.
  - Establishing new transfer authority in the Bureau of Reclamation would streamline the process and reduce delays for executing title transfers. This also would facilitate non-Federal partners’ ability to seek private financing for major rehabilitation and replacement needs. Additionally, this would give non-Federal partners greater flexibility in setting operating criteria.

5. *Reduce Uncertainty by Authorizing the Secretary of the Interior to Review and Approve Permits for Pipelines Crossing Lands Administered by the National Parks Service*

- Current law delegates to the Secretary of the Interior authority to review and approve rights-of-way across lands administered by the NPS, but only for electric, water and communications facilities. For pipelines (natural gas and oil) and facilities necessary for the production of energy, specific congressional authorization is needed for each proposed project crossing one of these lands.
- Obtaining congressional approval for each pipeline crossing and facilities necessary for the production of energy is time consuming and delays construction of needed natural gas pipeline facilities. It also is inconsistent with the process adopted for other types of facilities.
- Authorizing the Secretary of the Interior to approve rights-of-way for pipelines and facilities necessary for the production of energy across NPS-administered land in a manner identical to that for other facilities would reduce the delays and uncertainties caused by requiring congressional approval.

## II. DELEGATION TO STATES

These provisions will streamline and expand existing procedures to entrust environmental review and permitting decisions to States. These provisions also would help avoid duplication by facilitating reliance on State and local reviews and documentation.

**A. Expand Department of Transportation NEPA Assignment Program to Other Agencies**

- Using current authority, DOT has successfully assigned its NEPA responsibilities to six States under certain conditions and contingent upon the States signing a memorandum of understanding with the DOT.
- However, this authorization to assign responsibility is limited to FHWA and FTA.
- Authorizing other agencies to assign NEPA responsibilities to States would extend the benefit of this program to other types of infrastructure agencies and projects, under requirements similar to those in the DOT NEPA assignment program.

**B. Allow States to Assume FHWA Responsibilities for Approval of Right-of-Way Acquisitions**

- Currently, there is no specific authorization for States to assume FHWA's responsibilities for approving right-of-way acquisition transactions. In addition, FHWA regulations require States to obtain authorization before proceeding with any real property acquisition using Federal-aid highway funds.

- Waiting for FHWA can delay the project delivery process for Federal review of what has become a routine activity for States.
- Providing States with authority to assume some, or all, of FHWA's responsibilities for approval of right-of-way acquisitions (subject to the same legal protections that currently apply to the right-of-way acquisition process) would eliminate these delays. DOT would retain the right to terminate a delegation if a State improperly carries out its responsibilities for approving right-of-way acquisitions.

### **C. Broaden NEPA Assignment Program to Include Other Determinations**

- Currently, the Surface Transportation Project Delivery Program ("NEPA assignment program") allows States to fully assume Federal responsibilities under NEPA for highway and transit projects. However, it prohibits DOT from assigning, and States from assuming responsibility for, any project-level conformity determination required under the Clean Air Act for the same projects (42 U.S.C. 7506). It also does not authorize States to assume responsibilities for determinations regarding flood plain protection and noise policies, which would affect determinations made by States during the environmental review process (23 U.S.C. 109 and 327).
- This inconsistent treatment diminishes the effect of the NEPA assignment program. It causes the environmental review process assumed by a State to be interrupted or impacted by Federal approvals or determinations during an environmental review that otherwise has been fully assumed by the State.
- Allowing DOT to assign, and States to assume, project-level transportation conformity determinations and determinations regarding flood plain protections and noise policies as part of the NEPA assignment program would create a more efficient NEPA assignment program. It also would provide an incentive for additional States to participate in the NEPA assignment program. Consistent with the requirements of the NEPA assignment program, States would need to demonstrate the technical capacity to make these determinations. This provision would not change EPA's responsibilities under the Clean Air Act.

## **III. PILOT PROGRAMS**

These provisions would create pilot programs to experiment with new ways to address environmental impacts while delivering projects in a more timely and predictable way.

### **A. Performance-Based Pilot**

- This pilot program would experiment with using environmental performance measures instead of an environmental review process to address environmental impacts of an infrastructure project. Up to 10 projects would be

selected to participate in the pilot based on project size, national or regional significance, and opportunities for environmental enhancements.

- The project sponsor for a selected project would agree to design its project to meet performance standards and permitting parameters established by the lead Federal agency. The lead Federal agency would develop these standards with public input and in coordination with other cooperating Federal agencies. The project sponsor's agreement to meet the performance standards and permitting parameters would be in lieu of complying with NEPA and relevant permits or other authorizations.
- The performance standards would result in design elements and enhanced mitigation that address the impacts of the project and meet permit requirements. The pilot would support the goals and objectives of NEPA and meet permit obligations without being constrained by its procedural requirements. It would focus on good environmental outcomes rather than a lengthy environmental review process.

#### **B. Negotiated Mitigation Pilot**

- This pilot program would experiment with negotiation of mitigation to address environmental impacts of transportation projects.
- This pilot would authorize the Secretary of Transportation (or other infrastructure agencies) to establish an alternative decision-making process in lieu of NEPA, based on negotiated mitigation agreements and supporting mitigation markets that address anticipated project impacts for a specific set of projects.
- Negotiated mitigation strategies could include purchase of offsets, avoidance of anticipated impacts, and in-lieu-fee dedicated to an advanced mitigation fund.
- This pilot also would establish conditions and limitations for the DOT authority under this pilot.

### **IV. JUDICIAL REFORM**

These provisions would reform judicial review standards for environmental reviews to avoid protracted litigation and to make court decisions more consistent. These provisions also would narrow the scope of judicial review by exempting certain actions or issues from challenge.

#### **A. Limit Injunctive Relief to Exceptional Circumstances**

- Currently, a legal challenge to a project under NEPA can delay the start of a project, due to the uncertainty it creates about whether the project will be able to proceed.
- This creates unpredictability regarding time frames for projects, which at the outset can discourage potential investors, and in the end can postpone the public benefits of needed infrastructure projects.

- Limiting injunctive relief to exceptional circumstances would allow for environmental concerns to be addressed without unduly delaying needed infrastructure projects.

**B. Revise Statute of Limitations for Federal Infrastructure Permits or Decisions to 150 Days**

- Currently, for many infrastructure projects, the statute of limitations allows plaintiffs to file legal challenges to Federal permitting and authorization decisions for up to six years after the decisions have been issued. In addition, under the program in which States can substitute comparable State laws for NEPA (“NEPA substitution program”), the statute of limitations is two years (23 U.S.C. 330).
- Infrastructure projects require significant investment in time and resources. Delays and uncertainty caused by legal challenges to environmental and permitting decisions inhibit investment in projects and impede the delivery of public benefits from improved infrastructure. These delays and uncertainties are exacerbated by long statutes of limitations, creating uncertainty well after decisions have been made.
- Establishing a uniform statute of limitations of 150 days for decisions and permits on infrastructure projects would reduce uncertainty and prevent substantial delays in project delivery, while still affording affected parties an adequate opportunity to initiate legal challenges. A 150-day statute of limitations would be consistent with the statute of limitations Congress already has enacted for surface transportation projects. In addition, revising the statute of limitations for the NEPA substitution program to 150 days would remove a barrier to States using this program.

**C. Provide Certainty in Claims on Currentness of Data in Environmental Reviews and Permits**

- Environmental reviews and permitting decisions require in-depth studies and data. These reviews can be costly and time consuming. Project sponsors and Federal agencies are expected to use current data in conducting their environmental and permitting reviews.
- With projects spanning several years, a project sponsor may need to conduct multiple studies to generate data on the same issue. While using complete and up-to-date data is necessary to make an informed decision, litigation risk should not be the primary driver in deciding whether to conduct a new study.
- Directing Federal agencies to establish guidelines regarding when new studies and data are required would clarify requirements and create more certainty in the NEPA process. Courts would be precluded from reviewing any claims based on the currentness of data, so long as agencies were in compliance with their established guidelines. In a case where agencies’ guidelines for the same data conflict, the guidance for the lead agency would prevail.

## **PART 4—WORKFORCE DEVELOPMENT**

These provisions are dedicated to the American workforce and to policies that will help Americans secure stable, well-paying jobs. The American workforce is an important national asset, and thus should be included in legislation aiming to strengthen and invest in our country's infrastructure.

Currently, there are almost seven million individuals looking for work and roughly six million unfilled jobs. Past Federal policies have left too many Americans behind. This Administration is committed to helping more individuals access affordable, relevant, quality education and skills-development that leads to full-time work and long-term careers. These provisions also will have the important benefit of helping more companies find skilled workers to fill open jobs.

An infrastructure bill will generate new projects that directly increase employment in the construction industry, as well as boost the demand for labor more broadly as additional infrastructure investment spurs economic growth. The provisions outlined below will ensure our country has enough skilled workers to perform not only existing work but also fill the new jobs created by the bill.

### **I. ACCESS TO EDUCATION AND WORKFORCE DEVELOPMENT PROGRAMS**

#### **A. Expand Pell Grant Eligibility to High-Quality, Short-Term Programs**

- The Federal Government spends tens of billions of dollars each year in grants for postsecondary education. However, the vast majority of these funds are available only to help pay for courses that meet certain time and/or length requirements. This model is becoming outdated given the expansion of short-term education and workforce development programs that teach relevant skills and help individuals secure well-paying jobs. For example, Pell Grants are generally available only to students who do not yet have a bachelor's degree and who are enrolled in institutions of higher education offering degree programs of at least 600 clock hours or 15 weeks in length.
- Pell Grants are not available for individuals pursuing shorter-term certifications, including persons who are in skilled trades and who are achieving certifications as part of an apprenticeship program. The Workforce Innovation and Opportunity Act (WIOA) can fund some of these types of education, but its funding is broadly distributed across a variety of workforce development efforts.
- Expanding Pell Grant eligibility to high-quality, short-term programs would allow individuals to use Pell Grants to pay for short-term programs that lead to a credential or certification in an in-demand field. There is no "one size fits all" approach to postsecondary education. Rather, there are multiple pathways to success for students, and Federal law should enable students to explore and access these pathways. It is of utmost importance that, as Pell recipients are given greater flexibility in spending grant dollars, measures are undertaken to

ensure students receive quality education. Additionally, efforts should be taken to ensure high-quality, short-term courses and programs are available in fields where there are shortages of qualified workers.

## **B. Reform Career and Technical Education**

- Equipping Americans with the education needed to do the jobs available in our modern economy does not just require changes to our postsecondary education and workforce development policies; it requires changes to our secondary education policies as well. One Federal program related to skills-development and career readiness – the Carl D. Perkins Career and Technical Education (CTE) program – is in dire need of reform. CTE funds are spread thinly and support a broad, fragmented range of activities, many of which are unlikely to improve student outcomes and are often not aligned to local workforce needs.
- Too often, CTE programs do not successfully prepare students for jobs in high-demand fields or local industries. In the 2015-2016 school year, the most common CTE field for secondary CTE concentrators – those who specialize in a single CTE field – was arts and design, followed by business and health.
- Enacting a modified version of the Perkins CTE reauthorization bill passed by the House in June 2017 (H.R. 2353) would ensure that more students in America’s secondary and postsecondary institutions have access to high-quality technical education that teaches them practical knowledge and skills needed in today’s technology-driven economy. There are several important opportunities to amend H.R. 2353 to improve the legislation and advance the Administration’s goals. Needed amendments include:
  - Directing the majority of funding to high schools to promote strategies such as apprenticeship, work-based learning, and dual-enrollment.
  - Authorizing activities to promote and expand apprenticeships.
  - Increasing high-quality CTE programs in high schools by promoting STEM CTE offerings and other offerings related to in-demand industry sectors (determined using the WIOA definition as a starting point and expanded based on input from the private sector) and requiring that they are evidenced-based (as defined by the Every Student Succeeds Act).
  - Allowing States to pool funds to support regional centers and consortia that support multiple districts in partnership with local businesses and other community stakeholders.
  - Strengthening the bill’s emphasis on the use of evidence-based research.
  - Authorizing funding for fast-track programs that prepare high school graduates for jobs rebuilding America’s infrastructure.

## **C. Strengthen Ties to the Workforce for College Students**

- The Federal Work Study program (FWS) currently is not well-suited or targeted to support students pursuing career and technical education, especially for low-income and low-skilled students seeking to enter or return to the workforce quickly.



- FWS funds are disproportionately distributed to four-year non-profit and flagship public institutions, leaving out quality two-year programs, many of which have a uniquely strong focus on workplace readiness.
- Enacting FWS reforms to better distribute the aid to schools and students who can most benefit would ensure that more participants obtain relevant workplace experience, including by participating in an apprenticeship. This could include:
  - Revamping the funding formula to send funds to schools with a strong record in enrolling Pell students and putting them on a pathway to success.
  - Limiting eligibility to undergraduates.
  - Using program dollars to fund career-related internships or expanding apprenticeship and career pathway programs.

## **II. EMPOWERING WORKERS**

### **A. Reform Licensing Requirements for Individuals Seeking a Job on an Infrastructure Project**

- In many cases, States accepting Federal funding to support infrastructure projects do not allow workers with out-of-State skilled trade licenses to work on those projects.
- Preventing out-of-State professionals from working on infrastructure projects can: (1) reduce the speed of these projects, delaying the effect of the economic benefit they provide; and (2) increase the cost of the projects by artificially limiting the supply of professionals available to work on those projects. These provisions also put Americans who live in rural States or other areas at a disadvantage since they frequently need to relocate (often temporarily) in order to secure work.
- Requiring that States accepting Federal funds for infrastructure projects accept workers with out-of-State licenses to work on those projects would speed project delivery, reduce project costs, and provide flexibility to workers with out-of-State skilled trade licenses.

###

March 12, 2018  
Prepared by: T. Bonkowski/M. Cortez  
Submitted by: K. Burton *KLB*  
Approved by: Paul A. Cook *PA. Cook*

## CONSENT CALENDAR

### CULVER DRIVE RECYCLED WATER PIPELINE REPLACEMENT CONSULTANT SELECTION

#### SUMMARY:

Due to recent pipe failures, the Culver Drive Recycled Water Pipeline Replacement project will replace 1,250 feet of eight-inch asbestos cement pipe in Culver Drive between University Drive and Ethel Coplen Way. Staff recommends that the Board:

- Authorize the addition of project 10588 in the amount of \$717,000 to the FY 2017-18 Capital Budget, and
- Authorize the General Manager to execute a Professional Services Agreement in the amount of \$149,850.50 with RCE Consultants to provide design engineering services for the Culver Drive Recycled Water Pipeline Replacement.

#### BACKGROUND:

The existing eight-inch recycled water pipeline currently located behind the westerly curb of Culver Drive and north of University Drive provides recycled water to the Rancho San Joaquin Golf Course and the landscaped parkway of Culver Drive. The pipeline was originally installed in 1976. The pipeline is asbestos cement pipe (ACP) and ultimately connects to a polyvinyl chloride (PVC) segment approximately 700 feet south of the street intersection of Culver Drive and Ethel Coplen/Sandburg Way. The ACP segment is approximately 1,250 feet and has had several repairs. During a recent repair, a sample portion of the ACP was removed and staff retained HDR to perform a forensic analysis on the pipe sample. HDR's analysis concluded the pipe exhibited corrosion of the interior or leaching of the lime component of ACP, which is likely caused by high pH levels in recycled water from the Michelson Water Recycling Plant (MWRP), and recommended replacing the pipeline. Several years ago, the distribution pipeline system in Blue Lake in the Woodbridge area was composed of ACP and required replacement due to this issue. Hydraulic modeling of the Zone A recycled water system reflected a need to increase the segment's pipe diameter from 8 inches to 12 inches to meet maximum velocity criteria.

#### Consultant Selection:

Staff issued a Request for Proposal in December 2017 for engineering services to four consultants: Infrastructure Engineering Corporation, RCE Consultants, West Yost Associates and Woodard & Curran. Staff completed a thorough review and evaluation of the four proposals received and recommends awarding the design contract to RCE Consultants. While each firm presented a broad depth of experience and expertise relative to pipeline replacement design, RCE made suggestions to effect an expedited design schedule, and proposed work-hours consistent to meet project milestones. A Consultant Selection Matrix with the results of

the evaluation is attached as Exhibit “A” and a copy of RCE Consultants’ proposal is attached as Exhibit “B”.

FISCAL IMPACTS:

Project 10588 is not included in the FY 2017-18 Capital Budget. Staff requests the addition of project 10588 to the FY 2017-18 Capital Budget as shown in the following table. Funding will be provided by the replacement fund for Recycled Water.

Project No.	Current Budget	Addition <Reduction>	Total Budget
10588	\$ -0-	\$717,000	\$717,000

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) and in conformance with California Code of Regulation, Title 14, Chapter 3, Section 15302 provides exemption for the replacement of existing facilities where the new facility will be located on the same site as the facility replaced and will have substantially the same purpose as the facility replaced. Additionally, State Guideline 15282 provides exemption for the installation of new pipeline as long as the project does not exceed one mile in length (i.e. 5,280 feet). A Notice of Exemption for the project will be prepared and filed with the County of Orange.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on February 20, 2018.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF PROJECT 10588 IN THE AMOUNT OF \$717,000 TO THE FY 2017-18 CAPITAL BUDGET AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT IN THE AMOUNT \$149,850.50 WITH RCE CONSULTANTS TO PROVIDE DESIGN ENGINEERING SERVICES FOR THE CULVER DRIVE RECYCLED WATER PIPELINE REPLACEMENT, PROJECT 10588.

LIST OF EXHIBITS:

- Exhibit “A” – Consultant Selection Matrix
- Exhibit “B” – RCE Consultant’s Proposal and Fee Schedule

**EXHIBIT "A"**  
**Consultant Selection Matrix**  
**Culver Drive RW ACP Pipeline Replacement**

Item	Description	Weights	Infrastructure Engineering	Woodard and Curran	West Yost	RCE				
<b>A</b>	<b>TECHNICAL APPROACH</b>	<b>40%</b>								
1	Overall Project Understanding / Approach	40%	4	1	3	2				
2	Scope of Proposal	40%	4	3	2	1				
3	Man Hour Estimates	20%	1	4	3	2				
	<u>Weighted Score (Technical Approach)</u>		3.4	2.4	2.6	1.6				
<b>B</b>	<b>QUALIFICATION AND EXPERIENCE</b>	<b>60%</b>								
1	Firm/Team	30%	4	3	2	1				
2	Project Manager	40%	4	3	2	1				
3	Project Engineer	30%	3	4	2	1				
	<u>Weighted Score (Experience)</u>		3.7	3.3	2.0	1.0				
	<u>COMBINED WEIGHTED SCORE</u>		3.6	2.9	2.2	1.2				
	<b>Ranking of Consultants</b>		<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>				
<b>C</b>	<b>SCOPE OF WORK</b>									
TASK			Task Hours	FEE	Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Final Design		327	\$105,608	526	\$155,511	390	\$143,775	471	\$149,851
	<b>TOTAL FEE</b>		<b>327</b>	<b>\$105,608</b>	<b>526</b>	<b>\$155,511</b>	<b>390</b>	<b>\$143,775</b>	<b>471</b>	<b>\$149,851</b>
<b>D</b>	<b>OTHER</b>									
	Joint Venture		No	No	No	No	No	No	No	No
	DIR Registration		10000013452	10000046744	10000028648	10000055180				
	Exceptions taken to IRWD Std. Contract		No	Yes	No	No	No	No	No	No
	Insurance (Professional & General Liability)		Yes	Low	Yes	Yes	Yes	Yes	Yes	Yes

Forced Ranking: 1 - Best, 2 - Next Best, 3 - Third Best, 4 - Least Best

## EXHIBIT "B"



### SCOPE OF WORK

We will provide the following scope of services. Our separate fee proposal is based on this scope of services.

1. Review of Background Material. We will review the record drawings provided by IRWD to understand the details of the existing facilities and the opportunities and constraints for the proposed design.
2. Topographic Survey. Our sub-consultant Towill Inc. will provide topographic ground survey. This will include the entire right-of-way of Culver Drive plus ten feet (10') on each side and fifty feet (50') beyond the connection points on each end. Traffic control and permitting for survey is included. This task will provide an accurate base map for the preliminary and final design of the project. Manholes and catch basins will be dipped during the field survey work.
3. Utility and Record Drawing Research. RCE will contact the utility purveyors and inform them of the proposed projects' intent and timeline. Existing and proposed utility information will be requested from each company.
4. Construction Documents.
  - a. Base Sheet Preparation – We will use the field survey to provide a topographic base map for the project site, with one-foot contour interval. RCE will utilize the utility research and record data collected above to prepare project base sheets.
  - b. 60% Construction Drawings – RCE will prepare 60% improvement plans based on the conceptual alignment. We will include profile of the proposed recycled water main and connection details.
  - c. 100% Construction Drawings – RCE will prepare final improvement plans and specifications based on IRWD review comments. Traffic Control plans will be provided as required by the City of Irvine.
  - d. Final Plans – We will incorporate any final comments into the drawings. The final bid documents will be stamped and signed by a California Registered Civil Engineer.

We anticipate the drawing set to include the following improvement plans:

- Title Sheet
- List of Drawings, Abbreviations, Location and Vicinity Maps, Legend, General Notes, Recycled Water Notes, Construction Notes and Quantities (2 drawings)
- Culver Drive 12-inch Pipeline Plan and Profile (2 drawings)



- Construction Details, Pipeline Connection Details, New 8" Meter configuration detail (2 drawings)
- Traffic Control Plans (2 to 3 drawings)

We will submit four (4) sets of the full size plans (24" x 36") to IRWD for review at each of the 60%, 100% draft and final completion levels. We will also submit the final signed and sealed mylars after all comments have been incorporated. We will submit the final electronic files on two (2) separate compact disks, one containing the AutoCAD files, the other containing a single pdf of the entire construction drawing set.

- e. Project Manual. We will submit four (4) sets of the Project Manual to IRWD for review at the 100% completion level, in standard IRWD color coded format. At final submittal stage, we will submit one copy of the Project Manual along with two (2) compact disks, one with the electronic files in Microsoft Word format, the other containing a single pdf of the Project Manual.
5. Pothole Investigation. Our sub-contractor AIRX Utility Surveyors, Inc. will provide twenty (20) potholes per the RFP to verify the locations and depths of existing underground pipes and conduits. This includes traffic control, City encroachment permit for potholing and cold patch restoration of pavement.
  6. Geotechnical Research. Our sub-consultant Sladden Engineering, Inc. will provide geotechnical investigation and recommendations as follows:
    - I. Underground Utility Clearance and Project Coordination – We will visit the site to perform an onsite reconnaissance and to mark the proposed subsurface exploration locations. We will coordinate with the City and utility companies for underground DigAlert as required by law. We will also coordinate with the project team and the City to coordinate our subsurface exploration.
    - II. Field Exploration – Our field (subsurface) exploration will consist of 2 borings to depths of approximately 15 to 20 feet with a hollow-stem auger drill rig along the alignment of the 1250-ft-long, 12-inch diameter recycled water pipeline. We will log all surface and subsurface conditions, determine the thickness of existing pavement and sub-pavement road sections, and obtain bulk and relatively undisturbed soil samples for geotechnical laboratory testing. The drill holes will be immediately backfilled with native soils that are capped by at least 12 inches of Perma Patch asphalt or quick set concrete.
    - III. Laboratory Testing - Laboratory testing, which will include the determination of in-situ moisture and density, maximum dry density and optimum moisture



content, particle size distribution, Atterberg Limits, soil corrosivity, and the determination of shear strength characteristics, will establish relevant engineering properties of the in-situ soil materials.

- IV. Data Compilation and Geotechnical Analysis – All collected data will be compiled and geotechnical engineering analysis will be performed on all information obtained from the field exploration and laboratory testing.
- V. Geotechnical Report Preparation – A geotechnical report presenting our findings, conclusions, recommendations, and supporting data will be prepared and submitted. This report will include but not be limited to:
  - a. A description of the site geology and subsurface soils that are expected to be encountered during construction.
  - b. An evaluation of the depths to groundwater or seepage, if any.
  - c. Anticipated trenching conditions and recommended pipe bedding materials.
  - d. Analysis of the temporary stability of the pipeline excavations and recommended earth pressures for shoring design, as necessary.
  - e. Excavation and compaction requirements, including suitability of the onsite soils for trench backfill.
  - f. Pavement design recommendations.
7. Permits: We will identify the permits required, prepare the applications and secure the permits with the City of Irvine. The permit fees are not included in our fee estimate and will be reimbursed by IRWD separately (without surcharge).
8. Opinion of Probable Cost and Submittal Log. We will prepare and submit an itemized opinion of probable construction cost at each of the 60% and 100% design completion levels. We will also provide the submittal log at final submittal on standard IRWD template.
9. CEQA Documentation. We will provide IRWD with relevant data regarding environmental impact of construction activities and a location map for the Notice of Exemption (NOE), so that IRWD staff can complete and file the final CEQA document.
10. Project Meetings. We will attend four (4) meetings (including the kick-off meeting and three plan review meetings) at IRWD offices during the design phase of this project. We will schedule the meetings; prepare agendas, meetings minutes and a summary of action items for each meeting.
11. Project Schedule. We have included an overall project schedule that should get this replacement pipe in the ground faster than initially anticipated. We will update it as the work progresses. This schedule shows the design, bid and construction phases.



12. Liquidated Damages Calculations: We will assist with the calculation of liquidated damages based on IRWD's standard liquidated damage calculation form.
13. Bid Period Assistance. We will provide information and clarification of the bid documents to the bidders. We have included the preparation of one (1) addendum during the bid period if requested by IRWD.

**ASSUMPTIONS & EXCLUSIONS:**

- IRWD to provide existing facility record drawings of IRWD owned facilities.
- Hydraulic modeling is excluded from this proposal.





## **PROJECT TEAM**

### **Firm Overview**

**RCE Consultants, Inc.**, is a civil engineering firm specializing in providing design and construction management services to Cities and Special Districts, as well as residential community land development. Started in 2004 by two civil engineers, who combined have over 60 years' experience serving the Southern California region, the company is built on the strong foundation of their collective experience.

The **mission** of RCE is to focus on specialized areas of expertise by providing each of our clients the same excellent service, constant communication, and quality product that they have come to expect from our firm. Principal involvement on every assignment is the foundation by which the company operates.

Combined with our focus on responsiveness, providing services that meet and exceed our client's expectations, forms the core of our company. We have built our individual reputations on these same values and have assembled a team of like-minded professionals.

### **A list of major services in which RCE specializes follows:**

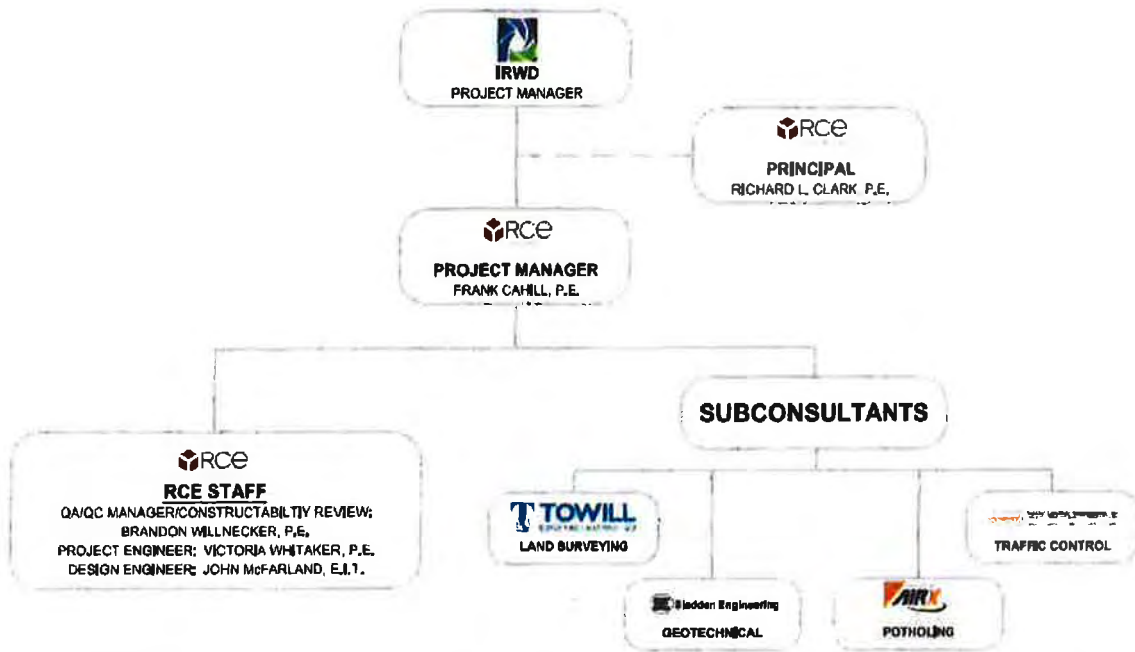
- Water/ transmission and distribution systems
- Roadway design
- Utility master plans
- Construction Engineering
- Residential/Commercial Land Development Engineering
- Survey

Within each of these specialties RCE has developed a team of skilled professionals to find effective solutions to complex issues. Their professionalism, pride of ownership, and attention to detail is brought to bear on each and every project.



**Primary Staff**

RCE has assembled a team of uniquely qualified and highly talented professionals to assist IRWD with this project. The members of the team have recent and relevant experience having completed projects of similar scale and complexity for several Water Districts and Cities throughout Southern California. The team is comprised of RCE staff members that have been working together for the last ten years. We have analyzed our contracted backlog as it relates to the individual team members for this project and can therefore apply the appropriate staffing resources to this project as required to effectively expedite the design and permitting of these improvements over the coming months.



**RCE Consultants Fee for IRWD Culver Drive ACP Recycled Water Pipeline Replacement**

Description	Sr. Project Manager \$ 225.00	PE/Project Coordinator \$ 162.00	E3/Senior Designer \$ 138.00	Designer/CAD \$ 118.00	Word Processor/Admin Support \$ 77.00	Sub Consultants & Other Direct Costs	Subtotal		Fee	
							Hrs.	\$	Hrs.	\$
							0.0	\$ -		
Review Background Material	1.0	2.0	4.0				7.0	\$ 1,141.00		
Topographic Field Survey	1.0	2.0	4.0	6.0		\$16,000.00	13.0	\$ 17,848.00		
Utility Review	1.0	2.0	8.0	16.0			27.0	\$ 3,581.00		
Construction Plans							0.0	\$ -		
80% Submittal*						\$1,000.00	0.0	\$ 1,000.00		
Title Sheet	0.5	0.5	1.0	6.0			8.0	\$ 1,049.50		
Sheets 2 and 3: List of Drawings, Abbreviations, Location & Vicinity Maps, Legend, Quantities, etc.	0.5	0.5	1.0	6.0			8.0	\$ 1,049.50		
Sheets 4 and 5: Pipeline Plan	1.0	8.0	12.0	16.0			37.0	\$ 5,225.00		
Sheets 6: 8" Meter Detail	1.0	8.0	12.0	16.0			37.0	\$ 5,225.00		
Sheets 7: Details	0.5	4.0	6.0	16.0			28.5	\$ 3,832.50		
100% Draft Submittal*						\$1,000.00	0.0	\$ 1,000.00		
Title Sheet		0.5		2.0			2.5	\$ 327.00		
Sheets 2 and 3: List of Drawings, Abbreviations, Location & Vicinity Maps, Legend, Quantities, etc.	0.5	1.0	4.0	8.0			13.5	\$ 1,790.50		
Sheets 4 and 5: Pipeline Plan	1.0	4.0	8.0	16.0			29.0	\$ 3,945.00		
Sheets 6: 8" Meter Detail	0.5	4.0	6.0	8.0			18.5	\$ 2,612.50		
Sheets 7: Details	0.5	2.0	3.0	8.0			13.5	\$ 1,834.50		
Sheets 8 & 9: Traffic Control Plans	1.0	2.0	4.0			\$12,000.00	7.0	\$ 13,141.00		
Project Manual	8.0	10.0	20.0		6.0		44.0	\$ 6,842.00		
Final Submittal*						\$1,000.00	0.0	\$ 1,000.00		
Title Sheet		0.5		1.0			1.5	\$ 209.00		
Sheets 2 and 3: List of Drawings, Abbreviations, Location & Vicinity Maps, Legend, Quantities, etc.		0.5	2.0	4.0			6.5	\$ 839.00		
Sheets 4 and 5: Pipeline Plan	0.5	2.0	4.0	6.0			12.5	\$ 1,736.50		
Sheets 6: 8" Meter Detail	0.5	2.0	4.0	4.0			10.5	\$ 1,500.50		
Sheets 7: Details	0.5	1.0	2.0	4.0			7.5	\$ 1,042.50		
Sheets 8 & 9: Traffic Control Plans	0.5	1.0	2.0			\$1,500.00	3.5	\$ 2,070.50		
Project Manual	4.0	8.0	16.0		6.0		34.0	\$ 5,026.00		
Dewatering Plan	1.0	2.0	4.0				7.0	\$ 1,141.00		
Potholing (20 Total)**	1.0	2.0	3.0	6.0		\$40,000.00	12.0	\$ 41,711.00		
Geotechnical Engineering	1.0	2.0	2.0			\$9,000.00	5.0	\$ 9,865.00		
Permits		4.0	8.0				12.0	\$ 1,832.00		
Engineer's Estimate and Submittal Log	0.5	2.0	4.0	6.0			12.5	\$ 1,736.50		
CEQA Documentation		1.0	2.0	4.0			7.0	\$ 930.00		
Project Meetings (4 total)	8.0	8.0			4.0		20.0	\$ 3,564.00		
Project Schedule	1.0	4.0	6.0				11.0	\$ 1,781.00		
Liquidated Damages Calculations	0.5	2.0					2.5	\$ 476.50		
Bid Period Assistance	0.5	4.0	8.0				12.5	\$ 1,944.50		
<b>Subtotal</b>	<b>37.5</b>	<b>96.5</b>	<b>162.0</b>	<b>158.0</b>	<b>16.0</b>	<b>\$81,500.00</b>	<b>471.0</b>	<b>\$ 149,650.50</b>		


\* \$1,000 included per submittal for printing and copying  
 \*\* Each Additional Pothole: \$2,000

Please Note that this Fee is calculated based on an estimate of the hours required for each task. Based on IRWD's review and input we are open to discussing any line item and revising the fee if necessary.

March 12, 2018

Prepared by: S. Malloy

Submitted by: K. Burton 

Approved by: Paul A. Cook 

## CONSENT CALENDAR

### MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES CONTRACT CHANGE ORDER NO. 73

#### SUMMARY:

Filanc/Balfour-Beatty (FBB) is constructing the Michelson Water Recycling Plant (MWRP) Biosolids and Energy Recovery Facilities (Biosolids Project). Contract Change Order (CCO) No. 73 includes costs for additional electrical conduits and circuits for control of the dewatering centrifuges. Staff recommends that the Board approve CCO No. 73 in the amount of \$150,755.29 with FBB.

#### BACKGROUND:

Construction of the Biosolids Project was awarded to FBB in March 2013 in the amount of \$163,465,940. The Biosolids Project will provide biosolids digestion, dewatering, energy production, and on-site sludge drying. The project includes excavation for subsurface structures; installation of foundation piles; three egg-shaped digesters; a state-of-the-art odor control system; a biogas conditioning system and power generation using microturbines; a fats, oil and grease (FOG) receiving station; and new utility services. These facilities are being constructed on the land north of IRWD's Operations Center, maintenance shops, water quality laboratory, and warehouse.

#### CCO No. 73:

Staff negotiated with FBB and agrees to the labor and material costs contained in CCO No. 73, in the amount of \$150,755.29, which contains the following item:

- *Additional Circuits for Control of the Dewatering Centrifuges* – During the submittal process it was discovered that the centrifuge manufacturer required additional conduits and circuits for control of the three dewatering centrifuges. Conduits and circuits were added from the dewatering centrifuges to the local control panels located adjacent to the centrifuges as well as to the electrical panels on the ground floor in the electrical room. This item is for labor and material to provide the additional electrical circuits required by the centrifuge manufacturer.

Staff recommends that the Board approve CCO No. 73 in the amount of \$150,755.29, which is attached as Exhibit "A". Items that do not claim or grant additional time are considered full compensation for those items. If items require additional time, the items included in this change order are considered full compensation except for time impacts. The Contractor reserves the right to claim time impacts, but the Contractor must show any time impacts to the project's critical path and how IRWD is responsible for these time impacts. Resolution of these time

impacts is scheduled for a later date. CCO No. 73 does not extend any of the milestone completion dates.

The construction change order summary is attached as Exhibit “B”. The following is a summary of the categories of the change orders:

Category	Total Amount	% of Original Contract
A - District Convenience/Initiation - Project Related	\$ 2,778,773.60	1.70%
B - Differing Site Conditions	\$12,438,424.40	7.61%
C - Design Oversight	\$ 3,224,803.13	1.97%
D - District Convenience/Initiation - Non-Project Related	\$ -	0.00%
E - Contractor Convenience/Initiation	\$ 98,302.54	0.06%
F - Contractor Requested Inspection Overtime	\$ (262,020.00)	-0.16%
TOTAL (All Items A - F)	\$18,278,283.67	11.18%

FISCAL IMPACTS:

The MWRP Biosolids and Energy Recovery Facilities Project 04286 is included in the FY 2017-18 Capital Budget. The existing budget is sufficient to fund the change order.

ENVIRONMENTAL COMPLIANCE:

The MWRP Biosolids and Energy Recovery Facilities is subject to the California Environmental Quality Act (CEQA) and in conformance with the California Code of Regulations Title 14, Chapter 3, Article 7, a Supplemental Environmental Impact Report (SEIR), SCH # 2011031091, was certified by IRWD at its October 22, 2012 meeting. The City of Irvine Planning Commission approved a conditional use permit for the IRWD Biosolids Project at its December 6, 2012 meeting.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on February 20, 2018.

RECOMMENDATION:

THAT THE BOARD APPROVE CONTRACT CHANGE ORDER NO. 73 IN THE AMOUNT OF \$150,755.29 WITH FILANC/BALFOUR BEATTY FOR ADDITIONAL ELECTRICAL CONDUITS AND CIRCUITS FOR CONTROL OF THE DEWATERING CENTRIFUGES FOR THE MICHELSON WATER RECYCLING PLANT BIOSOLIDS AND ENERGY RECOVERY FACILITIES, PROJECT 04286.

LIST OF EXHIBITS:

- Exhibit “A” – Contract Change Order No. 73 with FBB
- Exhibit “B” – Construction Change Order Summary

**CONTRACT CHANGE ORDER**

**EXHIBIT "A"**



**Irvine Ranch Water District**

15600 Sand Canyon Avenue  
P.O. Box 57000  
Irvine, CA 92619-7000  
(949) 453-5300

C.O. No. 73

Final

Project No. 04286

**MWRP Biosolids and Energy Recovery Facilities**

Project Title

Date: 02/7/2018

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	\$ ADDITIONS	\$ DELETIONS	DAYS ±
1. Additional Circuits for Control of the Dewatering Centrifuges (CR-386B) PR 04286 Task 5.30	\$150,755.29	\$0.00	See Notes
Notes: 1. For all items noted above, the Contractor reserves the right to compensable and/or excusable time extensions provided that time impacts to the Project's critical path are demonstrated to be beyond the Contractor's control. 2. Contractor reserves any and all rights it has and otherwise does not waive or release any claims it may have for additional compensation related to impact, including but not limited to the cumulative effect of the number, nature, or extent of any changes or design clarifications. 3. The project completion date of October 31, 2017 per CCO No. 45 is unchanged by this Change Order.			
<b>TOTAL</b>	<b>\$150,755.29</b>	<b>\$0.00</b>	<b>0</b>

DAYS ±

1. NET AMOUNT THIS CHANGE ORDER	=	\$150,755.29	0
2. ORIGINAL CONTRACT AMOUNT	=	\$163,465,940.00	1,278
3. TOTAL PREVIOUS CHANGE ORDER(S)	=	\$18,127,528.38	368
4. TOTAL BEFORE THIS CHANGE ORDER (2+ 3)	=	\$181,593,468.38	1,646
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	=	\$181,744,223.67	1,646

We hereby agree to make the above change subject to the terms of this change order for the sum of: \_\_\_\_\_  
-----One Hundred Fifty Thousand Seven Hundred Fifty-Five and 29/100 -----Dollars

Filanc/Balfour-Beatty

Date \_\_\_\_\_ Contractor \_\_\_\_\_ By: Harry Cosmos, President

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED
<u>Steve Malloy</u> IRWD Engineer or Consulting Engineer Principal Engineer	<u>2/13/18</u> Date	Department Director Approval Required <input type="checkbox"/> Executive Director Approval Required <input type="checkbox"/> General Manager Approval Required <input type="checkbox"/> Board Approval Required <input checked="" type="checkbox"/>
Executive Director of Engineering & Water Quality	Date	
General Manager	Date	Purchase Order No. _____

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

**EXHIBIT "B"**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
1	Approved by Exe. Director of Engineering and Water Quality Approved on October 24, 2013 1.1 Modifications to Road to Development Area - Delete AC to Triangle, add AB to Michelson (CR-004)	A	IRWD	\$ 20,202.42	\$20,202.42	\$0.00	\$20,202.42	0.01%	\$163,486,142.42	0	0	0	1,278	10/28/2016
2	Approved by Exe. Director of Engineering and Water Quality Approved on November 13, 2013 2.1 Street Light Conduit Modifications (CR-007)	B	IRWD	\$ 12,475.08	\$12,475.08	\$20,202.42	\$32,677.50	0.02%	\$163,498,617.50	0	0	0	1,278	10/28/2016
3	Approved by Board of Directors Approved on March 10, 2014 3.1 Bid Quantity Adjustment of Bid Item 8.6 Pre-Drill	B	FBB	\$ 745,503.00	\$745,503.00	\$32,677.50	\$778,180.50	0.48%	\$164,244,120.50	0	0	0	1,278	10/28/2016
4	Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014 4.1 Installation of Five Additional Groundwater Wells and Monitoring – (CR-006) PR 21146 (4286) Task 3505 4.2 Brace Bay Modifications at the FOG Station – (CR-015) PR 21146 (4286) Task 3505 4.3 Grounding Extension at Nitrogen and Mineral Oil System (CR-025) PR 21146 (4286) Task 3510	A	IRWD	\$11,047.81	\$23,029.22	\$778,180.50	\$801,209.72	0.49%	\$164,267,149.72	0	0	0	1,278	10/28/2016
5	Approved by Exe Dir of Eng & Water Quality Approved on March 14, 2014 5.1 Unidentified Utility - Meter Shop Discharge (CR-008) PR 21146 (4286) Task 3505 5.2 Connection Beam Modifications at Solids Handling Facility (CR-014) PR 21146 (4286) Task 3235 5.3 Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505	B	IRWD	\$15,225.75	\$24,851.73	\$801,209.72	\$826,061.45	0.51%	\$164,292,001.45	0	0	0	1,278	10/28/2016
6	Approved by General Manager Approved on March 20, 2014 6.1 Additional Costs to Install Piles to the Design Tip (CR-033) PR 21146 (4286) Task 3505	B	FBB	\$31,815.00	\$31,815.00	\$826,061.45	\$857,876.45	0.52%	\$164,323,816.45	0	0	0	1,278	10/28/2016

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
C - Design Oversight  
D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

B-1

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
7	Approved by Exe Dir of Eng & Water Quality Approved on April 21, 2014				\$24,725.00	\$857,876.45	\$882,601.45	0.54%	\$164,348,541.45	0	0	0	1,278	10/28/2016
7.1	Meter Shop Discharge Pipe Leak Investigation and Repair (CR-013) PR 21146 (4286) Task 3505	B	IRWD	\$2,542.00						0				
7.2	Additional Reinforcement and Lifting Eyes for Removable Slabs at Solids Handling Building (CR-021) PR 21146 (4286) Task 3505	C	FBB	\$14,059.00						0				
7.3	Increased Grating Thickness at Solids Handling Facility (CR-041) PR 21146 (4286) Task 3505 Additional Conductance Probe Materials for Relay Level Switches for Various Sumps Located at the Microturbine Area PR 21146 (4286) Task 3510	C	FBB	\$8,124.00						0				
8	Approved by General Manager Approved on April 21, 2014				(\$49,990.00)	\$882,601.45	\$832,611.45	0.51%	\$164,298,551.45	0	0	0	1,278	10/28/2016
8.1	Cost Sharing for Project Partnering (CR-Credit for Primavera 7.0 Project Portfolio Management Software (CR-002) PR 21146 (4286) Task 3235	A	IRWD	(\$14,611.00)						0				
8.2	21146 (4286) Task 3235	A	IRWD	(\$2,700.00)						0				
8.3	Deletion of Concrete Pad near Development Area (CR-004A) PR 21146 (4286) Task 3235	A	IRWD	(\$3,865.00)						0				
8.4	Deletion of Ground Test Device (CR-034) PR 21146 (4286) Task 3210	A	IRWD	(\$15,579.00)						0				
8.5	Deletion of Existing T-4 Switchgear Level Indicating Switch (CR-035) PR 21146 (4286) Task 3210	A	IRWD	(\$9,167.00)						0				
8.6	Change to NEMA 4X Panels and Modification to NEMA 4X Bar Graph Display (CR-046) PR 21146 (4286) Task 3210	A	IRWD	(\$4,068.00)						0				
9	Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				\$24,840.17	\$832,611.45	\$857,451.62	0.52%	\$164,323,391.62	0	0	0	1,278	10/28/2016
9.1	Additional Circuits for Gas Monitors and Re-route of Conduits in Solids Handling Facility (CR-028) PR 21146 (4286) Task 3510	C	FBB	\$1,187.49						0				
9.2	Cantilevered Beam Support Modifications in the Solids Handling Facility (CR-049) PR 21146 (4286) Task 3505	C	FBB	\$4,605.30						0				
9.3	Additional Ethernet Switches (CR-062) PR 21146 (4286) Task 3510	C	IRWD	\$19,047.38						0				
10	Approved by Exe. Director of Eng. & Water Quality Approved on May 31, 2014				\$21,398.99	\$857,451.62	\$878,850.61	0.54%	\$164,344,790.61	0	0	0	1,278	10/28/2016
10.1	Additional Grace Ports for Various PLCs (CR-030) PR 21146 (4286) Task 3510	C	IRWD	\$8,580.62						0				
10.2	Provide H-20 Rated Hatches at WAS Pump Station and Valve Vault (CR-061) PR 21146 (4286) Task 3505	C	IRWD	\$12,818.37						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
C - Design Oversight  
D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

B-2



**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
11	Approved by Exe. Director of Eng. & Water Quality Approved on June 4, 2014				\$24,739.76	\$878,850.61	\$903,590.37	0.55%	\$164,369,530.37	#REF!	0	#REF!	#REF!	10/28/2016
11.1	Waste Activated Sludge (WAS) Pump Station Structural Modifications (CR-023) PR 21146 (4286) Task 3505	C	IRWD	\$12,905.49						0				
11.2	Removable Slab Modifications on the Second Floor of Solids Handling Building (CR-064) PR 21146 (4286) Task 3505	C	IRWD	\$11,834.27						0				
12	Approved by Board of Directors Approved on July 21, 2014				\$156,580.22	\$903,590.37	\$1,060,170.59	0.65%	\$164,526,110.59	0	0	0	1,278	10/28/2016
12.1	Final Bid Quantity Adjustment for Bid Item No. 5.2 - Undocumented Fill (suitable) - Remedial Grading - Remove and Re-compact a net increase of 8,104.7 CY from 51,700 CY to 59,804.7 CY at \$5/CY. PR 21146 (4286) Task 3505	B	N/A	\$40,523.37						0				
12.2	Final Bid Quantity Adjustment for Bid Item No. 5.5 - Undocumented Fill (not suitable) - Remedial Grading - Remove and Export Offsite, a net increase of 60 CY, from 1,800 CY to 1,860 CY at \$25 /CY. PR 21146 (4286) Task 3505	B	N/A	\$1,500.00						0				
12.3	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at \$0.40/SF. PR 21146 (4286) Task 3505	B	N/A	(\$2,165.60)						0				
12.4	Final Bid Quantity Adjustment for Bid Item No. 5.6 - Geotextile Fabric - Remedial Grading, a net decrease of 5,414 SF, from 181,500 SF to 176,086 SF at \$0.40/SF. PR 21146 (4286) Task 3505	B	N/A	(\$6,523.33)						0				
12.5	Final Bid Quantity Adjustment for Bid Item No. 5.8 - Undocumented Fill - Deep Foundations - Removal, a net increase of 966 CY, from 21,650 CY to 22,616 CY at \$5.50/CY. PR 21146 (4286) Task 3505	B	N/A	\$5,313.00						0				
12.6	Final Bid Quantity Adjustment for Bid Item No. 5.9 - Alluvium - Remedial Grading - Removal and Export Offsite, a net increase of 2,076 CY, from 28,154 CY to 30,230 CY at \$35/CY. PR 21146 (4286) Task 3505	B	N/A	\$72,665.98						0				
12.7	Final Bid Quantity Adjustment for Bid Item No. 5.10 - Undocumented Fill Deep Foundations - Compaction of stockpiled materials, a net increase of 3,117 CY, from 11,400 CY to 14,517 CY at \$15/CY. PR 21146 (4286) Task 3505	B	N/A	\$46,755.00						0				
12.8	Final Bid Quantity Adjustment for Bid Item No. 5.11 - Undocumented Fill - Deep Foundations - Export excess offsite a net decrease of 2,151 CY, from 10,250 CY to 8,099 CY PR 21146 (4286) Task 3505	B	N/A	(\$30,114.00)						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
C - Design Oversight  
D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
12.9	Final Bid Quantity Adjustment for Bid Item No. 5.12 - Geotextile Fabric - Deep Foundations, a net increase of 9,218 SF, from 51,500 SF to 60,718 SF at \$0.60/SF. PR 21146 (4286) Task 3505	B	N/A	\$5,530.80						0				
12.10	Final Bid Quantity Adjustment for Bid Item No. 5.13 - Aggregate Base - Deep Foundations, a net increase of 513.2 CY, from 2,860 CY to 3,373.2CY at \$45/CY. PR 21146 (4286) Task 3505	B	N/A	\$23,095.00						0				
13	Approved by Exe. Director of Engineering & Water Quality Approved on July 10, 2014				\$10,129.18	\$1,060,170.59	\$1,070,299.77	0.65%	\$164,536,239.77	0	0	0	1,278	10/28/2016
13.1	Modifications to Switchgear 16 (CR-070) PR 21146 (4286) Task 3510	A	FBB	\$10,129.18						0				
14	Approved by General Manager Approved on June 24, 2014				\$44,543.19	\$1,070,299.77	\$1,114,842.96	0.68%	\$164,580,782.96	0	0	0	1,278	10/28/2016
14.1	Slide Gates Clarification Regarding Actuators (CR-039) PR 21146 (4286) Task 3520	A	IRWD	\$44,543.19						0				
15	Approved by General Manager Approval on July 31, 2014				\$45,214.40	\$1,114,842.96	\$1,160,057.36	0.71%	\$164,625,997.36	0	0	0	1,278	10/28/2016
15.1	Provide Masonry Shelf Angle at Digester Control Building (CR-031) PR 21146 (4286) Task 3505	C	FBB	\$27,543.19						0				
15.2	Beam Size Increase for Monorail Runway in Solids Handling Building - (CR-074) PR 21146 (4286) Task 3505	C	FBB	\$1,200.47						0				
15.3	Upsize Odor Control Circulation Pump Motor Disconnects (CR-082) PR 21146 (4286) Task 3510	B	FBB	\$1,184.83						0				
15.4	Additional Deck Support for the Solids Handling Building Roof (CR-044) PR 21146 (4286) Task 3505	C	FBB	\$15,285.91						0				
16	Approved by E&O Committee Approved on August 19, 2014				\$62,037.10	\$1,160,057.36	\$1,222,094.46	0.75%	\$164,688,034.46	0	0	0	1,278	10/28/2016
16.1	Installation of Level 3 Diesel Particulate Filter (DPF) on the Standby Generator - (CR-073) PR 21146 (4286) Task 3520	B	IRWD	\$62,037.10						0				
17	Approved by Board of Directors Approved on August 25, 2014				(\$106,241.99)	\$1,222,094.46	\$1,115,852.47	0.68%	\$164,581,792.47	0	0	0	1,278	10/28/2016
17.1	Modifications to Switchgear 16 (CR-070A) PR 21146 (4286) Task 3510	A	FBB	(\$106,241.99)						0				
18	Approved by Board of Directors Approved on August 25, 2014				\$108,087.55	\$1,115,852.47	\$1,223,940.02	0.75%	\$164,689,880.02	0	0	0	1,278	10/28/2016
18.1	Stormwater Drainage System Modification (CR-017) PR 21146 (4286)	A	IRWD	\$108,087.55						0				

A - District Convenience/Initiation - Project Related  
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D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
19	Approved by Executive Director of Engineering & Water Quality Approved on September 30, 2014				\$72,572.86	\$1,223,940.02	\$1,296,512.88	0.79%	\$164,762,452.88	0	0	0	1,278	10/28/2016
19.1	Modification to Switchgear 16 (CR-070B) PR 21146 (4286) Task 3510	A	IRWD	\$1,125.75						0				
19.2	Alluvium Removal Due to 36-inch Storm Drain Installation (CR-085) PR 21146 (4286) Task 3520	B	N/A	\$14,140.00						0				
19.3	Additional Structural Support for Fats, Oils, and Grease (FOG) Grinders (CR-081) PR 21146 (4286) Task 3505	C	FBB	\$8,323.99						0				
19.4	Portable Lift Truck for 480V ABB Breakers (CR-108) PR 21146 (4286) Task 3510	A	IRWD	\$2,625.12						0				
19.5	Retaining Wall North and West of Biosolids Site (CR-010) PR 21146 (4286) Task 3505	B	IRWD	\$46,358.00						0				
20	Approved by Executive Director of Engineering & Water Quality Approved on November 19, 2014				\$54,485.63	\$1,296,512.88	\$1,350,998.51	0.83%	\$164,816,938.51	0	0	0	1,278	10/28/2016
20.1	Nitrogen Slab Modifications (CR-052) PR 21146 (4286) Task 3505	A	IRWD	\$24,855.80						0				
20.2	Additional Conduits and Circuits for the Access Control Systems for the Solids Handling Building and the Digester Control Building (CR-082) PR 21146	A	IRWD	\$3,412.13						0				
20.3	Digital Power Meters Change for SWGR-14 and SWGR-15 (CR-109) PR 21146 (4286) Task 3510	A	IRWD	\$3,863.22						0				
20.4	Truck Unloading Panel Modifications (CR-115) PR 21146 (4286) Task 3510	A	IRWD	\$12,843.50						0				
20.5	Switchgear SWGR-14 Modifications (CR-116) PR 21146 (4286) Task 3510	A	IRWD	\$9,510.98						0				
21	Approved by General Manager Approved on January 30, 2015				\$ 98,506.19	\$1,350,998.51	\$1,449,504.70	0.89%	\$164,915,444.70	0	0	0	1,278	10/28/2016
21.1	Additional Anchorage for Methane Digesters (CR-051A) PR 21146 (4286) Task 3520	B	FBB	\$92,367.44						0				
21.2	Additional Input/Outputs Review of Master I/O List (CR-136) PR 21146 (4286) Task 3510	C	FBB	\$6,138.75						0				

A - District Convenience/Initiation - Project Related  
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F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: <b>\$163,465,940.00</b>						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
22	Approved by Board of Directors Approved on February 9, 2015				\$964,324.51	\$1,449,504.70	\$2,413,829.21	1.48%	\$165,879,769.21	0	0	0	1,278	10/28/2016
22.1	Electrical Conduit Overfill (CR-055) PR 21146 (4286) Task 3510	C	FBB	\$485,250.28						0				
22.2	Heat Dryer Equipment Escalation Costs (CR-057) PR 21146 (4286) Task 3520	B	FBB	\$333,477.50						0				
22.3	Glass-lining Sludge Density Meters (CR-067) PR 21146 (4286) Task 3510	A	IRWD	\$71,010.74						0				
22.4	Switchgear-16 Enclosure (CR-040) PR 21146 (4286) Task 3510	C	FBB	\$56,882.30						0				
22.5	Propane Gas Tank Foundation Demolition (CR-084) PR 21146 (4286) Task 3505	C	IRWD	\$2,004.98						0				
22.6	Credit for travel costs related to inspection of centrifuges in Germany (CR-091) PR 21146 (4286) Task 3520	A	IRWD	(\$5,573.42)						0				
22.7	Deletion of MMC Switchgear-14 Breaker (CR-092) PR 21146 (4286) Task 3510	A	IRWD	(\$5,032.00)						0				
22.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	C	IRWD	\$23,269.61						0				
22.9	Overtime to perform work in the Solids Handling electrical room (CR-103) PR 21146 (4286) Task 3510	A	IRWD	\$1,384.47						0				
22.10	Credit for modification to the Uninterruptible Power System (CR-118) PR 21146 (4286) Task 3510	A	IRWD	(\$9,771.72)						0				
22.11	Addition of Low Voltage Compartment in SCE Switch "C" (CR-160) PR 21146 (4286) Task 3510	A	IRWD	\$2,156.20						0				
22.12	Addition of input/output points relating to sump pumps located at the Solids Handling Building (CR-161) PR 21146 (4286) Task 3510	A	FBB	\$9,265.57						0				

- A - District Convenience/Initiation - Project Related
- B - Differing Site Conditions
- C - Design Oversight
- D - District Convenience/Initiation - Non-Project Related
- E - Contractor Convenience/Initiation
- F - Contractor Requested Inspection Overtime

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
23	Approved by General Manager Approved on February 26, 2015				\$97,005.10	\$2,413,829.21	\$2,510,834.31	1.54%	\$165,976,774.31	0	0	0	1,278	10/28/2016
23.1	Additional Steel Reinforcement the Pellet Storage Silos Anchor Bolts (CR-094) PR 21146 (4286) Task 3505	B	FBB	\$5,514.57						0				
23.2	Differential Pressure Transmitter (CR-094) PR 21146 (4286) Task 3510	A	IRWD	\$2,535.33						0				
23.3	Additional Aluminum Trench Grating in Digester Control Building (CR-107) PR 21146 (4286) Task 3520	A	IRWD	\$7,552.11						0				
23.4	Light Weight Concrete for Electrical Conduits Underneath the Solids Handling Building Electrical Room (CR-113) PR 21146 (4286) Task 3510	A	IRWD	\$30,535.94						0				
23.5	Adding Energyjets Weir Plates to Dewatering Centrifuges – (CR-124) PR 21146 (4286) Task 3520	A	IRWD	\$11,139.25						0				
23.6	Provide Angle Supports for the Removable Slabs at the Solids Handling Building – (CR-137) PR 21146 (4286) Task 3520	A	IRWD	\$20,671.61						0				
23.7	Structural Modification at Solids Handling Building – (CR-140) PR 21146 (4286) Task 3520	C	FBB	\$1,109.42						0				
23.8	Increase of Fiber Optic Conduit Size (CR-097) PR 21146 (4286) Task 3510	A	IRWD	\$5,516.45						0				
23.9	Steel Joist Framing Modifications at Digester Control Building (CR-151) PR 21146 (4286) Task 3505	C	FBB	\$2,286.29						0				
23.10	WAS Valve Vault and Piping Modifications (CR-100) PR 21146 (4286) Task 3520	A	IRWD	\$10,144.13						0				
24	Approved by General Manager Approved on March 6, 2015				\$99,122.95	\$2,510,834.31	\$2,609,957.26	1.60%	\$166,075,897.26	0	0	0	1,278	10/28/2016
24.1	Coating of WAS/Primary Sludge Pump Stations & Sludge Wetwells per RFI-0612A (CR-127) PR 21146 (4286) Task 3505	A	FBB	\$99,122.95						0				
25	Approved by Board of Directors Approved on March 23, 2015				\$280,575.97	\$2,609,957.26	\$2,890,533.23	1.77%	\$166,356,473.23	0	0	0	1,278	10/28/2016
25.1	Lightning Protection for the Methane Digesters (CR-121) PR 21146 (4286) Task 3505	C	FBB	\$158,259.68						0				
25.2	Deflagration Quench Tubes outside of the Dryer Room (CR-143) PR 21146 (4286) Task 3505	B	FBB	\$122,316.29						0				

A - District Convenience/Initiation - Project Related  
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F - Contractor Requested Inspection Overtime

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days				Original Completion Date:
										Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	10/28/2016
Original Contract Amount: \$163,465,940.00									Original Days: 1,278				10/28/2016	
26	Approved by Exe. Dir. Of Engineering & Water Quality Approved on April 14, 2015				\$74,815.79	\$2,890,533.23	\$2,965,349.02	1.81%	\$166,431,289.02	0	0	0	1,278	10/28/2016
26.1	UPS and Power Fail Alarms per RFI 357 (CR-056) PR 21146 (4286) Task 3510	C	FBB		\$3,646.82					0				
26.2	I/O Points for Methane Digester Sump Pumps per RFI-356 (CR-077) PR 21146 (4286) Task 3510	C	FBB		\$6,489.00					0				
26.3	Loss of Power Alarms to the SCADA Network per RFI-0393B (CR-093) PR 21146 (4286) Task 3510	A	FBB		\$20,297.16					0				
26.4	FOG Flushing and Rock Trap Modifications per RFI-0534 (CR-101) PR 21146 (4286) Task 3510	A	IRWD		\$18,093.61					0				
26.5	Install Grounding Pig Tails in Solids Handling Building Area Electrical Room per RFI 0594 (CR-105) PR 21146 (4286) Task 3510	A	IRWD		\$1,593.10					0				
26.6	Additional Pushbuttons, Light and Relays for the FOG Receiving Control Panel (CR-114) PR 21146 (4286) Task 3510	A	IRWD		\$6,892.40					0				
26.7	Changes to the HMI Enclosures at the Sludge Receiving Area (CR-133) PR 21146 (4286) Task 3510	A	IRWD		\$7,114.17					0				
26.8	Provide Storage Shelf for Keyboard and Mouse to the HMI Enclosures at the Sludge Receiving Area (CR-135) PR 21146 (4286) Task 3510	A	IRWD		\$1,163.26					0				
26.9	Dewatering Feed Pump Station Guardrail Additions (CR-142) PR 21146 (4286) Task 3520	C	FBB		\$4,204.00					0				
26.10	Additional I/O Points for PLC-4300 (CR-156) PR 21146 (4286) Task 3510	C	FBB		\$3,035.28					0				
26.11	Shoring Revision to Roof Slab of Dewatering Feed Pump Station (CR-189) PR 21146 (4286) Task 3510	B	FBB		\$1,286.99					0				
26.12	Coating of the Sludge Receiving Bins (CR-199) PR 21146 (4286) Task 3520	A	FBB		\$1,000.00					0				
27	Approved by Board of Directors Approved on April 27, 2015				\$107,253.26	\$2,965,349.02	\$3,072,602.28	1.88%	\$166,538,542.28	0	0	0	1,278	10/28/2016
27.1	Modifications to Human-Machine Interface (HMI) for the Microturbine Area (CR-078) PR 21146 (4286) Task 3510	A	IRWD		\$29,744.43					0				
27.2	Modifications to the Piping and Automation Features at Fats, Oils, and Grease (FOG) Facility (CR-129) PR 21146 (4286) Task 3510	A	IRWD		\$35,771.81					0				
27.3	Structural Support to the Monorail at the Dewatering Feed Pump Station (CR-152) PR 21146 (4286) Task 3505	C	FBB		\$13,697.51					0				
27.4	Two Additional Magnetic Flowmeters at Polymer Feed System (CR-158) PR 21146 (4286) Task 3510	A	IRWD		\$9,522.81					0				
27.5	Modifications to PLCs at Sludge Receiving Area (CR-180) PR 21146 (4286) Task 3510	A	IRWD		\$18,516.70					0				

A - District Convenience/Initiation - Project Related  
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F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
28	Approved by Exe. Dir. Of Eng. & Water Quality Approved on May 15, 2015				\$74,550.35	\$3,072,602.28	\$3,147,152.63	1.93%	\$166,613,092.63	0	0	0	1,278	10/28/2016
	28.1 Decanter Control Panel Modifications (CR-215) Task 3520	C	FBB	\$22,451.01						0				
	28.2 Additional Structural Support in the Solids Handling Building (CR-075) Task 3505	C	FBB	\$12,028.44						0				
	28.3 Additional Sump Pump Drain Line in the Bulk Polymer Storage Area (CR-119) Task 3520	C	FBB	\$1,433.86						0				
	28.4 Install Three 5-inch conduits on Southwest Side of the Biosolids Site (CR-120) Task 3510	C	FBB	\$16,033.58						0				
	28.5 Provide Power to Several Instruments Located at the Solids Handling Building and Digester Control Building (CR-154) Task 3520	C	FBB	\$3,454.91						0				
	28.6 Install Foam Separator Drain at Digester Control Building (CR-167) Task 3520	C	FBB	\$11,013.75						0				
	28.7 Install Support for 14-inch Plug Valve at Centrate Treatment Wetwell (CR-197) Task 3520	C	FBB	\$1,715.20						0				
	28.8 Trench Modifications at the Sludge Cake Load-Out Area of the Solids Handling Building (CR-123) Task 3505	C	FBB	\$6,419.60						0				
29	Approved by Board of Directors Approved on June 22, 2015				\$225,971.77	\$3,147,152.63	\$3,373,124.40	2.06%	\$166,839,064.40	0	0	0	1,278	10/28/2016
	29.1 Foul Air Pipe Supports in the Solids Handling Building Basement (CR-106) PR 21146 (4286) Task 3520	C	FBB	\$119,937.87						0				
	29.2 Secondary Circuit Breaker for Transformer T-14 (CR-185) PR 21146 (4286) Task 3510	A	IRWD	\$106,033.90						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
C - Design Oversight  
D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

B-9

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
30	Approved by Board of Directors Approved on July 27, 2015				(\$47,976.59)	\$3,373,124.40	\$3,325,147.81	2.03%	\$166,791,087.81	0	0	0	1,278	10/28/2016
30.1	Credit for Changing Storm Drain line from Ductile Iron to PVC (CR-042) PR 21146 (4286) Task 3520	A	IRWD		(\$1,890.92)					0				
30.2	Installation of Additional Digester Anchorage (CR-051B) PR21146 (4286) Task 3505	B	FBB		\$118,335.54					0				
30.3	Huber Screens I/O Modifications per RFI-0391 and RFI-0525A (CR-068) PR 21146 (4286) Task 3510	A	IRWD		\$12,579.20					0				
30.4	Credit for FBB's Portion of Partnering (CR-090) PR 21146 (4286) Task	E	FBB		(\$81,948.33)					0				
30.5	Deletion of Waterstops at Methane Digester Complex (CR-102) PR 21146 (4286) Task 3505	A	IRWD		(\$2,505.79)					0				
30.6	Deletion of Bid Item No. 18.4 - Computers and Networking Hardware for the Control System (CR-138) PR 21146 (4286) Task 3510	A	IRWD		(\$200,000.00)					0				
30.7	Electrical and Gas Modifications (CR-146) PR 21146 (4286) Task 3510	C	IRWD		\$363,978.41					0				
30.8	Credit for Changing Heat Dryer Wet Material Mixer from A24 Steel to A36 Steel (CR-157) PR 21146 (4286) Task 3520	E	FBB		(\$2,392.66)					0				
30.9	Credit for Travel Cost of On-Site Inspection for Acid Phase Digester (CR-175) PR 21146 (4286) Task 3520	B	IRWD		(\$683.39)					0				
30.1	Heat Dryer I/O Modifications per RFI-0626 (CR-179) PR 21146 (4286) Task 3510	A	IRWD		\$11,191.41					0				
30.11	Decant Trough I/O Modifications per RFI-0979 (CR-202) PR 21146 (4286) Task 3510	A	IRWD		\$9,960.55					0				
30.12	Deletion of Interior Coating of Methane Digesters (CR-188) PR 21146 (4286) Task 3520	A	IRWD		(\$398,571.00)					0				
30.13	Piping Modifications and Addition of Carbon Canisters (CR-218) PR 21146 (4286) Task 3520	A	IRWD		\$88,076.01					0				
30.14	Pickling and Passivation of Sludge Mixers (CR-248) PR 21146 (4286) Task 3520	C	IRWD		\$73,997.23					0				
30.15	IRWD Costs Associated to Repairing the Pile and Installing Couplers (CR-139) PR 21146 (4286) Task 3505	E	FBB		(\$38,102.85)					0				

A - District Convenience/Initiation - Project Related  
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F - Contractor Requested Inspection Overtime

B-10



**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
31	Approved by Exe. Dir. Of Eng. & Water Quality Approved on July 28, 2015				\$74,999.74	\$3,325,147.81	\$3,400,147.55	2.08%	\$166,866,087.55	0	0	0	1,278	10/28/2016
31.1	Provide Circuit and Breaker for Standby Generator in the Microturbine Area (CR-170) PR 21146 (4286) Task 3510	C	FBB	\$4,296.86						0				
31.2	Additional Pipe Support for 14-inch Air Line at the Centrate Facility (CR-226) PR 21146 (4286) Task 3520	C	FBB	\$893.78						0				
31.3	Addition of E-stops (CR-128) PR 21146 (4286) Task 3510	A	FBB	\$57,916.71						0				
31.4	Structural Support of Jib Crane at Dewatering Feed Pump Station Stairwell (CR-243) PR 21146 (4286) Task 3520	C	FBB	\$11,892.39						0				
32	Approved by Exe. Dir. Of Eng. & Water Quality Approved on August 31, 2015				\$74,682.96	\$3,400,147.55	\$3,474,830.51	2.13%	\$166,940,770.51	0	0	0	1,278	10/28/2016
32.1	Additional Conduits and Circuits for Fire Alarm in the Solids Handling Building	A	IRWD	\$21,637.57						0				
32.2	Additional Davit Bases at Centrate Treatment Facility (CR-111) PR 21146 (4286) Task 3520	A	IRWD	\$1,809.77						0				
32.3	Additional Fire Alarm Panel in Digester Control Building (CR-169) PR 21146 (4286) Task 3510	A	IRWD	\$25,153.79						0				
32.4	Modifications to FOG Sump Pumps Controls (CR-177) PR 21146 (4286) Task 3510	A	IRWD	\$5,690.83						0				
32.5	Additional Truck Load-out Conveyor Input and Output (CR-201) PR 21146 (4286) Task 3510	A	IRWD	\$2,220.12						0				
32.6	Additional Spare Conduits in the Microturbine Area (CR-229) PR 21146 (4286) Task 3510	A	FBB	\$14,602.41						0				
32.7	Conduits for Electrical Disconnect Switch for Roll-Up Doors of the Digester Control Building (CR-230) PR 21146 (4286) Task 3510	A	IRWD	\$3,568.47						0				
33	Approved by Executive Director of Engineering & Water Quality Approved on September 30, 2015				\$58,247.75	\$3,474,830.51	\$3,533,078.26	2.16%	\$166,999,018.26	0	0	0		1/0/1900
33.1	Realignment of 8-inch Reclaimed Water Line at Gate 2 (CR-225) PR 21146 (4286) Task 3520	B	FBB	\$24,017.48						0				
33.2	Additional Conduits and Wires for Lighting Circuits to Minimize Voltage Drop (CR-228) PR 21146 (4286) Task 3510	C	IRWD	\$32,399.41						0				
33.3	Cable and Conduit Changes at Solids Handling Building and Dewatering Feed Pump Station (CR-231) PR 21146 (4286) Task 3510	C	IRWD	\$1,830.86						0				

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B-11

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
34	Approved by Board of Directors Approved on October 26, 2015				\$164,775.28	\$3,533,078.26	\$3,697,853.54	2.26%	\$167,163,793.54	0	0	0	1,278	10/28/2016
34.1	Credit for Third Submittal Review Through 05/31/2015 (CR-088) PR 21146 (4286) Task 1065	B	IRWD	(\$39,502.50)						0				
34.2	Credit for Overtime Inspection Hours Through 05/31/2015 (CR-089) PR 21146 (4286) Task 3520	F	FBB	(\$80,850.00)						0				
34.3	Credit for Special Inspections for Structural Anchors and Geotechnical Investigation (CR-295) PR 21146 (4286) Task 1065	A	IRWD	(\$27,500.00)						0				
34.4	Change in Knife Gate Valve Manufacturer (CR-187) PR 21146 (4286) Task 3520	E	FBB	\$275,954.90						0				
34.5	Credit for Changes in Low Voltage SWGR-14 Circuit Breaker (CR-163) PR 21146 (4286) Task 3510	A	IRWD	(\$1,978.00)						0				
34.6	Change to Addressable Smoke Detectors (CR-220) PR 21146 (4286) Task 3510	B	IRWD	\$38,650.88						0				
35	Approved by General Manager Approved on November 25, 2015				\$97,980.57	\$3,697,853.54	\$3,795,834.11	2.32%	\$167,261,774.11	0	0	0	1,278	10/28/2016
35.1	Change in Naming Convention for Storm Water Pump Station (Area 1500) SCADA Programming (CR-181) PR 21146 (4286) Task 3510	E	FBB	\$9,027.03						0				
35.2	Valve Status Override Functionality (CR-182) PR 21146 (4286) Task 3510	E	FBB	\$38,999.08						0				
35.3	Control Changes for Primary Sludge and Waste Activated Pump Stations (Area 1900) SCADA Programming (CR-184) PR 21146 (4286) Task 3510	A	IRWD	\$36,772.78						0				
35.4	Motor Protection Relay (CR-239) PR 21146 (4286) Task 3510	A	IRWD	\$13,181.68						0				
36	Approved by General Manager Approved on December 3, 2015				\$86,007.50	\$3,795,834.11	\$3,881,841.61	2.37%	\$167,347,781.61	0	0	0	1,278	10/28/2016
36.1	Light Weight Concrete for Underslab Conduits at Microturbine Area (CR-253) PR 21146 (4286) Task 3510	A	FBB	\$21,117.50						0				
36.2	Outstanding CB&I Items (CR-099A) PR 21146 (4286) Task 3520 – This change order includes: CR-098 (Guard Rail at Biogas Storage Tank); CR-099 (Tube Steel Supports); additional Off-Site Storage Costs; and credit for Use of SS 308 in Lieu of SS 316L Welds.	B	FBB	\$64,890.00						0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

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				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
37	Approved by Exe. Director of Engineering and Water Quality Approved on January 21, 2016				\$47,446.49	\$3,881,841.61	\$3,929,288.10	2.40%	\$167,395,228.10	0	0	0	1,278	10/28/2016
37.1	Additional Pressure Relief Valves in the Digester Control Building Slab (CR-112) PR 21146 (4286) Task 3520	C	IRWD	\$1,065.72						0				
37.2	Change Feeder Circuit Breaker Size in MCC-4102 (CR-165) PR 21146 (4286) Task 3510	C	IRWD	\$4,157.60						0				
37.3	Change Feeder Circuit Breaker Size for the Primary Sludge Pump Variable Frequency Drive (CR-233) PR 21146 (4286) Task 3510	C	IRWD	\$2,430.59						0				
37.4	SCADA Programming Changes Due to Change to Schweitzer Power Quality Additional Labeling of Parallel Conduits and Cables (CR-262) PR 21146 (4286) Task 3510	A	FBB	\$16,814.00						0				
37.5	Change in Sludge Receiving Entrance Beacon Operation CR-263) PR 21146 (4286) Task 3510	A	IRWD	\$5,382.19						0				
37.6	Anodize Aluminum Light Fixture Stanchions/Sun Shades (CR-283) PR 21146 (4286) Task 3510	A	IRWD	\$5,911.61						0				
37.7										0				
37.8	Hot Tap 8-Inch ACP Potable Water Line (CR-311) PR 21146 (4286) Task 3520	A	FBB	\$3,274.78						0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
38	Approved by General Manager Approved on February 29, 2016				\$83,345.07	\$3,929,288.10	\$4,012,633.17	2.45%	\$167,478,573.17	0	0	0	1,278	10/28/2016
38.1	Software Control Block Revision for Area 4300 – Dewatering (CR-211) PR 4286 Task 3510	C	FBB	\$18,908.76						0				
38.2	Revised Master List of SCADA Templates (CR-247) PR 4286 Task 3510	C	FBB	\$47,274.54						0				
38.3	Additional Overflow Alarms at Sludge Holding Tanks (CR-280) PR 4286 Task 3510	A	IRWD	\$9,654.54						0				
38.4	Leak Detection at Sulfuric Acid Facility (CR-290) PR 21146 (4286) Task 3510	A	IRWD	\$5,499.97						0				
38.5	Insulation for Acid Phase Gas Piping (CR-218A) PR 21146 (4286) Task 3520	A	IRWD	\$2,007.26						0				
39	Approved by General Manager Approved on March 7, 2016				\$98,006.46	\$4,012,633.17	\$4,110,639.63	2.51%	\$167,576,579.63	0	0	0	1,278	10/28/2016
39.1	SCE Installation - Final Accounting of Work Items Between Negotiated Change Order and Actual Work (CR-146E) PR 4286 Task 3510	B	FBB	\$7,809.51						0				
39.2	Installation of Southern California Gas (SCG) Boxes (CR-146F) PR 4286 Task 3510	A	FBB	\$3,479.81						0				
39.3	Schweitzer SEL-735 Power Monitors for Centrifuge Panels (CR-207) PR 4286 Task 3510	A	IRWD	\$34,274.40						0				
39.4	Hirschmann Ethernet Switches for Centrifuge Panels (CR-208) PR 4286 Task 3510	A	IRWD	\$9,569.15						0				
39.5	Addition of Sample Pump Variable Frequency Drives for Thickening Centrifuges (CR-237) PR 4286 Task 3520	E	IRWD	\$24,496.55						0				
39.6	Upgrade of Exit Signs and Ceiling Lights in the Gas Room of the Digester Control Building to NEC Class 1 Division 1 (CR-313) PR 4286 Task 352	A	IRWD	\$18,377.04						0				
40	Approved by General Manager Approved on April 20, 2016				\$97,287.05	\$4,110,639.63	\$4,207,926.68	2.57%	\$167,673,866.68	0	0	0	1,278	10/28/2016
40.1	Brace Plates in Solids Handling Building (CR-069) PR 4286 Task 3505	C	FBB	\$40,216.76						0				
40.2	Relocation of RIO-50 Panel (CR-186) PR 4286 Task 3510	B	FBB	\$4,818.64						0				
40.3	Addition of Two Doors at the bases of the stairways at Methane Digesters Nos. 1 and No. 2 (CR-232) PR 4286 Task 3505	C	FBB	\$52,251.65						0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
41	Approved By Board of Directors Approved on May 23, 2016				\$1,103,650.56	\$4,207,926.68	\$5,311,577.24	3.25%	\$168,777,517.24	0	0	0	1,278	10/28/2016
41.1	Additional SCE and SCG Modifications (CR-146A) PR 4286 Task 3510	B	FBB	\$51,238.69						0				
41.2	Additional Potholing Due to SCE and SCG Realignment (CR-146B) PR 4286 Task 3510	B	FBB	\$36,706.57						0				
41.3	Additional Cameras at the Unloading/Loading Area of the Solids Handling Facility (CR-164) PR 4286 Task 3505	A	IRWD	\$61,731.96						0				
41.4	Fire Sprinkler System Modifications – Mechanical (CR-174) PR 4286 Task 3520	B	IRWD	\$154,592.08						0				
41.5	Fire Sprinkler System Modifications – Electrical (CR-166) PR 4286 Task 3510	B	IRWD	\$13,730.06						0				
41.6	Fiber Optic System Modifications (CR-172/CR-306/CR-314) PR 4286 Task 3510	A	IRWD	\$178,879.46						0				
41.7	T-15, T-16, and T-17 Secondary Breakers (CR-185A, CR-185B, and CR-185C) PR 4286 Task 3510	A	IRWD	\$254,941.66						0				
41.8	Cable and Conduit Changes at the Sludge Receiving Area of the Solids Handling Building (CR-203) PR 4286 Task 3510	C	FBB	\$14,338.94						0				
41.9	Concrete Surface Treatment (CR-222) PR 4286 Task 3505	A	IRWD	\$68,714.34						0				
41.1	Heating Water Boiler Control Modifications (CR-246) PR 4286 Task 3510	A	IRWD	\$71,379.00						0				
41.11	SCADA Control Modifications for the Acid Phase Digesters, Methane Digesters, and Sludge Holding Tank (CR-252) PR 4286 Task 3510	A	IRWD	\$50,540.23						0				
41.12	Ambient Gas Analyzer Wiring Modification (CR-264) PR 4286 Task 3510	B	IRWD	\$19,734.51						0				
41.13	Disconnect Switches for Flow Valves in the Solids Handling Building (CR-272) PR 4286 Task 3510	C	IRWD	\$25,550.26						0				
41.14	Centrifuge Pedestal Modifications (CR-301) PR 4286 Task 3505	C	IRWD	\$30,603.14						0				
41.15	SCADA, Instrumentation, and Electrical Modifications (CR-287, CR-294, and CR-322) PR 4286 Task 3510	A	IRWD	\$70,969.66						0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Contract Days				Revised Completion Date
										Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	
Original Contract Amount: \$163,465,940.00										Original Days: 1,278				Original Completion Date: 10/28/2016
42	Approved By Board of Directors Approved on May 23, 2016				(\$199,771.09)	\$5,311,577.24	\$5,111,806.15	3.13%	\$168,577,746.15	0	0	0	1,278	10/28/2016
42.1	Value Engineering of Chemical Pump Systems (CR-054) PR 4286 Task 3520	E	FBB		(\$48,549.90)					0				
42.2	Change in Lightning Protection Installation for Egg-Shaped Digesters (CR-121A) PR 4286 Task 3510	E	FBB		(\$97,141.74)					0				
42.3	Deletion of Seal Water Stations and Seal Water Piping (CR-214) PR 4286 Task 3520	A	IRWD		(\$10,557.28)					0				
42.4	Deletion of Low Pressure Switches for Centrate Pumps (CR-257) PR 4286 Task 3510	A	IRWD		(\$1,748.17)					0				
42.5	Centrifuge Seismic Restraint Design Costs (CR-345) PR 4286 Task 1065	A	IRWD		(\$24,064.00)					0				
42.6	Credit for Overtime Inspection Hours From 6/1/2015 to Through 12/31/2015 (CR-089B) PR 4286 Task 1065	F	FBB		(\$17,710.00)					0				
43	Approved by Exe. Director of Engineering and Water Quality Approved on May 31, 2016				\$74,731.69	\$5,111,806.15	\$5,186,537.84	3.17%	\$168,652,477.84	0	0	0	1,278	10/28/2016
43.1	Combustible Gas Detection System (CR-234) PR 21146 (4286) Task 3510	E	FBB		\$18,843.39					0				
43.2	Additional Wires and Cables Between MCC-4102 and PLC-4000 (CR-278) PR 21146 (4286) Task 3510	C	FBB		\$1,775.13					0				
43.3	SCADA Programming Modifications (CR-282) PR 21146 (4286) Task 3510	E	FBB		\$49,679.02					0				
43.4	Change of Waste Gas Burner Feeder Circuit Breaker (CR-344) PR 21146 (4286) Task 3510	B	FBB		\$4,434.15					0				
44	Approved by Exe. Director of Engineering and Water Quality Approved on June 29, 2016				\$74,912.99	\$5,186,537.84	\$5,261,450.83	3.22%	\$168,727,390.83	0	0	0	1,278	10/28/2016
44.1	Electrical and Telephonic Modifications for Elevators for Solids Handling Building and Digester Control Building (CR-037A) PR 4286 Task 3510	C	FBB		\$38,882.06					0				
44.2	Odor Control Recirculation Pump Selector Switch SCADA Modifications (CR-343) PR 4286 Task 3510	A	IRWD		\$9,294.71					0				
44.3	SCADA Valve Matrix Tables Animation Clarification for Milestone 1 (CR-353) PR 4286 Task 3510	A	IRWD		\$9,195.86					0				
44.4	PLC Status Object Update (CR-234) PR 4286 Task 3510	B	FBB		\$4,783.14					0				
44.5	Elevator Safety Beam in the Digester Control Building (CR-302) PR 4286 Task 3505	C	FBB		\$3,830.95					0				
44.6	Masonry Changes to the North Retaining Wall (CR-365) PR 4286 Task 3505	B	IRWD		\$8,926.27					0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
45	Approved by Board of Directors Approved on July 25, 2016/December 20, 2016 Recovery Plan PR 4286 Task 3510	B	FBB	\$9,250,000.00	\$9,250,000.00	\$5,261,450.83	\$14,511,450.83	8.88%	\$177,977,390.83	368	0	368	1,646	10/31/2017
46	Approved by General Manager Approved on January 27, 2017				\$94,696.76	\$14,511,450.83	\$14,606,147.59	8.94%	\$178,072,087.59	0	368	368	1,646	10/31/2017
46.1	Additional Masonry Anchor in the Solids Handling Building (CR-200) PR 4286	C	IRWD	\$1,457.22						0				
46.2	Additional Auto Dialer (CR-234A) PR 4286 Task 3510	A	IRWD	\$6,081.90						0				
46.3	Grating and Handrail Modifications at Bulk Polymer Storage Platform (CR-300) PR 4286 Task 3505	A	IRWD	\$5,568.83						0				
46.4	SCADA IP Address Update (CR-309) PR 4286 Task 3510	A	IRWD	\$1,227.96						0				
46.5	Masonry Modifications at Solids Handling Building Stairwell (CR-324) PR 4286 Task 3505	C	FBB	\$5,939.45						0				
46.6	Change in Valve Operator at the Centrate Treatment Facility (CR-329) PR 4286 Task 3520	A	IRWD	\$4,824.29						0				
46.7	Boot Wash Landing Addition (CR-349) PR 4286 Task 3505	C	FBB	\$1,834.60						0				
46.8	Updating Valve Analog SCADA Template (CR-354) PR 4286 Task 3510	A	IRWD	\$692.72						0				
46.9	Additional Light Fixtures and Lamps (CR-355A) PR 4286 Task 3510	A	IRWD	\$8,508.46						0				
46.10	Addition of Rebate Angle in the FOG Unloading Sump Area (CR-363) PR 4286 Task 3505	A	IRWD	\$763.62						0				
46.11	MCC-4103 Hot Water Circulation Pump Breakers Change (CR-366) PR 4286 Task 3510	B	IRWD	\$2,316.03						0				
46.12	MCC-4100/4101 Cake Transfer Pump Breakers Change (CR-370) PR 4286 Task 3510	B	IRWD	\$23,720.61						0				
46.13	MCC-4102 Breaker Change (CR-374) PR 4286 Task 3510	B	IRWD	\$2,316.03						0				
46.14	SCADA Programming Modifications During Benchtest No.1 for Areas 1900 and 2000 (CR-376) PR 4286 Task 3510	A	IRWD	\$24,092.32						0				
46.15	Additional Light Fixture Above Door in Digester Control Building Gas Room (CR-399) PR 4286 Task 3510	A	IRWD	\$1,478.19						0				
46.16	Change in Size of Disconnect Switches for Digested Sludge Mixers (CR-408) PR 4286 Task 3510	B	FBB	\$1,290.10						0				
46.17	Additional Thickening Feed Grinder Control Panel Circuits (CR-438) PR 4286 Task 3510	B	IRWD	\$1,286.63						0				
46.18	Thickness and Glazing Change for Windows (CR-438) PR 4286 Task 3510	C	IRWD	\$1,297.80						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
C - Design Oversight  
D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

Change Order	.Description	Category	IRWD or FBB	Contract Amount						Contract Days				Original Completion Date:
				Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
47	Approved by General Manager Approved on February 28, 2017				\$96,414.36	\$14,606,147.59	\$14,702,561.95	8.99%	\$178,168,501.95	0	368	368	1,646	10/28/2016
47.1	Relocation of Neutralization Tank Drainage Piping PR 4286 Task 3520	B	FBB	\$2,312.08						0				
47.2	Modifications to Digester Control Building Door and Piping Due to Heating Water Expansion Tank Pad Adjustment (CR-221) PR 4286 Task 3505	C	FBB	\$5,500.74						0				
47.3	PLC-3100 Changes (CR-284) PR 4286 Task 3510	C	FBB	\$1,070.38						0				
47.4	Additional Angle Support to Acid Phase Digester Bridges (CR-298) PR 4286 Task 3505	C	FBB	\$4,986.21						0				
47.5	Additional Potable Water Gate Valves (CR-332) PR 4286 Task 3520	A	IRWD	\$3,892.44						0				
47.6	T-4 Kirk Key Interlock Installation (CR-335) PR 4286 Task 3510	B	IRWD	\$6,924.69						0				
47.7	Solids Handling Building Dumpster Room Channel Frames Modifications (CR-338) PR 4286 Task 3505	C	FBB	\$5,093.87						0				
47.8	PCS Server Configuration Clarification (CR-352) PR 4286 Task 3510	A	IRWD	\$6,824.35						0				
47.9	Additional Anchorage Support for Ledgers of the Digester Control Building Roof (CR-361) PR 4286 Task 3505	C	FBB	\$13,794.95						0				
47.10	Change of MCC-4103 Hot Water Circulation Pump Breakers (CR-366B) PR 4286 Task 3510	A	IRWD	\$1,336.13						0				
47.11	Centrate Treatment Facility Pull Boxes Duct Bank Settlement (CR-383) PR 4286 Task 3510	B	FBB	\$3,300.13						0				
47.12	Modifications to the MCC-4100/4101/4102/4103 (CR-405) PR 4286 Task 3510	B	FBB	\$7,418.52						0				
47.13	Cake Storage Hopper Modifications (CR-421) PR 4286 Task 3510	C	FBB	\$2,250.67						0				
47.14	Removing Installed Lighting in the Solids Handling Building (CR-427) PR 4286 Task 3510	A	IRWD	\$8,947.37						0				
47.15	Electrical Changes for Generator MPC (CR-430) PR 4286 Task 3510	A	IRWD	\$10,950.14						0				
47.16	Electrical Modifications to MCC-4100 and 4103 (CR-431) PR 4286 Task 3510	A	FBB	\$4,500.00						0				
47.17	Occupancy Sensors in the Solids Handling Building Shower Areas (CR-444) PR 4286 Task 3510	C	FBB	\$1,601.36						0				
47.18	Digester Gas Pre-Treatment In-Slab Conduit Size Change (CR-454) PR 4286 Task 3510	C	FBB	\$5,710.33						0				

- A - District Convenience/Initiation - Project Related
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- C - Design Oversight
- D - District Convenience/Initiation - Non-Project Related
- E - Contractor Convenience/Initiation
- F - Contractor Requested Inspection Overtime

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F - Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
48	Approved by Board of Directors Approved on March 13, 2017				\$728,237.74	\$14,702,561.95	\$15,430,799.69	9.44%	\$178,896,739.69	0	368	368	1,646	10/31/2017
48.1	Structural Modifications of the Elevator Shafts (CR-037) PR 4286 Task 3505200) PR 4286 Task 3505	B	FBB	\$58,705.90						0				
48.2	SCADA Programming Update of Polymer Feed and Storage System (CR-148A) PR 4286 Task 3510	A	FBB	\$23,685.14						0				
48.3	Stairs and Platform at SHB Load-Out Area (CR-149) PR 4286 Task 3505	C	FBB	\$39,622.65						0				
48.4	Additional Polymer Dilution Flow Meters and Associated Conduits and Cables (CR-159B) PR 4286 Task 3510	A	IRWD	\$38,978.70						0				
48.5	Miscellaneous Andritz Items (CR-205) PR 4286 Task 3520	A	IRWD	\$41,246.71						0				
48.6	RIO-4001 Changes (CR-286) PR 4286 Task 3510	A	IRWD	\$27,889.74						0				
48.7	RIO-3102 Changes (CR-310) PR 4286 Task 3510	A	IRWD	\$18,280.62						0				
48.8	Mini Power Center - Additional Outlet and Data Locations in the SHB (CR-419) PR 4286 Task 3510	A	IRWD	\$13,261.60						0				
48.9	New Lighting in the SHB First Floor Area (CR-427A) PR 4286 Task 3510	A	IRWD	\$102,503.46						0				
48.10	Additional Conduits and Cables for Thermocouples for Several Pumps (CR-424, CR-424A through CR-424F) PR 4286 Task 3510	B	FBB	\$54,982.68						0				
48.11	Additional Wall Panel Framework at the SHB (CR-445) PR 4286 Task 3505	C	FBB	\$128,000.00						0				
48.12	Changes in Uninterruptible Power Supply Units (CR-162/CR-162A) PR 4286 Task 3510	A	IRWD	\$128,052.94						0				
48.13	Addition of Circuit Breaker at Transformer T-14 (CR-474) PR 4286 Task 3510	A	IRWD	\$53,027.60						0				

A - District Convenience/Initiation - Project Related  
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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
49	Approved by Board of Directors Approved on March 13, 2017				(\$47,099.20)	\$15,430,799.69	\$15,383,700.49	9.41%	\$178,849,640.49	0	368	368	1,646	10/31/2017
49.1	Related Mechanical Piping Modifications Due to Change in Chemical Pumps in CCO No. 42 (CR-054A) PR 4286 Task 3520	E	FBB		(\$23,897.73)					0				
49.2	Changing the Solids Handling Building Roofing from EPDM to PVC (CR-255) PR 4286 Task 3505	E	FBB		(\$9,000.00)					0				
49.3	Net Reduction of Scope of Work in CR-353 – SCADA Valve Matrix Tables Animation Clarifications (CR-353B/353C) PR 4286 Task 3510	A	IRWD		(\$4,429.09)					0				
49.4	Change in Starters for MCC-4100/4101 Cake Transfer Pump Breakers (CR-370A) PR 4286 Task 3510	A	IRWD		(\$4,047.43)					0				
49.5	Deletion of Insulation for the Solids Handling Building Foundation (CR-393) PR 4286 Task 3505	A	IRWD		(\$5,724.95)					0				
50	Approved by Executive Director of Engineering & Water Quality Approved on March 31, 2017				\$72,150.89	\$15,383,700.49	\$15,455,851.38	9.46%	\$178,921,791.38	0	368	368	1,646	10/31/2017
50.1	Electrical Modifications to FOG Local Control Panel 70-LCP-0710 (CR-304) PR 4286 Task 5.30	A	IRWD		\$6,614.77					0				
50.2	Condensate Modifications at Digester Gas Pre-Treatment Area (CR-312) PR 4286 Task 5.31	C	FBB		\$9,826.09					0				
50.3	Installation of Lindapters Instead of Eye Bolts (CR-413) PR 4286 Task 5.29	A	FBB		\$13,346.01					0				
50.4	T-5 Connection to Biosolids Switch-14 (CR-480) PR 4286 Task 5.30	A	IRWD		\$35,170.26					0				
50.5	Polymer Feeder Blender Skids Flow Element Grounding Conductor (CR-482) PR 4286 Task 5.30	C	IRWD		\$7,193.76					0				
51	Approved by Executive Director of Engineering & Water Quality Approved on March 31, 2017				(\$126,390.00)	\$15,455,851.38	\$15,329,461.38	9.38%	\$178,795,401.38	0	368	368	1,646	10/31/2017
51.1	Credit for Overtime Inspection Hours From 1/1/2016 to Through 12/31/2016 (CR-089C) PR 4286 Task 4.0	F	IRWD		(\$97,570.00)					0				
51.2	Credit for Overtime Inspection Hours From 1/1/2017 to Through 03/31/2017 (CR-089D) PR 4286 Task 4.0	E	IRWD		(\$28,820.00)					0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
52	Approved by General Manager Approved on April 28, 2017				\$98,342.16	\$15,329,461.38	\$15,427,803.54	9.44%	\$178,893,743.54	0	368	368	1,646	10/31/2017
	52.1 Removal of Unsuitable Alluvium (CR-146H) PR 4286 Task 5.29	B	FBB	\$3,564.32						0				
	52.2 Polymer Dilution Water Flowmeters (CR-159A) PR 4286 Task 5.31	A	IRWD	\$14,090.39						0				
	52.3 Aluminum Handrail and Guardrail Modifications at Liquid Chemical and Polymer Areas (CR-171) PR 4286 Task 5.30	A	IRWD	\$13,765.20						0				
	52.4 Modifications Due to Solids Handling Building Electrical Room Equipment Clearance Issues (CR-196) PR 4286 Task 5.30	C	FBB	\$9,382.01						0				
	52.5 Data and Telephone Outlets in Solids Handling Building (CR-261) PR 4286 Task 5.30	A	IRWD	\$27,620.21						0				
	52.6 HVAC Duct Modifications in Dewatering Feed Pump Station (CR-268) PR 4286 Task 5.31	C	FBB	\$16,023.50						0				
	52.7 Coating of 8 Roll-up doors (CR-358) PR 4286 Task 5.29	A	IRWD	\$5,710.32						0				
	52.8 Upsizing Wire Size of Dewatering Feed Pump Station Main Breaker Light Panel LP-3501 (CR-390) PR 4286 Task 5.30	A	IRWD	\$1,449.75						0				
	52.9 Modifications to the Roofs of the Solids Handling Building and Digester Control Building (CR-528) PR 4286 Task 5.29	A	IRWD	\$6,736.46						0				
53	Exe. Director of Water Quality and Engineering Approved on June 5, 2017				\$42,281.96	\$15,427,803.54	\$15,470,085.50	9.46%	\$178,936,025.50	0	368	368	1,646	10/31/2017
	53.1 Modifications to Regenerative Thermal Oxidizer (RTO) Drainage and Utility Water Piping (CR-267) PR 4286 Task 5.31	C	IRWD	\$33,814.80						0				
	53.2 Modifications to Liquid Chemical Feed Control Panel Wiring (CR-396) per RFI-1602 PR 4286 Task 5.30	C	FBB	\$8,467.16						0				
54	Approved by General Manager Approved on June 19, 2017				\$44,210.51	\$15,470,085.50	\$15,514,296.01	9.49%	\$178,980,236.01	0	368	368	1,646	10/31/2017
	54.1 Modifications to Thickening and Dewatering Platforms (CR-195) PR 4286 Task 5.29	C	FBB	\$44,210.51						0				
55	Approved by General Manager Approved on July 3, 2017				\$94,352.43	\$15,514,296.01	\$15,608,648.44	9.55%	\$179,074,588.44	0	368	368	1,646	10/31/2017
	55.1 Additional Pipe Supports of 54-Inch Fiberglass Reinforced Air Duct (CR-106A) PR 4286 Task 5.29	C	FBB	\$14,211.18						0				
	55.2 Natural Gas Step Down Manifolds and Gas Transition Piping (CR-146G) PR	B	IRWD	\$20,489.32						0				
	55.3 Modifications to the West End Stair Landing of the Solids Handling Building	B	IRWD	\$5,622.11						0				

A - District Convenience/Initiation - Project Related  
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F - Contractor Requested Inspection Overtime

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
	55.4 Regenerative Thermal Oxidizer (RTO) Pad Modifications (CR-400) PR 4286 Task 5.29	C	FBB	\$8,471.16						0				
	55.5 Addition of Thin Client at the Dryer Facility (CR-485) PR 4286 Task 5.30	A	IRWD	\$36,874.10						0				
	55.6 Change in Size to 2 Check Valves in the Digester Control Building (CR-514) PR 4286 Task 5.31	C	FBB	\$8,684.56						0				
56	Approved by Board Approved on July 24, 2017				\$201,744.33	\$15,608,648.44	\$15,810,392.77	9.67%	\$179,276,332.77	0	368	368	1,646	10/31/2017
	56.1 Addition Of Stairs and Platform to RTO (CR-266) PR 4286 Task 5.29	A	IRWD	\$101,744.33						0				
	56.2 Microturbine CLC (ESC Capstone) per RFI 1141 (CR-277) PR 4286 Task 5.30	B	FBB	\$100,000.00						0				
57	Approved by General Manager Approval on August 5, 2017				\$98,886.90	\$15,810,392.77	\$15,909,279.67	9.73%	\$179,375,219.67	0	368	368	1,646	10/31/2017
	57.1 Additional Support at Digester Control Building (CR-342) PR 04286 Task 5.29	C	IRWD	\$2,522.47						0				
	57.2 Pipe and Duct Hanger Modifications (CR-362) PR 04286 Task 5.29	C	IRWD	\$4,083.12						0				
	57.3 Increase Wire Size of Main Breaker PP-3501 (CR-418) PR 04286 Task 5.30	C	FBB	\$696.66						0				
	57.4 Roof Vent at DCB Elevator/Stair Tower (CR-437) PR 04286 Task 5.29	B	IRWD	\$8,563.72						0				
	57.5 T-14 Fixed Type Manual Operator per Submittal 16443-0016A (CR-540) PR 04286 Task 5.31	C	IRWD	\$1,945.62						0				
	57.6 Area Classification at Methane Digesters to meet NFPA Table 6.2(a) - Plug Valves Limit Switches (CR-557) PR 04286 Task 5.30	C	FBB	\$64,195.15						0				
	57.7 Area Classification at Methane Digesters to meet NFPA Table 6.2(a) - Sump Pump Cable Retrofit PR 04286 Task 5.30	C	FBB	\$16,880.16						0				

A - District Convenience/Initiation - Project Related  
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F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
58	Approved by Board of Directors Approval on August 28, 2017				\$182,938.94	\$15,909,279.67	\$16,092,218.61	9.84%	\$179,558,158.61	0	368	368	1,646	10/31/2017
58.1	Concrete Cap over Shallow Pipe Crossings (CR-348) PR 04286 Task 5.31	B	FBB	\$7,923.00						0				
58.2	Additional Conduit and Wiring for Sludge Screen Moisture Sensors (CR-381) PR 04286 Task 5.30	C	FBB	\$8,355.32						0				
58.3	SCADA Programming Modifications (CR-433/476/546/547/551) PR 04286 Task 5.30	A	IRWD	\$15,758.38						0				
58.4	Polymer Storage Power Panels Wire and Breaker Modifications (CR-456) PR 04286 Task 5.30	C	FBB	\$24,238.65						0				
58.5	Odor Control Starter Modifications (CR-466) PR 04286 Task 5.30	B	FBB	\$41,436.09						0				
58.6	Odor Control Fan Remote Temperature Device Revisions (CR-522) PR 04286 Task 5.30	A	IRWD	\$52,484.50						0				
58.7	Re-location of Digester Control Building Gas Room Local Control Panels (CR-534) PR 04286 Task 5.30	A	FBB	\$32,743.00						0				
59	Approved by Exe. Director of Water Quality and Engineering Approval on September 6, 2017				\$98,988.68	\$16,092,218.61	\$16,191,207.29	9.90%	\$179,657,147.29	0	368	368	1,646	10/31/2017
59.1	Modifications to Building 101 (CR-212) PR 04286 Task 5.30	E	FBB	\$26,500.00						0				
59.2	Change in Conduit Size in Area 20 (CR-292) PR 04286 Task 5.10	C	FBB	\$1,946.70						0				
59.3	Centrifuge Discharge Cake Conveyors Schematic Modifications (CR-422) PR 04286 Task 5.10	C	FBB	\$6,410.04						0				
59.4	Power Monitor Programming Modifications (CR-539) PR 04286 Task 5.10	A	IRWD	\$2,595.60						0				
59.5	SCADA Programming Modifications (CR-547A) PR 04286 Task 5.10	A	IRWD	\$1,574.86						0				
59.6	Change in Area Classification at Methane Digesters to meet NFPA Standards - MOVs (CR-557B) PR 04286 Task 5.10	C	FBB	\$54,736.73						0				
59.7	FOG Heating Disconnect Switch Relocation (CR-559) PR 04286 Task 5.10	C	FBB	\$5,224.75						0				
60	Approved by Exe. Director of Water Quality and Engineering Approval on September 5, 2017				(\$34,540.00)	\$16,191,207.29	\$16,156,667.29	9.88%	\$179,622,607.29	0	368	368	1,646	10/31/2017
60.1	Credit for Overtime Inspection Hours From 4/1/2017 Through 6/30/2017 (CR-089E) PR 04286 Task 4.0	F	FBB	(\$34,540.00)						0				

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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
61	Approved by Exe. Director of Water Quality and Engineering Approved on September 6, 2017 61.1 Credit for Bulk Polymer Storage Changes per RFI-0863 and Submittal 15140-013B (CR-168) PR 04286 Task 5.16	E	FBB	(\$1,752.39)	(\$1,752.39)	\$16,156,667.29	\$16,154,914.90	9.88%	\$179,620,854.90	0	368	368	1,646	10/31/2017
62	Approved by Board of Directors Approved on October 9, 2017 62.1 Fats, Oil, and Grease (FOG) Modifications (CR-223A) PR 04286 Task 5.30 62.2 Density Meter Conduit and Cabling Modifications (CR-326) PR 04286 Task 5.30 62.3 Fiber Optic Modifications (CR-356) PR 04286 Task 5.30 62.4 Sludge Screen Pneumatic Control Panel Conduit and Cabling (CR-380) PR 04286 Task 5.30 62.5 Additional Circuits for Control of the Thickening Centrifuges (CR-386) PR 04286 Task 5.30 62.6 Upsize of Power Panel PP-8001 Circuit Breaker (CR-414) PR 04286 Task 5.30 62.7 Electrical Power Feeders to Electric Water Heater (CR-426) PR 04286 Task 5.30 62.8 Chemical Sump Pump Control Panel Space Heater Wiring Modifications (CR-461) PR 04286 Task 5.30 62.9 Relocate Electrical Feeders to Generator Bus (CR-462) PR 04286 Task 5.30 62.10 Electrical and Instrumentation Related Components for the Installation of Thin Client at Dryer Facility (CR-485A) PR 04286 Task 5.30 62.11 Polymer Room Eye Wash Station Flow Switches (CR-535) PR 04286 Task 5.30 62.12 Chemical Storage and Feed Modifications (CR-563) PR 04286 Task 5.30 62.13 PLC Redundancy Hot Standby Status Register (CR-568) PR 04286 Task 5.30	A	IRWD	\$52,174.90	\$708,162.72	\$16,154,914.90	\$16,863,077.62	10.32%	\$180,329,017.62	0	368	368	1,646	10/31/2017

A - District Convenience/Initiation - Project Related  
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**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
63	Approved by General Manager Approved on October 2, 2017				\$91,766.09	\$16,863,077.62	\$16,954,843.71	10.37%	\$180,420,783.71	0	368	368	1,646	10/31/2017
63.1	Electrical Modifications to RIO-2001 (CR-269) PR 04286 Task 5.30	C	IRWD	\$30,563.48						0				
63.2	Modifications to RIO-4002 (CR-285) PR 04286 Task 5.30	C	FBB	\$14,563.39						0				
63.3	Cap for 12-Inch Storm Drain (CR-351) PR 04286 Task 5.16	B	FBB	\$2,394.54						0				
63.4	Access Hatch for Regenerative Thermal Oxidizer Pipe Chase (CR-473) PR 04286 Task 5.31	C	FBB	\$3,958.91						0				
63.5	Electrical Upgrades to RIO-4002 (CR-447) PR 04286 Task 5.30	A	FBB	\$40,285.77						0				
64	Approved by Board of Directors Approved on October 23, 2017				\$231,100.22	\$16,954,843.71	\$17,185,943.93	10.51%	\$180,651,883.93	0	368	368	1,646	10/31/2017
64.1	Modifications to Centrate Treatment Facility Stairs (CR-379) PR 04286 Task 5.29	B	FBB	\$9,758.16						0				
64.2	Modifications to Ductwork in Solids Handling Building (CR-401) PR 04286 Task 5.31	C	FBB	\$9,537.05						0				
64.3	Electrical Conduits and Wires for Additional Bridge Breakers for Cake Receiving Pumps (CR-416) PR 04286 Task 5.30	B	FBB	\$21,678.83						0				
64.4	Handrail Modifications at the Methane Digesters (CR-472) PR 04286 Task 5.29	B	FBB	\$22,154.53						0				
64.5	Electrical and Instrumentation Related Components for the Installation of Thin Client at Dryer Facility (CR-485B) PR 04286 Task 5.30	A	IRWD	\$53,090.84						0				
64.6	Electrical Modifications at the Motor Control Centers for the Acid Phase Sludge Heating Recirculation Pumps (CR-517) PR 04286 Task 5.30	A	IRWD	\$47,611.11						0				
64.7	FOG Receiving Pumps Thermocouple and Thermostat Wiring (CR-525) PR 04286 Task 5.30	C	FBB	\$37,826.58						0				
64.8	SCADA Programming Changes (CR-537/570/573/573A) PR 04286 Task 5.30	A	IRWD	\$23,694.13						0				
64.9	Change of Limit Switches for Buried Service (CR-560) PR 04286 Task 5.30	C	FBB	\$5,748.99						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
C - Design Oversight  
D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

Change Order	Description	Category	IRWD or FBB	Contract Amount						Contract Days				Original Completion Date:
				Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	10/28/2016
														Original Contract Amount: \$163,465,940.00
65	Approved by Board of Directors Approved on October 23, 2017				\$149,591.14	\$17,185,943.93	\$17,335,535.07	10.60%	\$180,801,475.07	0	368	368	1,646	10/31/2017
65.1	Additional Conduits and Wires for the Engine Generator, Switchgear-16, and Switchgear-16 Programmable Logic Controller (CR-204) PR 04286 Task 5.30	C	FBB	\$100,000.00						0				
65.2	Modifications to Spirac Conveyor in the Solids Handling Building (CR-409) PR 04286 Task 5.31	B	FBB	\$13,641.00						0				
65.3	Additional Metal Bridge Walkway Structural Support Angles (CR-420) PR 04286 Task 5.29	B	FBB	\$35,950.14						0				
66	Approved by General Manager Approved on November 30, 2017				\$98,201.20	\$17,335,535.07	\$17,433,736.27	10.67%	\$180,899,676.27	0	368	368	1,646	10/31/2017
66.1	SCADA Programming Modifications and Updates (CR-247A/CR-469/CR-485C/CR-571/CR-575A/CR-579/CR-580/CR-585) PR 04286 Task 5.30	A	IRWD	\$61,734.78						0				
66.2	Installation of Sump Pump Floats (CR-452) PR 04286 Task 5.31	A	IRWD	\$17,228.56						0				
66.3	Electrical Work Associated with Air Handling/Heating Units, Recycle Bin Feed Conveyor, and Recycle Bucket Elevator in the Solids Handling Building (CR-457/CR-529) PR 04286 Task 5.30	B	IRWD	\$11,003.85						0				
66.4	Additional Wires and Conduits for FOG Receiving Valves (CR-565) PR 04286 Task 5.30	B	FBB	\$6,368.21						0				
66.5	Additional Door Cover Plates for MCC-4100 and MCC-4101	B	IRWD	\$1,865.80						0				
67	Approved by Exe. Dir of Engineering and Water Quality Approved on November 30, 2017				(\$53,626.83)	\$17,433,736.27	\$17,380,109.44	10.63%	\$180,846,049.44	0	368	368	1,646	10/31/2017
67.1	Credit for Overtime Inspection Hours from 07/1/2017 to 09/30/2017 (CR-089F) PR 04286 Task 4.0	F	FBB	(\$19,140.00)						0				
67.2	Credit for Additional Conduits and Wires for the Engine Generator, Switchgear-16, and Switchgear-16 Programmable Logic Controller (CR-204A) PR 04286 Task 5.30	E	FBB	(\$13,591.83)						0				
67.3	Deletion of Pavement Prime Coat (CR-331D) PR 04286 Task 5.29	A	IRWD	(\$20,895.00)						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
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E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime



**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
68	Approved by Board of Directors Approved on December 11, 2017				\$569,553.19	\$17,380,109.44	\$17,949,662.63	10.98%	\$181,415,602.63	0	368	368	1,646	10/31/2017
	68.1 Fats, Oil, and Grease (FOG) Modifications (CR-223) PR 04286 Task 5.30	A	IRWD	\$83,648.47						0				
	68.2 Additional Electrical Outlets and Circuits in the Solids Handling Building (CR-453) PR 04286 Task 5.30	A	IRWD	\$44,054.83						0				
	68.3 Control Panel Modifications in the Methane Digester Complex (CR-545) PR 04286 Task 5.30	C	IRWD	\$55,414.03						0				
	68.4 Additional Electrical, Instrumentation, and Controls for the Heat Dryer System (CR-270 and CR-471A through CR-471G, CR-496, and CR-555) PR 04286 Task 5.30	B	FBB	\$386,435.86						0				
69	Approved by General Manager Approved on December 20, 2017				\$90,846.69	\$17,949,662.63	\$18,040,509.32	11.04%	\$181,506,449.32	0	368	368	1,646	10/31/2017
	69.1 Power Supply Failure Alarms for Acid Gas Boosters (CR-477) PR 04286 Task	A	IRWD	\$10,965.90						0				
	69.2 Addition of Waste Gas Burner Instrument Air Compressor System (Electrical) (CR-484) PR 04286 Task 5.30	C	IRWD	\$8,046.52						0				
	69.3 Circuit Breaker for MOC-2034 (CR-541) PR 04286 Task 5.30	B	IRWD	\$2,389.56						0				
	69.4 Change in Limit Switches Located in the Methane Digester Complex Due Electrical Classification Change (CR-557D) PR 04286 Task 5.30	C	IRWD	\$37,744.12						0				
	69.5 Change in Limit Switches Located in the Methane Digester Complex Due Electrical Classification Change (CR-582) PR 04286 Task 5.30	C	IRWD	\$16,228.03						0				
	69.6 SCADA Programming Changes – Totalizers (CR-590) PR 04286 Task 5.30	A	IRWD	\$7,830.90						0				
	69.7 Control Panel Modifications in the Methane Digester Complex (CR-592) PR 04286 Task 5.30	A	IRWD	\$7,641.66						0				

- A - District Convenience/Initiation - Project Related
- B - Differing Site Conditions
- C - Design Oversight
- D - District Convenience/Initiation - Non-Project Related
- E - Contractor Convenience/Initiation
- F - Contractor Requested Inspection Overtime

B-27

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
70	Approved by Exe. Dir of Engineering and Water Quality Approved on January 23, 2018				\$73,972.77	\$18,040,509.32	\$18,114,482.09	11.08%	\$181,580,422.09	0	368	368	1,646	10/31/2017
70.1	Addition of Limit Switches on Gas Dryer Heat Exchanger (CR-303) PR 04286 Task 5.30	A	IRWD	\$17,367.32						0				
70.2	Change of Electrical Classification of Valve Limit Switches at Acid Phase Digester Complex (CR-415) PR 04286 Task 5.30	C	IRWD	\$24,018.04						0				
70.3	Power Source to the Solids Handling Building Bridge Cranes (CR-574) PR 04286 Task 5.30	C	IRWD	\$27,479.58						0				
70.4	Investigation of Street Lights, South side of Biosolids Site (CR-613) PR 04286 Task 5.30	A	IRWD	\$1,204.20						0				
70.5	Additional Switches in the Solids Handling Building (CR-625) PR 04286 Task 5.30	A	IRWD	\$3,903.63						0				
71	Approved by Exe. Dir of Engineering and Water Quality Approved on January 31, 2018				(\$12,210.00)	\$18,114,482.09	\$18,102,272.09	11.07%	\$181,568,212.09	0	368	368	1,646	10/31/2017
71.1	Credit for Overtime Inspection Hours from 10/1/2017 to 12/31/2017 (CR-089G) PR 04286 Task 4.0	F	IRWD	(\$12,210.00)						0				
72	Approved by General Manager Approved on January 25, 2018				\$25,256.29	\$18,102,272.09	\$18,127,528.38	11.09%	\$181,593,468.38	0	368	368	1,646	10/31/2017
72.1	Installation of Breakers for Power Panel PP-8001 (CR-414A) PR 04286 Task 5.30	A	IRWD	\$25,256.29						0				
73	Pending Approval by Board of Directors Pending Approval on February 27, 2018				\$150,755.29	\$18,127,528.38	\$18,278,283.67	11.18%	\$181,744,223.67	0	368	368	1,646	10/31/2017
73.1	Additional Circuits for Control of the Dewatering Centrifuges (CR-386B) PR 04286 Task 5.30	B	FBB	\$150,755.29						0				

A - District Convenience/Initiation - Project Related  
B - Differing Site Conditions  
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D - District Convenience/Initiation - Non-Project Related  
E - Contractor Convenience/Initiation  
F - Contractor Requested Inspection Overtime

**MWRP Biosolids and Energy Recovery Facilities  
PR 21146 (4286)  
Construction Change Order Summary**

Contractor: F- Contractor Request - Overtime Hours  
Design Engineer: Black & Veatch

				Contract Amount						Contract Days				Original Completion Date:
				Original Contract Amount: \$163,465,940.00						Original Days: 1,278				10/28/2016
Change Order	Description	Category	IRWD or FBB	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date

Category	Total Amount	% of Original Contract
A - District Convenience/Initiation - Project Related	\$ 2,778,773.60	1.70%
B - Differing Site Conditions	\$ 12,438,424.40	7.61%
C - Design Oversight	\$ 3,224,803.13	1.97%
D - District Convenience/Initiation - Non-Project Related	\$ -	0.00%
E - Contractor Convenience/Initiation	\$ 98,302.54	0.06%
F - Contractor Requested Inspection Overtime	\$ (262,020.00)	-0.16%
<b>TOTAL (A + B + C + D + E + F)</b>	<b>\$ 18,278,283.67</b>	<b>11.18%</b>

Category	Total Amount	% of Original Contract
IRWD-Initiation/Driven	\$ 3,716,062.42	2.27%
FBB-Initiation/Driven	\$ 14,391,501.03	8.80%
N/A	\$ 170,720.22	0.10%
<b>TOTAL</b>	<b>\$ 18,278,283.67</b>	<b>11.18%</b>

- A - District Convenience/Initiation - Project Related
- B - Differing Site Conditions
- C - Design Oversight
- D - District Convenience/Initiation - Non-Project Related
- E - Contractor Convenience/Initiation
- F - Contractor Requested Inspection Overtime

March 12, 2018

Prepared by: J. Dayer

Submitted by: K. Drake

Approved by: Paul A. Cook



## CONSENT CALENDAR

### MICHELSON WATER RECYCLING PLANT ASPHALT REPLACEMENT CONTRACT AWARD

#### SUMMARY:

The majority of asphalt paving at the Michelson Operations Center is over 20 years old and in need of replacement. Staff recommends that the Board authorize the General Manager to execute a construction contract with Sanders Paving, Inc. in the amount of \$376,133.35 for replacement of approximately 127,350 square feet of asphalt.

#### BACKGROUND:

The asphalt in and around the Michelson Operations Center is original to the construction of the building. Despite regular crack repair and slurry sealing, much of the asphalt is cracked and weathered and requires replacement.

Much of the asphalt in the treatment plant area was replaced as part of the MWRP Phase II Expansion Project. The condition of the remaining areas of asphalt was evaluated in the fall of 2016 and approximately 127,350 square feet was identified as requiring replacement. The areas included in the scope of this contract award are presented as "Exhibit A" and will be completed in three phases. Capital projects were added to the Fiscal Year 2017-18 Capital Budget to fund this replacement.

Staff conducted a job walk with four qualified paving contractors in January of 2018. The responsive bidders were: Sanders Paving, Inc., Hardy & Harper, Inc., Quickel Paving, Inc., and GM Sager Construction, Inc. Sanders Paving, Inc. was the apparent low bidder with a bid of \$376,133.35. A list of bid results is included as Exhibit "B". Sanders Paving, Inc. has satisfactorily completed many projects for the District and is considered well qualified. Work will be performed outside of the normal District working hours, primarily on weekends, to minimize impact on operations.

#### FISCAL IMPACTS:

Capital Projects 07117, 07118, and 07119 are included in the 2017-18 Fiscal Year capital budget. The existing budget is sufficient to fund the project.

ENVIRONMENTAL COMPLIANCE:

This activity is not subject to the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15060 (c)(1) Preliminary Review. An activity is not subject to CEQA if the activity will not result in a direct reasonably foreseeable indirect physical change to the environment.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on February 20, 2018.

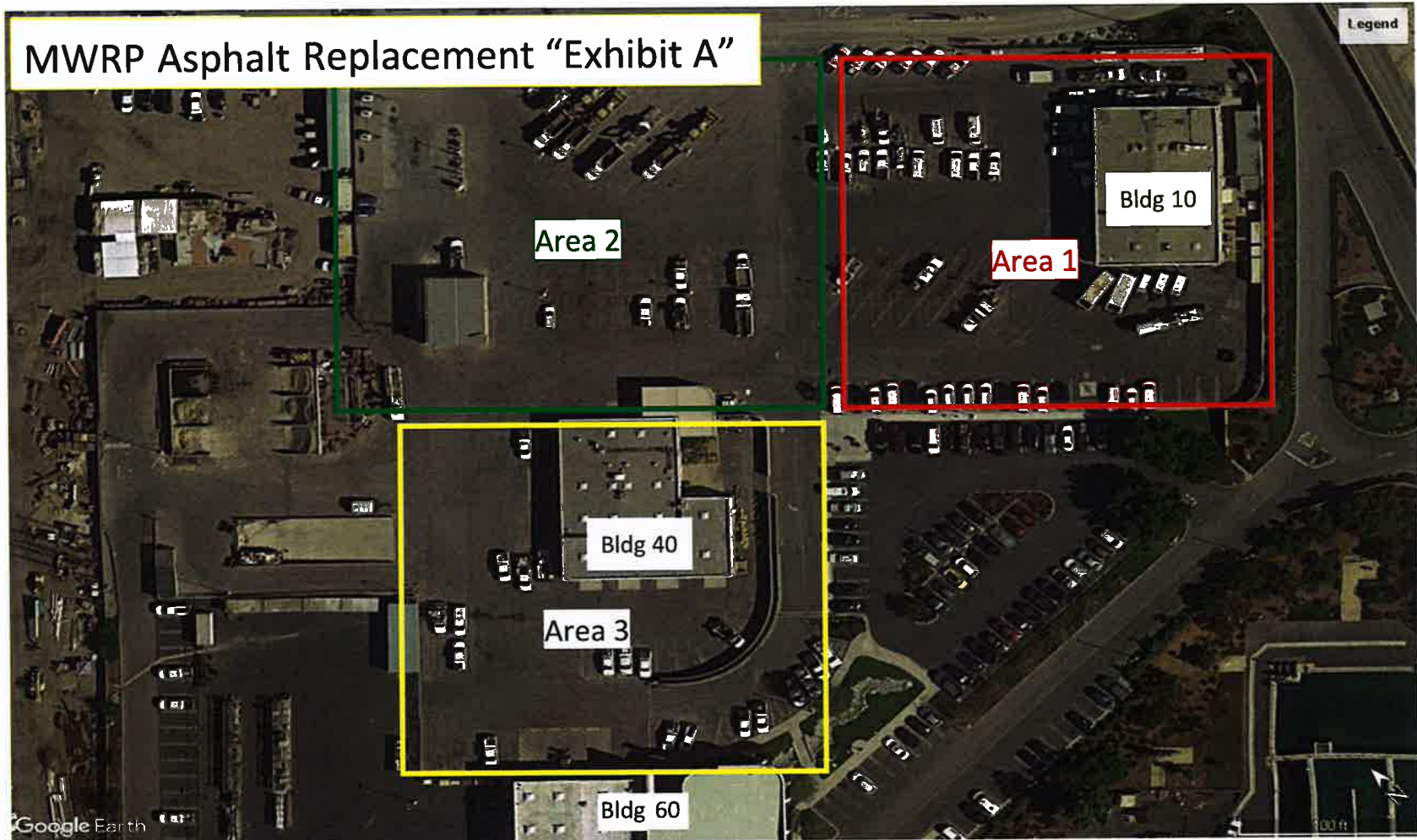
RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH SANDERS PAVING, INC. IN THE AMOUNT OF \$376,133.35 FOR REPLACEMENT OF APROXIMATELY 127,350 SQUARE FEET OF ASPHALT AT THE MICHELSON WATER RECYCLING PLANT.

LIST OF EXHIBITS:

Exhibit "A" – MWRP Asphalt Replacement Aerial  
Exhibit "B" – MWRP Asphalt Replacement Bid Summary


# EXHIBIT "A"



# EXHIBIT "B"

## MWRP Asphalt Replacement Bid Summary

Contractor Name	Bid Amount
Sanders Paving, Inc.	\$376,133.35
Hardy & Harper, Inc.	\$405,800.00
Quickel Paving, Inc.	\$449,995.00
GM Sager Construction, Inc.	\$920,559.55

March 12, 2018  
Prepared by: A. Murphy/M. Cortez  
Submitted by: K. Burton  
Approved by: Paul A. Cook 

CONSENT CALENDAR

2017 SEWER REHABILITATION FINAL ACCEPTANCE

SUMMARY:

The 2017 Sewer Rehabilitation project is complete. The District's contractor, Insituform, completed the required work and all punch list items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

This project rehabilitated approximately 3,500 feet of gravity sewer pipeline between eight and 15 inches in diameter at 11 locations including four in Irvine, six in Lake Forest and one in Newport Coast. The sewers were rehabilitated with cured in place pipe lining.

The District's engineering firm, Psomas, completed the design in August 2017 and Insituform was awarded the construction contract on October 9, 2017. Insituform mobilized in November 2017 and completed construction of all improvements on January 20, 2018.

Project Title:	2017 Sewer Rehabilitation
Project No.:	07100
Design Engineer:	Psomas
Construction Management by:	IRWD Staff
Contractor:	Insituform
Original Contract Cost:	\$238,300
Final Contract Cost:	\$252,057.06
Original Contract Days:	130
Final Contract Days:	130
Final Change Order Approved on:	February 21, 2018



FISCAL IMPACTS:

Project 07100 is included in the FY 2017-18 Capital Budget. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exemption for the project was prepared and filed with the County of Orange on May 26, 2017.

COMMITTEE STATUS:


This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE 2017 SEWER REHABILITATION, PROJECT 07100, AUTHORIZE THE GENERAL MANAGER TO FILE A NOTICE OF COMPLETION, AND AUTHORIZE THE PAYMENT OF THE RETENTION 35 DAYS AFTER THE DATE OF RECORDING THE NOTICE OF COMPLETION.

LIST OF EXHIBITS:

None.

March 12, 2018  
Prepared by: S. Toland/R. Mori  
Submitted by: K. Burton  
Approved by: Paul A. Cook 

CONSENT CALENDAR

BAKER WATER TREATMENT PLANT  
FINAL ACCEPTANCE

SUMMARY:

Construction of the Baker Water Treatment Plant project is complete. The District's contractor, PCL Construction, completed the required work and all punch list items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

The construction contract for the Baker Water Treatment Plant project was awarded to PCL on January 6, 2014. The construction schedule was extended over the course of the project to account for various unanticipated conditions, additional work, and to accommodate the extensive testing, startup, and commissioning activities, including the required six-month membrane test period. The Plant was placed into service in January 2017 and has produced high quality drinking water ever since.

Project Title:	Baker Water Treatment Plant
Project No.:	05027
Design Engineer:	RBF Consulting / Carollo Engineers
Construction Management by:	IRWD Staff
Contractor:	PCL Construction
Original Contract Cost:	\$77,520,613
Final Contract Cost:	\$80,045,439.68
Original Contract Days:	820
Final Contract Days:	1,514
Final Change Order Approved on:	February 13, 2018

FISCAL IMPACTS:

Project 05027 is included in the FY 2017-18 Capital Budget. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA) and an Environmental Impact Report (EIR) was prepared in conformance with California Code of Regulations Title 14, Chapter 3, Article 7. The Final EIR was certified and adopted by the Board in April 2011. Addenda No. 1 and No. 2 to the EIR were prepared in accordance with Section 15164 of the CEQA Guidelines and were approved by the Board in February 2012, and March 2013, respectively.

COMMITTEE STATUS:


This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO ACCEPT CONSTRUCTION OF BAKER WATER TREATMENT PLANT, PROJECT 05027, AUTHORIZE THE GENERAL MANAGER TO FILE A NOTICE OF COMPLETION, AND AUTHORIZE THE RELEASE OF RETENTION 35 DAYS AFTER FILING OF THE NOTICE OF COMPLETION.

LIST OF EXHIBITS:

None.

March 12, 2018  
Prepared by: J. Corey/K. Welch  
Submitted by: F. Sanchez/P. Weghorst  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### ADDENDUM NO. 3 TO THE BAKER WATER TREATMENT PLANT PROJECT FINAL ENVIRONMENTAL IMPACT REPORT

#### SUMMARY:

IRWD proposes minor modifications to the Baker Water Treatment Plant Project. The proposed modifications include the addition of a solar photovoltaic (PV) power generation system and an energy storage system within the existing boundaries of the Baker Plant. These additional systems will supplement electricity provided by Southern California Edison (SCE) to reduce the cost of power at the Baker Plant and to reduce stress on SCE's electrical distribution grid. Environmental review has been completed for the proposed modifications. Staff recommends the Board approve Addendum No. 3 to the Baker Water Treatment Plant Project Final Environmental Impact Report (FEIR).

#### BACKGROUND:

In April 2011, the IRWD Board certified the Baker Plant FEIR. The FEIR analyzed the environmental effects of constructing and operating a potable water treatment facility at the location of the former Baker Filtration Plant in Lake Forest. The Baker Plant project enhances water supply reliability in south Orange County and provides redundant treatment capacity to Metropolitan Water District of Southern California's Diemer Treatment Plant by treating 28 million gallons of raw water per day. The project provides treated water to IRWD and four other water agencies in south Orange County: El Toro Water District, Moulton Niguel Water District, Santa Margarita Water District, and Trabuco Canyon Water District.

#### Previous Addendums:

In March 2012, IRWD approved Addendum No. 1 to the Baker Plant project FEIR. Addendum No. 1 evaluated the environmental effects of modifying the alignment of the treated water pipeline that connects the plant to the South County Pipeline and changes to the mechanical design of the product water pump station. In March 2013, IRWD approved Addendum No. 2 to the Baker Plant Project FEIR. Addendum No. 2 evaluated the environmental effects of adding residuals handling facilities to the Project. Addendum No. 2 also included two new electrical conduit alignments necessary for SCE to serve the project.

#### Addendum No. 3:

Addendum No. 3 to the Baker Plant FEIR has been prepared pursuant to the California Environmental Quality Act. This addendum analyzes the environmental impacts associated with installing a PV power generation system and an energy storage system at the plant. The purpose of the additional systems is to supplement electricity provided by SCE to reduce the cost of power needed to operate the plant and to reduce stress on SCE's electrical distribution grid. The proposed modifications that are analyzed in Addendum No. 3 are described further below.

*Solar PV System:*

The proposed solar PV generation system would generate approximately 1.25 megawatts of alternating current. The components for the solar PV generation system would include solar PV arrays and ancillary equipment, which includes inverters, solar panel boards, a switchboard and a telemetry panel. The solar PV arrays would be constructed atop the two existing 16 million gallon buried reservoirs that are located at the Baker Plant. Electrical interconnection of the solar system to the existing plant electrical system will be required. The solar power system would not provide backup power during a utility outage. In the event of a power outage, backup power for the plant would be provided via the three existing on-site diesel generators. A site map showing the location of the proposed solar arrays is attached as Exhibit "A".

*Energy Storage System:*

The proposed energy storage system would include an approximately one-megawatt, six-hour battery storage system. The batteries would be located as shown on Exhibit "A", either on the west side of Reservoir 1 with the auxiliary equipment associated with the solar PV generation system or on the west side of the existing treatment building. The batteries would charge during off-peak hours and then discharge during on-peak times. The six-hour battery storage system is expected to have approximately two hours of power dedicated to demand management at the Baker Plant and approximately four hours dedicated to SCE's Demand Response Energy program to reduce stress on SCE's electrical grid. Ancillary equipment including a switchboard, inverter and a telemetry panel would be required to connect the battery system to the existing Baker Plant electrical service.

Acoustical modeling of the energy storage system facilities will be conducted during design to identify components that will be needed to attenuate operational noise below the City of Lake Forest noise ordinance thresholds. Similar to the PV generation facility, the energy storage would not provide backup power during a utility outage.

*Findings:*

The proposed modifications to the Baker Plant project as described above would not change the regulatory framework, impact discussion, mitigation measures or significant conclusions as described in the FEIR. Environmental review has been completed for the proposed modifications to the Baker Plant project as described above and Addendum No. 3 to the FEIR has been prepared. Based on the information and analysis in the proposed Addendum No. 3, the Determination section of the Addendum sets forth the proposed determinations by the District that no conditions described in CEQA calling for the preparation of a subsequent EIR have occurred. A copy of Addendum No. 3 is attached as Exhibit "B".

**FISCAL IMPACTS:**

The cost for the environmental review of the proposed solar PV power generation system and energy storage system at the Baker Plant is included in project 07153 in the FY 2017-18 Capital

Budget. Capital budget requirements for the implementation of the proposed modifications to the Baker Plant Project will be reviewed with the Board at a later date.

ENVIRONMENTAL COMPLIANCE:

Section 15164 of CEQA Guidelines provides for the preparation of an addendum to a previously certified Environmental Impact Report (EIR) by a lead agency or a responsible agency if some changes or additions to the project are necessary but none of the conditions described in CEQA calling for preparation of a subsequent EIR have occurred. Based on the information and analysis in the proposed Addendum No. 3, the Determination section of the Addendum sets forth the proposed determinations by the District that none of such conditions have occurred.

COMMITTEE STATUS:

This item has not been reviewed by Committee. Addendums to EIRs typically are not taken to Committee prior to submittal for Board approval.

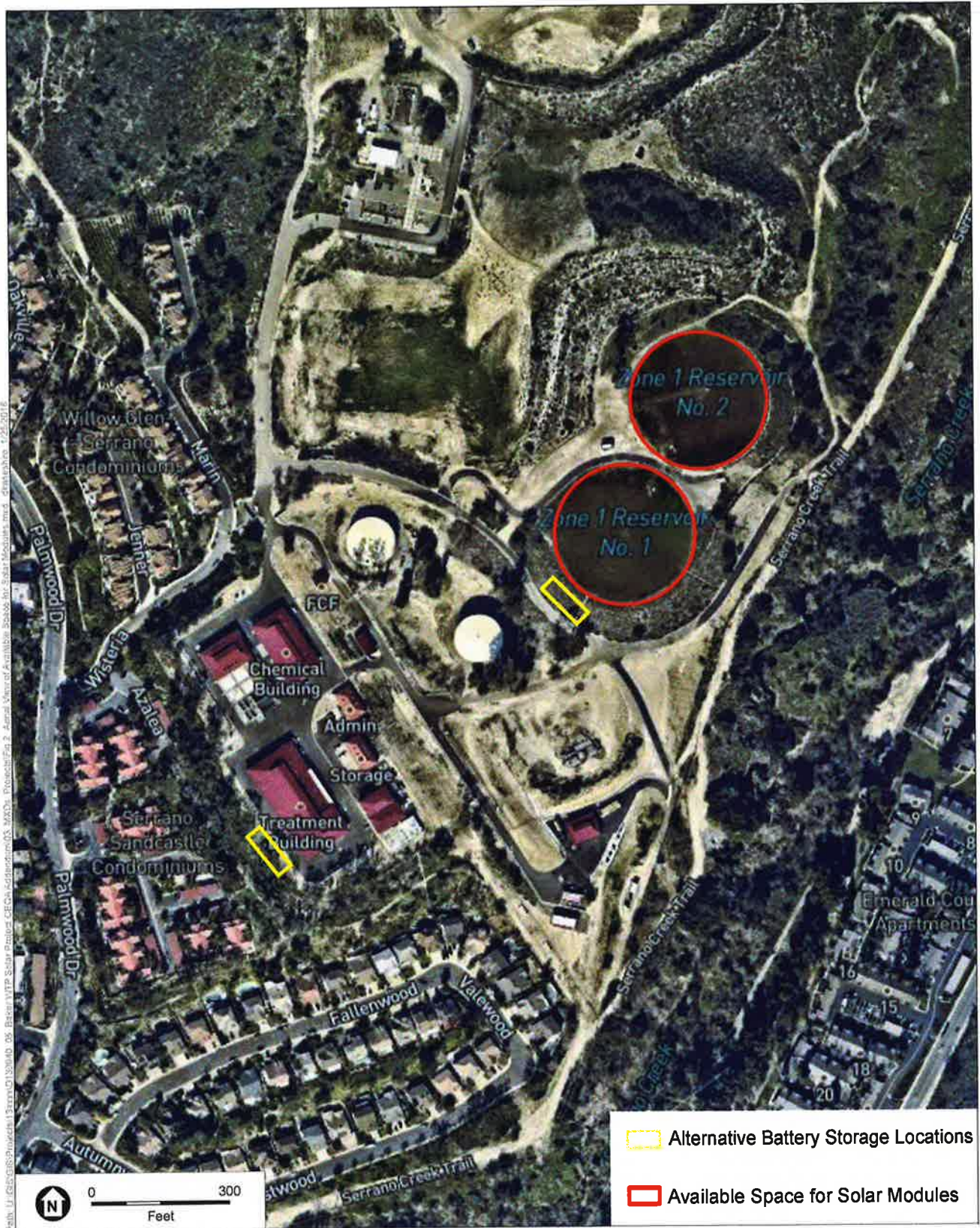
RECOMMENDATION:

THAT THE BOARD APPROVE THE PROPOSED ADDENDUM NO. 3 TO THE BAKER WATER TREATMENT PLANT PROJECT FINAL ENVIRONMENTAL IMPACT REPORT, INCLUDING THE DETERMINATIONS SET FORTH IN ADDENDUM NO. 3, AND AUTHORIZE STAFF TO POST AND FILE A NOTICE OF DETERMINATION.

LIST OF EXHIBITS:

Exhibit "A" – Baker Water Treatment Plant Proposed Energy Facilities Site Map  
Exhibit "B" – Addendum No. 3 to the Baker Water Treatment Plant Project Final Environmental Impact Report

# EXHIBIT "A"



SOURCE: ESA, 2018

IRWD Baker WTP EIR Addendum No. 3

**Aerial View of Baker WTP & Available Space for Proposed Modifications**

# EXHIBIT "B"

Addendum No. 3 to the  
**BAKER WATER TREATMENT PLANT PROJECT**  
Environmental Impact Report (State Clearinghouse No. 2010051055)

**Prepared for:**  
**Irvine Ranch Water District**  
**15600 Sand Canyon Avenue**

**March 6, 2018**





Addendum No. 3 to the  
**BAKER WATER TREATMENT PLANT PROJECT**  
Environmental Impact Report (State Clearinghouse No. 2010051055)

**Prepared for:**  
**Irvine Ranch Water District**  
**15600 Sand Canyon Avenue**  
**Irvine, CA 92618**

**March 2018**

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# **BAKER WATER TREATMENT PLANT PROJECT**

## **Final Environmental Impact Report Addendum No. 3**

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### **1.0 Introduction**

Irvine Ranch Water District (IRWD) proposes to modify the Baker Water Treatment Plant (WTP) Project (Project). The proposed modification includes construction and operation of a solar photovoltaic (PV) power generation system and energy storage system within the existing boundaries of the Baker WTP. The purpose of the solar system is to supplement electricity provided by Southern California Edison (SCE) with solar energy captured onsite to reduce the cost of power at the Baker WTP. The purpose of the energy storage system is to charge the batteries from the grid during off-peak hours and then discharge them during on-peak times to reduce the cost of power at the Baker WTP and reduce stress on SCE's electrical distribution grid. The potential environmental effects of the proposed modification to the Project are addressed in this Addendum No. 3 to the Baker WTP Project Final Environmental Impact Report (EIR) (SCH # 2010051055). All other planned Baker WTP facilities and project objectives outlined in the Final EIR and Addendum No. 1 and No. 2 remain unchanged. The proposed modification does not affect the changes to the Project that were analyzed in Addendum No. 1 and Addendum No. 2.

IRWD has prepared this Addendum pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15164, to describe the modifications to the Project and to evaluate whether the modifications present any new significant impacts not identified in the previously certified Final EIR, Addendum No. 1, and Addendum No. 2 that would require preparation of a subsequent or supplemental EIR. As documented in the analysis presented below, the proposed modifications would not result in substantial changes that warrant preparation of a subsequent or supplemental EIR pursuant to Sections 15162 and 15163 of the CEQA Guidelines.

### **2.0 Project Background**

In April of 2011, IRWD's Board of Directors certified the Baker WTP Project Final EIR. The Final EIR evaluated the environmental effects of constructing and operating a new potable water treatment facility in the City of Lake Forest at the location of the former Baker Filtration Plant (BFP). The Project included other requisite offsite components, such as the Raw Water Pump Station located in the City of Orange. The Baker WTP Project enhances water supply reliability in southern Orange County and provide redundant treatment capacity to Metropolitan Water District of Southern California's (MWD) Diemer Treatment Plant by treating raw water at a normal operating capacity of 43.5 cubic feet per second (28 million gallons per day). The Project does not increase the capacity of regional treated water distribution pipelines, but rather improves

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regional potable water system reliability and operational flexibility. The Project provides treated water to four partnering water agencies in southern Orange County: El Toro Water District (ETWD), Moulton Niguel Water District (MNWD), Santa Margarita Water District (SMWD), and Trabuco Canyon Water District (TCWD).

In March of 2012, IRWD's Board of Directors certified Addendum No. 1 to the Baker WTP Project Final EIR. Addendum No. 1 evaluated the environmental effects of modifying the alignment of the treated water pipeline that connects the Baker WTP to the South County Pipeline and changes to the mechanical design of the product water pump station.

In March of 2013, IRWD's Board of Directors certified Addendum No. 2 to the Baker WTP Project Final EIR. Addendum No. 2 evaluated the environmental effects of including an additional treatment process to the Baker WTP and two new electrical conduit alignments necessary for Southern California Edison (SCE) to service the Project. The treatment process at the Baker WTP was modified to include new residuals handling facilities to allow residuals processing to occur onsite at the Baker WTP rather than at Los Alisos Water Recycling Plant (LAWRP) as previously planned.

### **3.0 Purpose of Addendum**

Under CEQA, the lead agency or a responsible agency shall prepare an addendum to a previously-certified Final EIR if some changes or additions are necessary to the prior EIR, but none of the conditions calling for preparation of a subsequent or supplemental EIR have occurred (CEQA Guidelines §§ 15162, 15164). Once an EIR has been certified, a subsequent EIR is only required when the lead agency or responsible agency determines that one of the following conditions has been met:

- (1) Substantial changes are proposed in the project, or substantial changes occur with respect to the circumstances under which the project is undertaken, which require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects (CEQA Guidelines §15162(a)(1), (2));
- (2) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:
  - a. The project will have one or more significant effects not discussed in the previous EIR;
  - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative (CEQA Guidelines §15162(a)(3)).

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If one or more of the conditions described above for a subsequent EIR exist, but only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation, then the lead agency may prepare a supplement to an EIR, rather than a subsequent EIR (CEQA Guidelines §15163(a)).

CEQA recommends that a brief explanation of the decision to prepare an addendum rather than a subsequent or supplemental EIR be included in the record (CEQA Guidelines §15164(e)). IRWD has evaluated the potential environmental impacts of the proposed modifications as set forth below in Section 6 of this Addendum No. 3. IRWD, acting as the Lead Agency, has determined that none of the above CEQA conditions apply and that Addendum No. 3 to the adopted Final EIR is the appropriate environmental documentation for the proposed modifications and fully complies with CEQA, as described in the CEQA Guidelines.

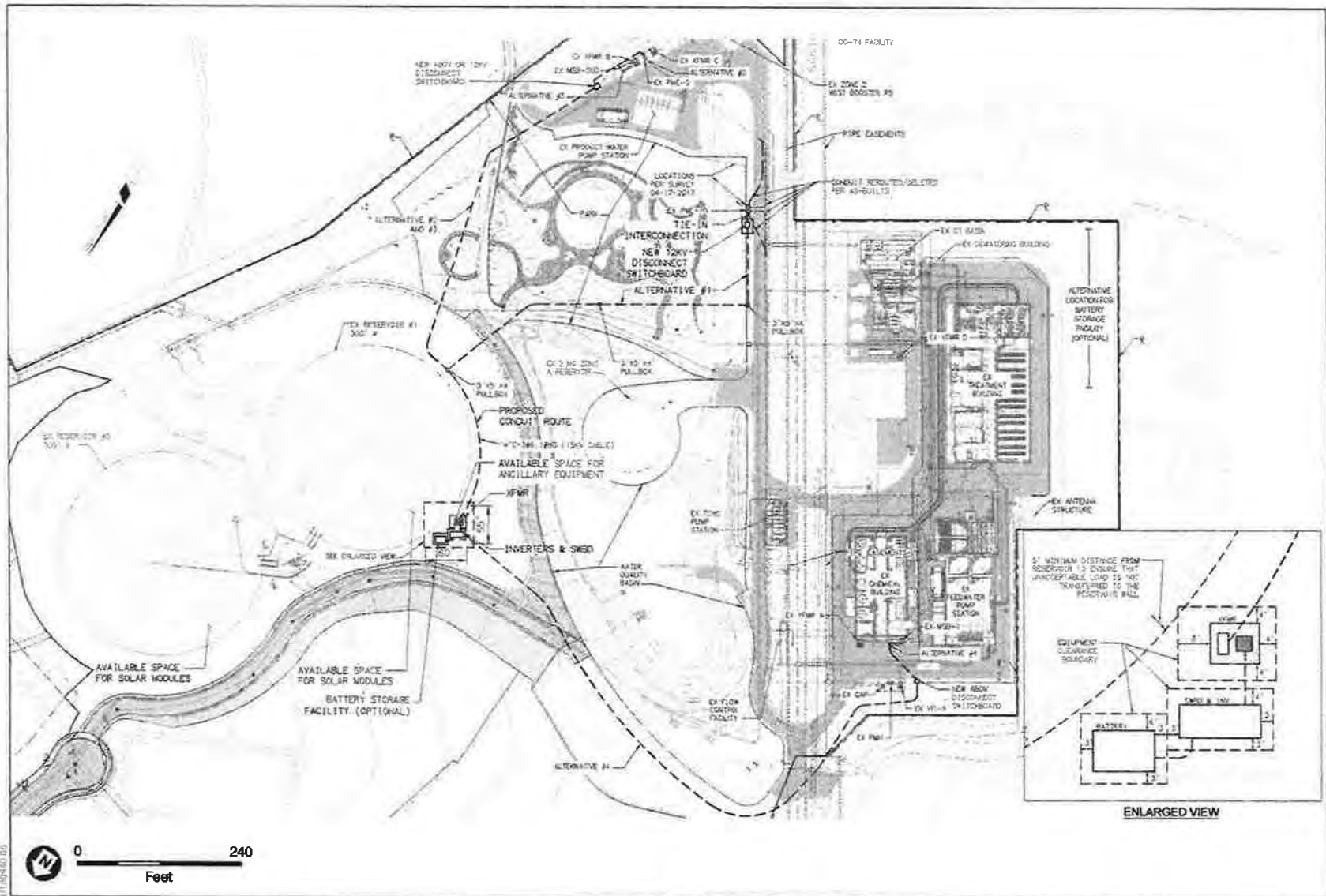
An addendum does not need to be circulated for public review, but rather can be attached to the Final EIR (CEQA Guidelines §15164(c)). Prior to initiating the modified Project, IRWD's Board of Directors will consider this Addendum No. 3 together with the adopted Final EIR and previous addendums (i.e., Addendum No. 1 and Addendum No. 2) and make a decision regarding the modified Project (CEQA Guidelines §15164(d)).

## 4.0 Proposed Modifications

### 4.1 Description of Proposed Energy Facilities

The Baker WTP Project Final EIR assumed power for the facility would be provided solely by SCE via existing grid infrastructure. The Final EIR further assumed no off-site improvements to the existing grid infrastructure would be necessary to provide enough energy to operate the WTP at full capacity. The proposed modification to the Baker WTP Project involves construction and operation of an on-site solar PV power generation system and an energy storage system. The purpose of the additional solar system is to supplement electricity provided by SCE with solar energy captured onsite to reduce the cost of power at the Baker WTP. The purpose of the energy storage system is to charge the batteries from the grid during off-peak hours and then discharge them during on-peak times to reduce the cost of power and reduce stress on SCE's electrical distribution grid. One or both of these additional systems would be constructed. The additional systems could be constructed at different times. In order to assess the worst-case scenario, this Addendum assumes both the solar PV generation system and the energy storage system would both be constructed at the same time. A detailed site plan showing the locations of the solar PV generation system and energy storage system is included as **Figure 1**. Each system is described further below.

Solar PV Generation System: The solar PV generation system would generate up to approximately 2.0 megawatts alternating current (MWac) and would include the following components: solar PV arrays; ancillary equipment including inverters, solar panelboards, switchboard, and telemetry panel.



SOURCE: Michael Baker International, 2017

IRWD Baker WTP EIR Addendum No. 3

**Figure 1**  
Proposed Modifications – Detailed Site Plan



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Fixed-tilt, ground-mounted solar PV arrays would be constructed atop two existing 16 million gallon (MG) buried reservoirs (i.e., Reservoir 1 and Reservoir 2), totaling up to approximately 3 acres for solar panels (Figure 2). Solar arrays would be approximately 6 feet in height and would be mounted to maintain the integrity of the buried reservoirs, likely using a ballast racking system. The layout of the solar arrays would allow sufficient space for operations staff to access and maintain the underlying reservoir equipment using a small pick-up truck. A woven ground cover and 4-inch aggregate base would be installed under and around the solar PV arrays to maintain a clean site. Ancillary equipment would be located adjacent to the solar arrays, likely on the west side of Reservoir 1 (see Figure 1).

Electrical collection and interconnection of the solar PV generation system to the existing WTP's electrical system will be required. Interconnection would be achieved through SCE's Rule 21 Generating Facility Interconnections process. The State of California requires that all inverters installed in 2018 shall comply with UL 1741 SA standards, meaning the solar system would not provide backup power during a utility outage. Thus, in the event of a utility outage, backup power would be provided via the three existing on-site diesel generators.

Preliminary solar production estimates presented in the Baker Water Treatment Plant Solar Project Constraints Memorandum, prepared by Michael Baker International, show that the site can support about a 1.25 MWac solar facility that would produce approximately 2,250,000 kilowatt-hours per year (kWh/yr). The final capacity and production of the solar facility will be determined during final design and could be greater.

When operating at its design capacity, the Baker WTP will be capable of consuming all of the solar energy produced at the site. A Non-Exporting interconnection agreement with SCE may be pursued that will make it eligible to receive incentives through SCE's Local Capacity Requirement program. The selection of a Non-Exporting or a Net Energy interconnection agreement will be made in consultation with SCE as part of the project's final design and permitting process.

**Energy Storage System:** The energy storage system would include up to approximately a 1-megawatt or not significant greater, 6-hour battery storage system. The batteries would be located either on the west side of Reservoir 1 with the auxiliary equipment associated with the solar PV generation system or on the west side of the existing WTP's treatment building (refer to Figure 1). In general, the batteries would charge during off-peak hours and then discharge during on-peak times. The 6-hour battery storage system is expected to have about 2-hours dedicated to demand management at the WTP and about 4-hours dedicated to SCE's Demand Response Energy Storage program to reduce stress on SCE's electrical grid. Ancillary equipment including a switchboard, inverter and telemetry panel would be required to connect the battery system to the WTP's existing electrical service. The battery components of the energy storage system would produce a humming sound during operation. However, during the design phase, acoustic modeling of the energy storage facilities will be conducted to determine the design parameters required to attenuate operational noise below the City of Lake Forest's Noise Ordinance thresholds.



SOURCE: ESA, 2018

IRWD Baker WTP EIR Addendum No. 3

**Figure 2**  
Aerial View of BAKER WTP and Available Space for Proposed Modifications





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Electrical collection and interconnection of the batteries to the existing WTP's electrical system would be required. Similar to the solar PV generation system, the energy storage system would not provide backup power during a utility outage. Thus, in the event of a utility outage, backup power would be provided via the three existing on-site diesel generators.

## 4.2 Construction Characteristics

The construction equipment that is expected to be present onsite for the duration of construction is described on page 2-14 of the Final EIR, along with the expected number of construction workers. The proposed modifications would require similar equipment as described in the Final EIR, and the workforce would be well below the 60 workers assumed for construction of the WTP in the Final EIR. Construction of the solar PV generation and energy storage systems would specifically require pickups, forklifts, backhoe (for trenching), a small crane, and roughly 3-5 construction workers. Construction best management practices, including but not limited to construction activities being restricted to the hours between 7:00 a.m. and 8:00 p.m., excluding Sundays or federal holidays, and use of noise control techniques (e.g., mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) on construction equipment and trucks, would be implemented to reduce noise levels during construction.

Construction of the solar arrays atop of the two buried reservoirs would not require substantial excavation or trenching. A ballast racking system for mounting the solar arrays allows for installation with minimal ground penetration. Small footings may be required for the racking system; however, excavated soils for the footings would be backfilled and there would be no change in soil export or input quantities reported in the Final EIR.

Both the solar PV generation and energy storage systems would require trenching for electrical conduits. Trenching would be performed consistent with techniques described in the Final EIR on pages 2-14 and 2-15, although trenching depths would be shallower than the maximum 10- to 12-foot depths assumed by the Final EIR. As described in the Final EIR, trenching would utilize a conventional cut and cover construction technique which would include trench excavation, conduit installation, electrical cable installation, backfill operations, and re-surfacing to the original condition. All electrical conduits would be buried, including any vault structures and boxes. Once installed, the disturbed areas would be returned to pre-construction conditions along the entire length of the alignments.

The energy storage system and other ancillary components of the solar and energy storage systems may be installed on new concrete pads, which would require minimal quantities of concrete. The amount of concrete previously used for the concrete pads for the energy storage system and ancillary components would not exceed the quantity of concrete assumed for construction of the Baker WTP in the Final EIR.

## 4.3 Operation Characteristics

Operation of the on-site solar system would not change work force or equipment requirements associated with the Project. Panel washing may be required to clean solar PV panels. Panel

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washing is expected to be minimal (e.g., semi-annual basis) and would be performed using a pickup-mounted water trailer. Water for panel washing would be obtained from an on-site source and no chemicals would be used. Maintenance of vegetation around the solar panels would not be required as woven ground cover and 4-inch aggregate base would be installed under and around the solar PV arrays to maintain a clean site. Operational activities associated with the energy storage system would consist of routine maintenance occurring periodically and as necessary.

#### **4.4 Project Phasing and Schedule**

Construction of the Baker WTP was completed in January, 2017 and the WTP became operational in March, 2017. Construction of the proposed modifications would begin in summer 2018 and the duration of the construction modifications would be approximately six months. The solar and energy storage systems could be constructed at different times.

### **5.0 Incorporation by Reference**

Consistent with Section 15150 of the CEQA Guidelines, the following documents were used in the preparation of this Addendum and are incorporated herein by reference:

- Baker Water Treatment Plant Project Draft Environmental Impact Report, January 2011 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report, April 2011 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report Addendum No. 1, February 2012 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Project Final Environmental Impact Report Addendum No. 2, March 2013 (State Clearinghouse No. 2010051055).
- Baker Water Treatment Plant Solar Project Constraints, September 2017, Prepared by Michael Baker International for Irvine Ranch Water District.

These documents are available for review during regular business hours at IRWD located at 15600 Sand Canyon Avenue, Irvine, California 92618-3102.

### **6.0 Analysis of Potential Environmental Impacts Associated with the Proposed Modifications**

The proposed addition of the solar PV generation and an energy storage systems would not change the regulatory framework, impact discussion, mitigation measures, or significance conclusions for the following topic areas, as currently described in the adopted Final EIR: Agricultural and Forestry Resources; Biological Resources; Cultural Resources; Geology, Soils, and Mineral Resources; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use, Planning, and Recreation; and Transportation and Traffic. Therefore, these topic areas are not analyzed in this Addendum. Construction and operation of the proposed solar PV generation and energy storage systems at the Baker WTP site could, however, affect the following environmental issues previously described in the adopted Final EIR: Aesthetics, Air Quality and

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Greenhouse Gas (GHG) Emissions, Noise and Vibration, and Public Services and Utilities. Each of these topic areas are addressed in the following subsections.

## **6.1 Aesthetics**

The Final EIR (Chapter 3.1) concluded that potential impacts to aesthetics in the vicinity of the Baker WTP site would be less than significant after mitigation. This section provides an analysis of the potential aesthetics impacts associated with the construction and operation of the solar PV generation and energy storage systems on the Baker WTP site.

### **6.1.1 Setting**

At the time of the preparation of the Final EIR, the Baker WTP site was characterized by the existing treatment facilities associated with the BFP. However, construction of the Baker WTP was completed in January 2017 and is now the existing condition on the site. Surrounding land uses primarily consist of low density residential, public facility, and community park/open space. Existing natural features in the vicinity of the Baker WTP site include Serrano Creek and Serrano Creek Trail. The City of Lake Forest has not designated any scenic roadways or scenic vistas/viewpoints in the area surrounding the Baker WTP site.

The proposed solar PV arrays would be constructed atop the buried Reservoirs 1 and 2 and ancillary equipment would be located adjacent to the solar arrays, likely on the west side of Reservoir 1. The energy storage system would likely be located either on the west side of Reservoir 1 with the ancillary equipment associated with the solar PV generation system or on the west side of the existing WTP's treatment building. The preliminary locations of the facilities are shown in Figure 1.

### **6.1.2 Summary of Potential Impact**

As analyzed in the Final EIR, the original Project introduced new treatment facilities onsite at the Baker WTP site that would be visible from surrounding streets, including hilltop residential units located east of the Baker WTP site. There are no scenic highway corridors or City-designated scenic vistas in the vicinity of the Baker WTP site; thus, impacts to these resources did not occur. The proposed Baker WTP replaced existing water treatment facilities within the same general footprint of the previous Baker Filtration Plant, and aboveground facilities were designed to be similar to and compatible with existing buildings onsite. In addition, Mitigation Measure AES-1 was provided by the Final EIR to ensure that a landscape plan is implemented to screen Project facilities from neighboring streets and that landscape vegetation was maintained onsite to the extent feasible to screen Project facilities from scenic views from hilltop residences. The Final EIR concluded the Project would not introduce a new contrasting feature that would affect scenic vistas or alter the visual character of the site.

The proposed modification would add fixed-tilt, ground-mounted solar PV arrays atop the buried Reservoirs 1 and 2; ancillary equipment associated with the solar PV generation system to the west of Reservoir 1; and an energy storage system either on the west side of the existing WTP's treatment building or on the west side of the existing treatment building on the Baker WTP site. The PV arrays would be designed to industry standards and would be approximately 6 feet in

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height. All of the PV arrays would be uniform and would have a similar industrial style as the other industrial buildings currently located on the Baker WTP site. Further, a woven ground cover and 4-inch aggregate base would be installed under and around the solar PV arrays to maintain a clean site, which would maintain the visual quality of the Baker WTP site. Installation of the proposed solar PV generation and energy storage systems would not substantially change or degrade the existing visual character of the Baker WTP site. Additionally, installation of the proposed systems would not impede existing public views or scenic vistas. The installation of landscape vegetation to screen the facilities would not be necessary and Mitigation Measure AES-1 would not apply for the proposed modifications. Impacts to aesthetics would be less than significant.

Construction of the underground facilities would involve trenching and excavation activities to install the conduit, electrical cables, vault structures and boxes. However, these activities would be temporary in nature and would cease once construction is complete. All disturbed areas would be back-filled and re-surfaced to the pre-construction conditions along the entire length of the alignments. Operation of the underground facilities would not affect the visual quality of the site as all of these facilities would be below ground and not visible from surrounding viewpoints. Therefore, visual impacts associated with the underground facilities would be less than significant.

The Final EIR also analyzed potential light and glare impacts resulting from permanent security lighting at the proposed Baker WTP. The Final EIR included Mitigation Measure AES-3 to ensure lighting would be shielded and directed downward away from neighboring properties and land uses. The Final EIR concluded that with incorporation of Mitigation Measure AES-3, impacts related to light and glare were reduced to less than significant.

Operation of the proposed solar PV generation and energy storage systems would not require additional permanent security lighting beyond what is already installed on the Baker WTP site and thus, Mitigation Measure AES-3 would not apply for the proposed modifications. While there is the potential for the PV arrays to result in glint (a momentary flash of bright light) or glare, the amount of glint and/or glare produced by solar PV panels is relatively low. Solar PV panels are constructed of dark-colored materials, usually blue or black, and are covered with an anti-reflective coating, where the main function of the PV solar panels are to absorb solar radiation rather than reflect it (Meister Consultant Group 2014). Further, modern PV panels reflect as little as two percent of incoming sunlight, which is similar to water and less than soil and even some wood-based materials (Meister Consultant Group 2014). For these reasons, impacts related to light and glare produced by the solar PV panels would be less than significant.

### **6.1.3 Applicable Mitigation Measures**

None required.

### **6.1.4 Conclusion**

The proposed modifications would not result in a new significant impact or substantially increase the severity of an impact identified in the Final EIR. No mitigation is required beyond the

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existing commitments contained within the Mitigation Monitoring and Reporting Program (MMRP). Impacts to aesthetics would be less than significant.

### **6.1.5 References**

Meister Consultant Group, 2014. *Solar and Glare*. Available at: [http://solaroutreach.org/wp-content/uploads/2014/06/Solar-PV-and-Glare-\\_Final.pdf](http://solaroutreach.org/wp-content/uploads/2014/06/Solar-PV-and-Glare-_Final.pdf). Accessed January 24, 2018.

## **6.2 Air Quality and Greenhouse Gas Emissions**

The Final EIR (Chapter 3.3) concluded that potential impacts to air quality and GHG emissions during construction and operation of the original Project would be less than significant after mitigation. This section provides an analysis of the potential air quality and GHG emissions impacts associated with the construction and operation of the solar PV generation and an energy storage system on the Baker WTP site.

### **6.2.1 Setting**

The Baker WTP site is located in the City of Lake Forest, which is within the boundaries of the South Coast Air Basin (SCAB). SCAB, which is a subregion of the South Coast Air Quality Management District's (SCAQMD) jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. The topography and climate of southern California combine to make the Basin an area of high air pollution potential. The air quality in the SCAB had exceeded thresholds for Ozone and Particulate Matter (PM) 10 and 2.5 in 2008, which was the latest reporting year used in the Final EIR.

The proposed modifications would be constructed and operated on the Baker WTP site and thus, would also be located within the SCAB. The proposed modifications are required to comply with the same air quality and GHG emission plans, standards and thresholds as the original Project.

### **6.2.2 Summary of Potential Impact**

As described in the Final EIR, the original Project would neither conflict with applicable air quality management plans nor violate any air quality standard by exceeding any SCAQMD thresholds during construction and operation of the Project. Additionally, the Final EIR determined that while the original Project would not result in significant impacts to sensitive receptors from carbon monoxide (CO) or toxic air contaminants (TACs), IRWD will implement best management practices, as outlined in AQ-1 through AQ-4, to further decrease CO and TACs emissions during construction. Finally, the Final EIR concluded that the original Project would have less than significant impacts related to GHG emissions during operation of the Project, where GHG emissions generated from the original Project would be approximately 2,097 metric tons of CO<sub>2</sub>e per year less than the 10,000 metric tons of CO<sub>2</sub>e per year threshold.

Construction of the proposed modifications would specifically require pickups, forklifts, backhoe for trenching, a small crane, and roughly 3-5 construction workers, which is well below the 60 construction workers assumed for construction of the original Project. Construction of the

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proposed solar PV generation and energy storage system would occur over an approximately six-month period starting in Summer 2018. Since the size and extent of construction activities required for the proposed modification are substantially less than those required for the original Project, it is reasonable to assume that air quality emissions generated during construction of the proposed modifications would also be less than those generated during construction of the original Project. Since the air quality emissions generated during construction of the original Project did not exceed the construction thresholds established by SCAQMD, it is logical to assume that air quality emissions generated by construction of the proposed modifications also would not exceed these thresholds. For these reasons, construction of the proposed solar PV generation and energy storage systems would not conflict with applicable air quality management plans or violate any air quality standards.

Further, since the Final EIR determined that the original Project would not exceed thresholds for CO or TACs during construction, it is rational to assume that construction of the proposed modifications would also not exceed CO or TACs thresholds. IRWD will continue to implement the air quality best management practices established in the Final EIR, as applicable, for the proposed modifications. The best management practices require the construction contractor to implement a fugitive dust control program, properly maintain all construction equipment, minimize exhaust emissions, and prohibit idling in excess of ten minutes both on- and off-site. Implementation of these best management practices would further reduce impacts associated with CO and TACs to a less than significant level.

Operation of the proposed solar PV generation and energy storage system would not generate local air quality or GHG emissions as the proposed systems would capture solar energy to be stored and used for operating the Baker WTP site. Therefore, operational impacts to air quality and GHG emissions would not occur.

With respect to nearby, related past, present and/or foreseeable future projects (either overlapping construction periods or on-going operation), it is possible that emission increases for certain air pollutants could exceed the SCAQMD's emission thresholds. However, per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other related projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable. Since construction and operation of the proposed modifications would not generate air quality and GHG emissions which exceed SCAQMD thresholds, impacts associated with the proposed modifications would not be considered to be cumulatively considerable.

### **6.2.3 Applicable Mitigation Measures**

**Best Management Practice AQ-1:** General contractors shall implement a fugitive dust control program pursuant to the provisions of SCAQMD Rule 403.

**Best Management Practice AQ-2:** All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

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**Best Management Practice AQ-3:** General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would turn their engines off when not in use to reduce vehicle emissions. Construction emissions should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

**Best Management Practice AQ-4:** All construction vehicles shall be prohibited from idling in excess of ten minutes, both on- and off-site.

#### **6.2.4 Conclusion**

The proposed modifications would not result in a new significant impact or substantially increase the severity of an impact identified in the Final EIR. No mitigation is required beyond the existing commitments contained within the MMRP. Impacts to air quality and GHG emissions would be less than significant.

### **6.3 Noise and Vibration**

The Final EIR (Chapter 3.10) assessed potential impacts to sensitive receptors due to Project noise and vibration and concluded that construction and operation of the Project would have a less than significant impact with incorporation of mitigation. The following discussion addresses potential impacts from the proposed solar PV generation and energy storage systems.

#### **6.3.1 Setting**

Residential land uses are located to the east, south, and west of the Baker WTP site. The nearby residences qualify as noise sensitive receptors and would potentially be exposed to noise generated from Project activities. Construction activities at the Baker WTP site would get as close as 100 feet to residential units located on Wisteria and Forestwood.

The proposed solar PV generation system would be constructed atop and adjacent to the buried Reservoirs 1 and 2, which are located in the middle portion of the Baker WTP site toward the northern site boundary. The energy storage system may also be constructed to the west of Reservoir 1, if that option is selected. The closest residential uses to the buried reservoirs are approximately 0.15-miles to the south but are separated by a densely vegetated corridor. If the energy storage system is constructed on the west side of the existing WTP's treatment building, the nearest residential uses would be adjacent to the Baker WTP site, approximately 157 feet to the west.

#### **6.3.2 Summary of Potential Impact**

As described in the Final EIR, construction activities were anticipated to create a temporary increase in ambient noise levels in the immediate vicinity of the construction zone. Table 3.10-1 of the Final EIR shows that the greatest noise levels were anticipated to be associated with excavation and finishing and were estimated 89 A-weighted decibels (dBA) at a distance of 50 feet. Accordingly, attenuated at 100 feet, the closest residences to the Baker WTP site would experience noise levels up to 83 dBA Leq (average dBA) during excavation and finishing, the

loudest construction activities that would occur. The Final EIR concluded that with implementation of Mitigation Measures NOISE-1 and NOISE-2, potential construction noise impacts on sensitive receptors would be mitigated to less than significant levels. Mitigation to be implemented includes restrictions on days and times for construction activities in accordance with the City of Lake Forest's Noise Ordinance and use of noise control techniques.

The proposed modifications would construct solar PV generation and energy storage systems at the Baker WTP site. For the purposes of this analysis, it is assumed that both the solar PV generation system and energy storage system would be constructed simultaneously. Construction of the solar arrays atop of the two buried reservoirs would not require substantial excavation or trenching and all excavated soil would be backfilled onsite. Trenching would be performed consistent with techniques described in the Final EIR on pages 2-14 and 2-15, although trenching depths would be shallower than the maximum 10- to 12-foot depths assumed by the Final EIR. The energy storage system and other ancillary components may be installed on new concrete pads. Construction noise impacts would be similar or less than those already described in the Final EIR. Construction of the solar PV generation and energy storage systems would not require additional or different equipment or methods than those already described for the original Project in the Final EIR. Construction best management practices, including but not limited to construction activities being restricted to the hours between 7:00 a.m. and 8:00 p.m., excluding Sundays or federal holidays, and use of noise control techniques (e.g., mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) on construction equipment and trucks, would be implemented to reduce noise levels during construction. Therefore, impacts related to construction noise would be less than significant.

Operation of the solar PV generation system and underground facilities would not generate noise during operation. The battery components of the energy storage system would produce a humming sound during operation, which could cause a nuisance to nearby sensitive receptors. However, the batteries of the energy storage system would be housed within an enclosed unit, which would be designed to attenuate operational noise levels below the thresholds established by the City's Noise Ordinance. For these reasons, impacts associated with operational noise would be less than significant.

### **6.3.3 Applicable Mitigation Measures**

None required.

### **6.3.4 Conclusion**

The proposed solar PV generation and energy storage systems would not result in a new significant impact or substantially increase the severity of a previously identified significant impact as previously described in the adopted Final EIR. No mitigation is required beyond the existing commitments contained within the MMRP. Impacts to sensitive receptors associated noise and vibration would be less than significant



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## 6.4 Public Services and Utilities

The Final EIR (Chapter 3.11) assessed potential impacts to public services and utilities and concluded that construction and operation of the original Project would have a less than significant impact with incorporation of mitigation. The following discussion addresses potential impacts from the proposed solar PV generation and energy storage systems.

### 6.4.1 Setting

As described in the Final EIR, the Baker WTP site is located in southern Orange County in the City of Lake Forest. Fire and police protection services for the City are provided by the Orange County Fire Authority and Sheriff's Department, respectively. Lake Forest Elementary School is the closest school to the Baker WTP site, approximately 1.25 miles to the south, and the closest hospital is Saddleback Memorial Medical Center, approximately five miles away in the City of Laguna Beach.

Utilities in the City of Lake Forest are provided by the following providers based on the type of utility:

- IRWD, El Toro Water District, and Trabuco Canyon Water District provide water service to the city;
- Los Alisos Water Recycling Plant treats wastewater that is generated within the city;
- Orange County Flood Control District provides for the planning, development, operation, and maintenance of the flood control facilities on a Countywide basis;
- Orange County Integrated Waste Management Department owns and operates the Prima Deschecha Landfill, which primarily serves the City; and
- SCE provides electricity to the City, and the Baker WTP site.

The proposed solar PV generation and energy storage systems would be relatively small additions to the Baker WTP site and would not increase the need for additional public services to serve the site. All utility providers and services would remain the same as described in the Final EIR, except for energy use. Therefore, implementation of the proposed modifications would not change the regulatory framework, impact discussion, mitigation measures, or significance conclusions for public services and utilities as currently described in the adopted Final EIR, with the exception of energy use.

### 6.4.2 Summary of Potential Impact

As described in the Final EIR, the facilities included under the original Project would increase energy demand by approximately 26,700 mega-watt hours per year. The Final EIR assumed SCE would provide electricity to the Project through the existing grid infrastructure. The Final EIR concluded that the original Project would treat water at the Baker WTP instead of the existing Diemer Treatment Plant and would effectively redistribute the current energy used to treat the water. The Final EIR concluded impacts to regional energy capacity would be less than significant.

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The purpose of the solar PV generation system is to supplement electricity provided by SCE with solar energy captured onsite to reduce the cost of power at the Baker WTP. Based on the preliminary solar production estimates included in the technical memorandum prepared by Michael Baker International (2017), the Baker WTP site can support about a 1.25 MWac solar facility that would produce approximately 2,250,000 kWh/yr. For the purposes of this analysis, it is assumed that the site could support up to a 2.0 MWac solar facility within the same approximately 3-acre site. The purpose of the energy storage system is charge the batteries from the grid during off-peak hours and then discharge them during on-peak times to reduce the cost of power at the Baker WTP and reduce stress on the SCE's electrical distribution grid. The energy storage system would include up to an approximately 1-megawatt or not significantly greater, 6-hour battery system. In the event of a utility outage, backup power would be provided via the three existing on-site diesel generators. Therefore, implementation of the proposed modifications would reduce reliance on electricity supplied by SCE. Thus, the proposed modifications would reduce impacts to the regional energy capacity compared to the original Project.

### **6.4.3 Applicable Mitigation Measures**

None required.

### **6.4.4 Conclusion**

The proposed modifications would not result in a new significant impact or substantially increase the severity of a previously identified significant impact. No mitigation is required beyond the existing commitments contained within the MMRP. Impacts to energy use are less than significant.

### **6.1.4 References**

Michael Baker International. 2017. Baker Water Treatment Plant Solar Project Constraints. Prepared for Irvine Ranch Water District. September 2017.

## **7.0 Summary of Environmental Effects**

As discussed in this Addendum No. 3, the proposed addition of the solar PV generation and energy storage systems would not change the conclusions of the certified Final EIR and Addendum No. 1 and Addendum No. 2. While construction and operation of the proposed solar PV generation and energy storage systems do not directly meet the same objectives of improving water reliability to areas of south Orange County, providing a reliable local water supply in the event of emergency conditions or scheduled maintenance of the MWD delivery system; and increased operational flexibility by creating redundancy within the raw water supply system, the proposed modifications allow IRWD to supplement electricity provided by SCE with a renewable energy source to operate the Baker WTP. By utilizing solar energy, the operation of the Baker WTP site would be more sustainable and help to reduce air quality and GHG emissions, both of which are beneficial.

The proposed addition of the solar PV generation and an energy storage system would not result in a new significant impact or substantially increase the severity of a previously identified

significant impact. No mitigation is required beyond the existing commitments contained within the MMRP for the adopted Final EIR. The proposed addition of the solar PV generation and an energy storage system to the previously-approved Project do not meet any of the conditions that would require the preparation of a subsequent or supplemental EIR as set forth in Sections 15162 and 15163 of the CEQA Guidelines.


## 8.0 Determination

Section 15164(a) of the CEQA Guidelines states the following:

*The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for the preparation of subsequent EIR have occurred.*

The proposed modifications to the original Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Furthermore, new information associated with the proposed addition of the solar PV generation and energy storage systems does not indicate that: the Project will have one or more significant effects not discussed in the adopted Final EIR; significant effects previously examined will be substantially more severe than shown in the adopted Final EIR; mitigation measures or alternatives previously found not to be feasible would in fact be feasible; or mitigation measures or alternatives which are considerably different from those analyzed in the adopted Final EIR would substantially reduce one or more significant effects on the environment, but the Project proponents decline to adopt the mitigation measures or alternative. Accordingly, an addendum has been prepared as opposed to a supplemental or subsequent EIR. IRWD is adopting this Addendum No. 3 in accordance with the CEQA Guidelines Section 15164.

**Irvine Ranch Water District**

  
\_\_\_\_\_  
Signature

Jo Ann Corey  
\_\_\_\_\_  
Printed Name

3/6/18  
\_\_\_\_\_  
Date

Environmental Compliance Specialist  
\_\_\_\_\_  
Title

March 12, 2018

Prepared by: J. Smyth / M. Cortez

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ACTION CALENDAR

### SEAWATCH RECYCLED WATER MAIN REHABILITATION CONSTRUCTION AWARD

#### SUMMARY:

The 10-inch Seawatch recycled water pipeline has had 17 leaks repaired since its installation in 2003. This project will install 4,500 feet of cured in place pipe (CIPP) and 140 feet of PVC pipe to rehabilitate the pipeline. Staff recommends that the Board:

- Authorize a budget increase in the amount of \$640,000, from \$720,500 to \$1,360,500;
- Waive the requirement that T.E. Roberts shall not award work to subcontractors in excess of 50% of the contract price without prior written approval of the District; and
- Authorize the General Manager to execute a construction contract with T.E. Roberts in the amount of \$1,071,100 for the Seawatch Recycled Water Main Rehabilitation, project 07099.

#### BACKGROUND:

The 10-inch Seawatch recycled water pipeline, as shown in Exhibit "A", supplies the Crystal Cove development in Newport Beach. It is the sole supply for Zones E through G in the community. A total of 17 leaks have been repaired on the pipeline since its installation in 2003; the failures have consistently been crack-type failures occurring on the PVC pipe bells.

A failure analysis was performed and determined that the contributing causes of the pipe bell failures consisted of:

- 1) Long-term stress intensification on the pipe joints due to excessive deflection in both sag/side directions,
- 2) Over-insertion of the pipe spigots into the pipe bells, and
- 3) Water pressure surges.

Although the individual pipes within this pipeline may be in satisfactory condition, it is likely that a number of the remaining pipeline bells are in a similar condition due to the damaged joints.

Based on these findings, the District retained design engineering firm GHD to evaluate pipeline rehabilitation alternatives including CIPP, slip-lining the existing pipeline with a smaller diameter pipe and pipe bursting; GHD also evaluated the alternative of replacing the pipeline with new pipe via open trench. Though costly, GHD recommended CIPP rehabilitation since it would be the least intrusive method and quickest to install, thus returning the pipeline to service more expediently for these customers. The District's previous experience with CIPP has only been with gravity sewer pipelines (e.g., sewer rehabilitation projects in 2014 and 2017); this project will be the District's first installation of CIPP in a pressure water pipeline.

Construction Award:

GHD completed the design in January 2018 and the project was advertised for construction bidding to a select list of 17 pipeline and CIPP specialty contractors. Five contractors attended the pre-bid meeting; the bid opening was held on February 27, 2018 with two bids received from Paulus Engineering and T.E. Roberts. Due to the specialized CIPP process of lining pressure pipelines, many contractors elected not to bid. T.E. Roberts is the apparent low bidder with a bid amount of \$1,071,100; the engineer's estimate was \$1,245,000. The Bid Summary is attached as Exhibit "B".

In the District's contract, General Provisions Section 6.6.2 states, "CONTRACTOR shall not award work to Subcontractors in excess of fifty (50) percent of the Contract Price without prior written approval of DISTRICT." However, in the Statements by Bidder sections of the contract documents, both T.E. Roberts and Paulus Engineering noted that their CIPP subcontractors would perform more than 50% of the work. With the concurrence of legal counsel, staff recommends waiving this requirement and awarding the construction contract to T.E. Roberts in the amount of \$1,071,100.

FISCAL IMPACTS:

Project 07099 is included in the FY 2017-18 Capital Budget. Staff requests a budget increase in the amount of \$640,000 to fund construction of the project as shown in the following table:

Project No.	Current Budget	Addition <Reduction>	Total Budget
07099	\$720,500	\$640,000	\$1,360,500

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) and in conformance with California Code of Regulations Title 14, Chapter 3, 15301. Section 15301 provides exemption for minor alterations of existing structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. Additionally, State Guideline 15282 provides exemptions for projects that involve the installation of new pipeline or maintenance, repair, restoration, removal, or demolition of an existing pipeline as set forth in Section 21080.21 of the Public Resources Code, as long as the project does not exceed one mile (or 5,280 feet) in length. A Notice of Exemption for the project was filed with the County of Orange on May 18, 2017.

COMMITTEE STATUS:

Construction awards are not routinely taken to Committee prior to submittal to the Board.

RECOMMENDATION:

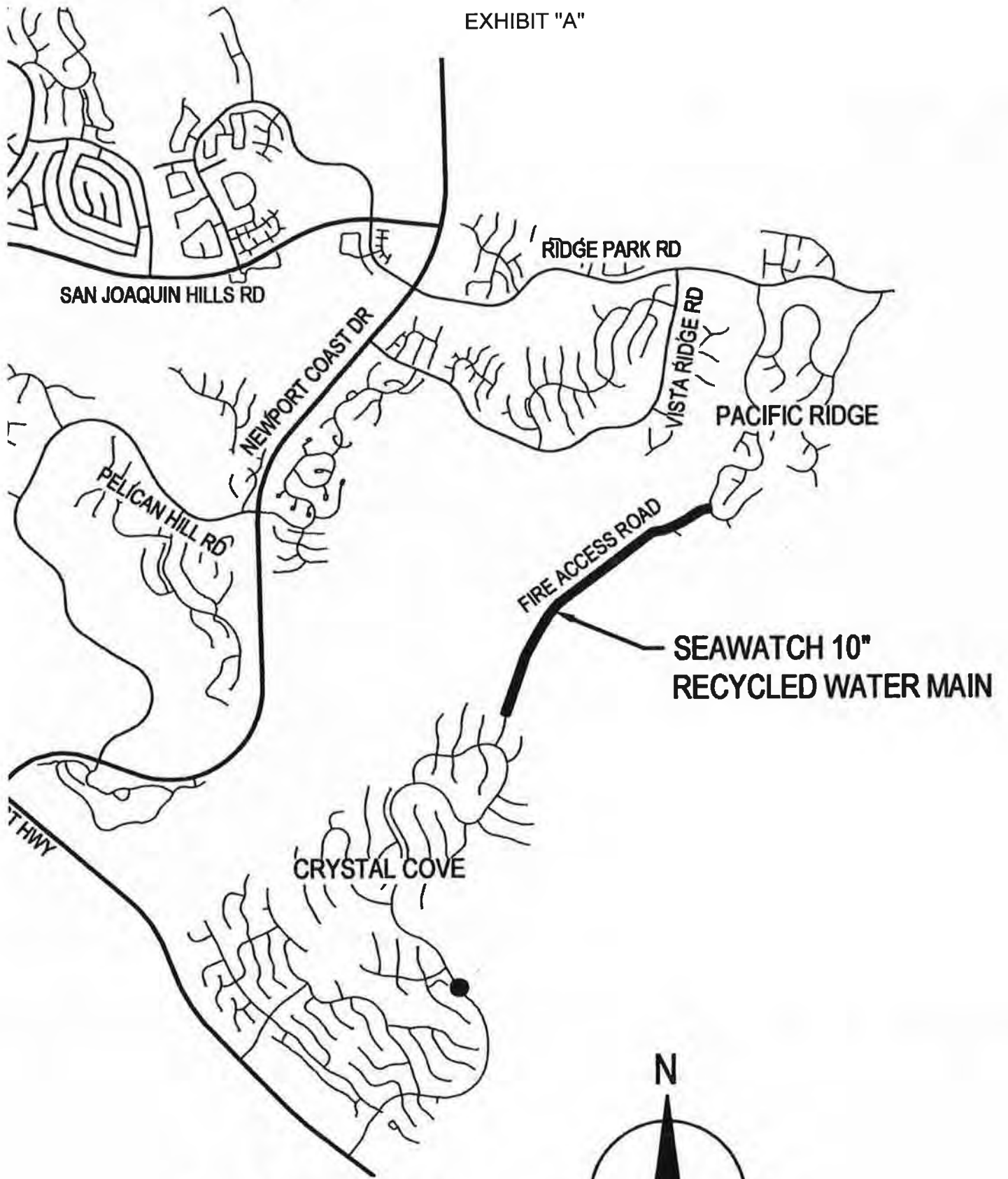
THAT THE BOARD AUTHORIZE A BUDGET INCREASE IN THE AMOUNT OF \$640,000, FROM \$720,500 TO \$1,360,500, FOR PROJECT 07099; WAIVE THE REQUIREMENT THAT T.E. ROBERTS SHALL NOT AWARD WORK TO SUBCONTRACTORS IN EXCESS OF 50% OF THE CONTRACT PRICE WITHOUT PRIOR WRITTEN APPROVAL OF THE DISTRICT; AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH T.E. ROBERTS IN THE AMOUNT OF \$1,071,100 FOR THE SEAWATCH RECYCLED WATER MAIN REHABILITATION, PROJECT 07099.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – Bid Summary

EXHIBIT "A"



**LOCATION MAP**

NOT TO SCALE



Item No.	Description	Qty	Unit	Engineer's Estimate		1 T.E. Roberts, Inc. Orange, CA		2 Paulus Engineering, Inc. Anaheim, CA	
				Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
1	Mobilization, demobilization and clean-up (not to exceed 5%)	1	LS	\$62,300.00	\$62,300.00	\$16,400.00	\$16,400.00	\$60,000.00	\$60,000.00
2	Site Demolition	1	LS	\$15,300.00	\$15,300.00	\$8,200.00	\$8,200.00	\$16,000.00	\$16,000.00
3	CIPP rehabilitation on existing 10-inch recycled water pipeline	4,500	LF	\$200.00	\$900,000.00	\$192.00	\$864,000.00	\$236.00	\$1,062,000.00
4	Furnish all labor and materials to construct 10-inch restrained DR14 C900 PVC recycled water pipeline	140	LF	\$620.00	\$86,800.00	\$325.00	\$45,500.00	\$290.00	\$40,600.00
5	Remove spools and install blind flanges at Reef Point Drive PRV	1	LS	\$3,100.00	\$3,100.00	\$2,800.00	\$2,800.00	\$2,450.00	\$2,450.00
6	Furnish and install 10-inch Butterfly Valve per IRWD Std. Dwg. W-22 and W-23	2	EA	\$6,500.00	\$13,000.00	\$4,600.00	\$9,200.00	\$4,860.00	\$9,720.00
7	Furnish and install all labor and materials to construct 8-inch Temporary Jumper Connection	1	LS	\$47,000.00	\$47,000.00	\$24,500.00	\$24,500.00	\$32,000.00	\$32,000.00
8	Furnish and install all labor and materials to construct 2-inch Temporary Service Connection	2	EA	\$3,100.00	\$6,200.00	\$7,000.00	\$14,000.00	\$5,698.00	\$11,396.00
9	Furnish and install 6-inch Fire Hydrant per IRWD Std. Dwg. W-8	1	EA	\$7,100.00	\$7,100.00	\$12,400.00	\$12,400.00	\$6,070.00	\$6,070.00
10	Furnish and install 4-inch Blowoff/Bottom Drain Assembly per IRWD Std. Dwg W-14	1	EA	\$11,700.00	\$11,700.00	\$15,400.00	\$15,400.00	\$9,202.00	\$9,202.00
11	Furnish and install 4-inch Temporary Flush-out Assembly per IRWD Std. Dwg W-12	1	EA	\$9,200.00	\$9,200.00	\$8,100.00	\$8,100.00	\$4,623.00	\$4,623.00
12	Furnish and install excavation safety measures	1	LS	\$28,600.00	\$28,600.00	\$2,000.00	\$2,000.00	\$2,660.00	\$2,660.00
13	Traffic Control	1	LS	\$15,300.00	\$15,300.00	\$4,100.00	\$4,100.00	\$7,982.00	\$7,982.00
14	Perform Utility Locating prior to any excavations as required to complete the work as identified in the construction plans	1	LS	\$12,300.00	\$12,300.00	\$16,400.00	\$16,400.00	\$8,000.00	\$8,000.00
15	Pavement Replacement at CIPP access pits and open trench construction in accordance with the Construction Documents and the City of Newport Beach Std. Dwg. STD-105-L-B	40	Ton	\$200.00	\$8,000.00	\$105.00	\$4,200.00	\$260.00	\$10,400.00
16	Asphalt Seal Coat Patches along Fire Access Road and Seawatch	11,300	SF	\$1.00	\$11,300.00	\$0.80	\$9,040.00	\$0.42	\$4,746.00



Item No.	Description	Qty	Unit	Engineer's Estimate		1 T.E. Roberts, Inc. Orange, CA		2 Paulus Engineering, Inc. Anaheim, CA	
				Unit Price	Total Amount	Unit Price	Total Amount	Unit Price	Total Amount
17	Street and drainage features restoration along Seawatch including, but not limited to: curb and gutter replacement, V-ditch replacement, catch basin replacement, complete in place, and in accordance with the Construction Documents and the City of Newport Beach Specifications.	1	LS	\$3,100.00	\$3,100.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00
18	Final Record Drawings	1	LS	\$4,800.00	\$4,800.00	\$700.00	\$700.00	\$800.00	\$800.00
	<b>Subtotal</b>				\$1,245,100.00		\$1,071,940.00		\$1,303,649.00
	Adjustment (+ or - )				\$0.00		\$0.00		\$10,000.00
	<b>TOTAL AMOUNT OF BID</b>				\$1,245,100.00		\$1,071,940.00		\$1,313,649.00
				<b>Item</b>		<b>Manufacturers:</b>		<b>Manufacturers:</b>	
				CIPP		Niedner		Insituform Technologies, LLC	
						<b>Subcontractors:</b>		<b>Subcontractors:</b>	
						CIPP - Sanexen Water, Inc.		Lining - Insituform Technologies, LLC	
								Slurry Seal - All American Asphalt	

March 12, 2018

Prepared and

Submitted by: K. Burton 

Approved by: Paul A. Cook 

## ACTION CALENDAR

### WITHDRAWAL FROM SOUTH ORANGE COUNTY WASTEWATER AUTHORITY RECYCLED WATER MASTER PERMIT (PROJECT COMMITTEE 12)

#### SUMMARY:

The IRWD service area overlies portions of both the Santa Ana (Region 8) and San Diego (Region 9) Regional Water Quality Control Boards. South Orange County Wastewater Authority (SOCWA) currently administers the Recycled Water Master Permit for Region 9 for its member agencies. As of May 2018 IRWD's recycled water deliveries within the Region 9 boundary will be regulated under IRWD's existing Region 8 discharge order and IRWD will have no continuing financial obligations to SOCWA for recycled water permitting. Staff recommends that the Board authorize the General Manager to notify SOCWA of its intent to withdraw from the Recycled Water Master Permit (Project Committee 12) effective July 1, 2018.

#### BACKGROUND:

SOCWA is a Joint Powers Authority with 10 member agencies consisting of local retail water agencies and cities that provide water service. It operates three wastewater treatment plants and two ocean outfalls, in addition to multiple programs to meet the needs of its member agencies and the requirements of the Clean Water Act and applicable National Pollutant Discharge Elimination System permits. SOCWA was created on July 1, 2001 when the Aliso Water Management Agency, South East Regional Reclamation Authority and South Orange County Reclamation Authority consolidated. SOCWA has no taxing authority and all of its funding comes directly from the rates and charges of the member agencies. The ownership of capacity by member agencies in each facility or Project Committee (PC) serves as the basis for the allocation of operating and capital costs. IRWD is currently a member of three PCs as follows: Recycled Water Master Permit for San Diego (Region 9) Regional Water Quality Control Board (PC 12), Effluent Transmission Main (PC 21), and Aliso Creek Ocean Outfall (PC 24).

#### Withdrawal from Project Committee 12:

The IRWD service area overlies portions of both the Santa Ana (Region 8) and San Diego (Region 9) Regional Water Quality Control Boards. IRWD has been producing and delivering recycled water within the Region 8 and Region 9 boundaries for many years. Until 2015, SOCWA administered the Region 8 master recycled water permit on behalf of IRWD. At the request of Region 8 staff, IRWD applied for and secured an individual permit for recycled water production and delivery in Region 8 thus relieving SOCWA of any further effort associated with the Region 8 permit. The Region 8 recycled water discharge permit unique to IRWD was issued directly to IRWD, effective July 2015.

Action Calendar: Withdrawal from South Orange County Wastewater Authority Recycled Water Master Permit (Project Committee 12)

March 12, 2018

Page 2

SOCWA currently administers the Region 9 master permit for recycled water deliveries within the Region 9 boundary on behalf of PC 12. In 2017, IRWD received an accommodation from both Region 8 and Region 9 that will allow IRWD's recycled water deliveries within the Region 9 boundary to be regulated under IRWD's existing Region 8 discharge order. Once IRWD's new Region 8 discharge order is issued, anticipated by May 2018, IRWD will have no coverage requirements regulated by the Region 9 discharge order administered by SOCWA and therefore no continuing financial obligations to PC 12.

In preparation for SOCWA's Fiscal Year 2018-19 budget preparation cycle, staff has prepared a letter, attached as Exhibit "A", to notify SOCWA of its intent to withdraw from PC 12 effective July 1, 2018.

FISCAL IMPACTS:

Withdrawal from SOCWA's PC 12 is anticipated to save IRWD approximately \$25,500 per year. IRWD's cost to include the Region 9 recycled water monitoring requirements into its Region 8 permit are negligible because the information is already collected by IRWD staff and provided to SOCWA for reporting purposes.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on February 20, 2018.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO NOTIFY THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY OF ITS INTENT TO WITHDRAW FROM THE RECYCLED WATER MASTER PERMIT (PROJECT COMMITTEE 12) EFFECTIVE JULY 1, 2018.

LIST OF EXHIBITS:

Exhibit "A" – Letter to SOCWA for Withdrawal from Project Committee 12

## EXHIBIT "A"



March XX, 2018

**DRAFT**

South Orange County Wastewater Authority  
34156 Del Obispo Street  
Dana Point, CA 92629

Attn: Ms. Betty Burnett

Re: Irvine Ranch Water District Request to Withdraw from Project Committee 12

Dear Ms. Burnett,

The Irvine Ranch Water District (IRWD) service area overlies portions of both the Santa Ana (Region 8) and San Diego (Region 9) Regional Water Quality Control Boards. IRWD has been producing and delivering recycled water within the Region 8 and Region 9 boundaries for many years. Until 2015, SOCWA administered the Region 8 master recycled water permit on behalf of IRWD. At the request of Region 8 staff, IRWD applied for and secured an individual permit for recycled water production and delivery in Region 8 relieving SOCWA of any further effort associated with the Region 8 permit. Order No. R8-2015-0024, the Region 8 recycled water discharge permit unique to IRWD, was issued directly to IRWD, effective July 2015.

SOCWA administers the Region 9 master permit (Order No. 97-52) for recycled water deliveries within the Region 9 boundary on behalf of PC 12 (formerly PC2-SO). In 2017, IRWD received an accommodation from both Region 8 and Region 9 that will allow IRWD's recycled water deliveries within the Region 9 boundary to be regulated under IRWD's new Region 8 discharge order, which is anticipated to be effective by May 2018.

IRWD has confirmed with Region 9 staff that there will be no on-going monitoring or reporting requirements on the part of SOCWA associated with the IRWD recycled water system. The IRWD recycled water system therefore contributes to no costs associated with PC 12. PC 12 neither owns nor maintains any facilities that would obligate members to on-going fixed or capital expenses, therefore, IRWD should have no continuing financial obligations to PC 12.


IRWD therefore is hereby notifying SOCWA of its request to withdraw from PC 12 and hereby requests SOCWA staff modify the 18/19 fiscal year budget to remove any costs allocated to IRWD associated with PC 12.

IRWD sincerely appreciates efforts of SOCWA staff over many years to facilitate the coverage of IRWD's Region 9 recycled water deliveries under SOCWA's permit.

Please contact me at (949) 453-5590 if you have any questions or require any further information.

Sincerely,

Paul A. Cook  
General Manager

March 12, 2018  
Prepared by: J. Dayer  
Submitted by: K. Drake  
Approved by: Paul A. Cook 

## ACTION CALENDAR

### LANDSCAPE AND IRRIGATION CONTRACT TWO-YEAR CONTRACT EXTENSION

#### SUMMARY:

The landscape and irrigation contract for the District's properties expires on March 31, 2018. The contract allows for two one-year extensions at the discretion of the District. The current contractor, Tropical Plaza Nursery, Inc., submitted a proposal for two additional years of service. Staff recommends that the Board authorize the General Manager to award a two-year landscape and irrigation contract extension to Tropical Plaza Nursery, Inc. in the amount of \$985,856.28 effective April 1, 2018.

#### BACKGROUND:

On April 1, 2015, Tropical Plaza Nursery, Inc. was awarded a three-year landscape contract for maintenance of 146 District properties. This contract was executed at cost of \$414,672 for the first year. The contract allowed for two one-year extensions, to be executed at the discretion of the District.

In its first year of this contract Tropical Plaza's performance has been excellent. At the suggestion of the Engineering and Operations Committee, staff requested that Tropical submit a proposal for a two-year extension of the existing contract. In response to this request, Tropical submitted a proposal with two one-year extensions as follows: \$480,766.20 for the first year (a 7.4% increase); and \$505,090.08 for the second year (a 5.0% increase). The increases primarily reflect increased labor costs, but are still less than the increases in minimum wage expected to occur over the term of the contract. Details of Tropical's proposal are included in Exhibit "A".

Since the scope of work for the 2015 contract was defined, the District has added nine locations which require regular maintenance: 1) San Joaquin Reservoir Standby House, 2) Peters Canyon Pump Station, 3) Bee Canyon Pump Station, 4) Hidden Hills Pump Station, 5) Cienega Pilot Site, 6) Baker Water Treatment Plant, 7) Bonita Canyon Pump Station, 8) Operation Monument Sign, and 9) Dyer Road Well 16. Tropical has maintained these sites on a month-to-month basis and this work will be included in its new proposal with an annual cost of \$35,758.20 for 2018 and \$37,546.08 for 2019. Staff considers these costs to be reasonable and competitive. A summary of the costs associated with each site is included in Exhibit "A".

#### FISCAL IMPACTS:

Sufficient funds for the first three months of the contract were included in the approved Fiscal Year 2017-18 Operating Budget. Funds will be requested in the District's 2018-19 Fiscal Year and 2019-20 budget processes.

**ENVIRONMENTAL COMPLIANCE:**

This activity is not subject to the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15060 (c)(1) Preliminary Review. An activity is not subject to CEQA if the activity will not result in a direct reasonably foreseeable indirect physical change to the environment.

**COMMITTEE STATUS:**

This item was reviewed by the Engineering and Operations Committee on February 20, 2018.

**RECOMMENDATION:**

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A TWO-YEAR CONTRACT EXTENSION WITH TROPICAL PLAZA NURSERY, INC. FOR A TOTAL OF \$985,856.28, EFFECTIVE APRIL 1, 2018.

**LIST OF EXHIBITS:**

Exhibit “A” – Irrigation and Landscape Contract – Two-Year Extension Bid Summary

**EXHIBIT "A"**

**Tropical Plaza Nursery Contract Extension Proposal Summary**

Description	2015 Pricing	2018 Pricing	Percent Increase	2019 Pricing	Percent Increase
Area 1	\$5,164.00	\$5,580.00	8.1%	\$5,863.00	5.0%
Area 2	\$2,868.00	\$3,100.00	8.1%	\$3,259.00	5.0%
Area 3	\$3,128.00	\$3,383.00	8.2%	\$3,558.00	5.0%
Area 4	\$7,475.00	\$7,574.00	1.3%	\$7,959.00	5.0%
Area 5	\$8,722.00	\$9,423.00	8.0%	\$9,897.00	5.0%
Area 6	\$5,589.00	\$6,035.00	8.0%	\$6,338.00	5.0%
Area 7	\$1,610.00	\$1,989.00	23.5%	\$2,088.00	5.0%
<b>Annual Cost</b>	<b>\$414,672.00</b>	<b>\$445,008.00</b>	<b>7.3%</b>	<b>\$467,544.00</b>	<b>5.0%</b>

New Sites Added Since 2015	Current	2018 Pricing	Percent Increase	2019 Pricing	Percent Increase
	Monthly	Monthly		Monthly	
Dyer Well Site 16 - Additional Areas	\$80.00	\$86.40	8.0%	\$90.72	5.0%
Bee Canyon Pump Station	\$100.00	\$108.00	8.0%	\$113.40	5.0%
Hidden Hill Pump Station	\$150.00	\$162.00	8.0%	\$170.10	5.0%
Operations Center Monument Sign	\$319.12	\$344.65	8.0%	\$361.88	5.0%
Cienega Pilot Site	\$80.00	\$86.40	8.0%	\$90.72	5.0%
Bonita Canyon Pump Station	\$80.00	\$86.40	8.0%	\$90.72	5.0%
San Joaquin Houses	\$400.00	\$432.00	8.0%	\$453.60	5.0%
Peters Canyon	\$450.00	\$486.00	8.0%	\$510.30	5.0%
Baker Filtration Plant	\$1,100.00	\$1,188.00	8.0%	\$1,247.40	5.0%
<b>Annual Cost</b>	<b>\$33,109.44</b>	<b>\$35,758.20</b>	<b>8.0%</b>	<b>\$37,546.08</b>	<b>5.0%</b>


<b>Total Annual Cost (All Areas + New Sites)</b>	<b>\$447,781.44</b>	<b>\$480,766.20</b>	<b>7.4%</b>	<b>\$505,090.08</b>	<b>5.0%</b>
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March 12, 2018

Prepared by: I. Swift

Submitted by: J. Zepeda

Approved by: Paul A. Cook 

## ACTION CALENDAR

### SAN JOAQUIN MARSH AND NATURAL TREATMENT SYSTEM FACILITIES THREE-YEAR LANDSCAPE MAINTENANCE SERVICES CONTRACT

#### SUMMARY:

Current operation and maintenance needs within the San Joaquin Marsh, San Joaquin Marsh Campus, Peters Canyon Water Capture and Reuse Pipeline (Peters Canyon), and Natural Treatment System (NTS) facilities require landscape maintenance contract services to control and remove native and non-native vegetation along with landscape and irrigation maintenance. The contract includes 10 new NTS sites that the District acquired since the previous contract. A total of 32 sites will be covered encompassing a total area of 523 acres. Staff initiated the competitive bid process in November of 2017 and based on the bids received, staff recommends that the Board authorize the General Manager to execute the landscape maintenance contract with LandCare for \$2,616,874.33 for three years for the NTS and the San Joaquin Marsh, and with Habitat Restoration Sciences for \$42,792 for Peters Canyon.

#### BACKGROUND:

Seven landscape maintenance companies were invited to participate in the Request for Proposal (RFP) process in November of 2017 based on their experience with the District and their experience with projects involving natural habitat restoration, especially wetlands. This included a walk-through at the San Joaquin Marsh and three NTS sites that were typical of the system as a whole. Of the seven companies, two did not participate in the walk-through (Chambers Group and Nakae); Park West did not respond to the RFP. Of the four firms that submitted bids, only Tropical Plaza and LandCare responded with formal proposals for all contracts, while two other firms submitted bids on two of the four contracts. A summary and scoring of each firm is attached as Exhibit "A". For all contracts, with the exception of the Marsh, the lowest bidding firm was chosen. For the Marsh, the lowest bid did not provide for an acceptable level of labor, based on past experience, and therefore was not chosen. A summary of each firm's bid is attached in Exhibit "A".

The previous contracts (from 2015), which included 23 NTS sites and the San Joaquin Marsh (and Marsh Campus), totaled \$2,003,904. The new three-year contract will include 32 sites, Peters Canyon, and the San Joaquin Marsh (and Marsh Campus), an increase of 10 sites at a total cost of \$2,659,666.33. Although the number of sites has increased by 43%, the District has kept the cost increase down by reducing the maintenance frequency from weekly to monthly at most sites. The new contract also lays out provisions for the addition of new NTS sites as they are acquired by the District during the term of the contract.

#### FISCAL IMPACTS:

First-year funds for this contract are available in the Fiscal Year 2017-2018 Department 515 NTS Operations Budget.

is SJM and NTS Three-Year Landscape Maintenance Service Contract

ENVIRONMENTAL COMPLIANCE:

The landscape maintenance activities performed under this contract will be in accordance with provisions of the San Joaquin Marsh Enhancement Plan Environmental Impact Report (EIR) and the NTS Master Plan EIR.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on February 20, 2018.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONTRACT WITH LANDCARE IN THE AMOUNT OF \$2,616,874.33 AND WITH HABITAT RESTORATION SCIENCES IN THE AMOUNT OF \$42,792 FOR LANDSCAPE MAINTENANCE CONTRACT SERVICES FOR A THREE-YEAR TERM.

LIST OF EXHIBITS:

Exhibit "A" – Summary of Bids for NTS and SJM Landscape Contract

**EXHIBIT "A"**

**Landscape Contract Bid Assessment  
Evaluation Matrix**

**Natural Treatment System Landscape Maintenance**

<b>Category</b>	<b>Weight</b>	<b>Landcare \$1,391,596</b>	<b>Tropical Plaza \$1,600,986</b>	<b>Habitat Restoration Sciences \$2,276,676</b>	<b>Nature's Image \$2,749,068</b>
Qualifications and Technical Expertise	30%	6.13	4.75	9.00	7.75
Approach to Work	30%	5.38	6.00	4.63	6.38
Cost	40%	9.00	8.00	5.00	3.00
<b>Overall Weighted Score</b>		<b>7.05</b>	<b>6.43</b>	<b>6.09</b>	<b>5.44</b>
<b>Final Ranking</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

**San Joaquin Marsh Landscape Maintenance**

<b>Category</b>	<b>Weight</b>	<b>Landcare \$1,121,090</b>	<b>Tropical Plaza Nursery \$3,640,752</b>	<b>Habitat Restoration Sciences \$1,244,000</b>	<b>Nature's Image \$897,984</b>
Qualifications and Technical Expertise	30%	6.75	4.50	9.00	7.75
Approach to Work	30%	6.25	7.13	4.25	4.63
Cost	40%	8.00	1.00	7.00	9.00
<b>Overall Weighted Score</b>		<b>7.10</b>	<b>3.89</b>	<b>6.78</b>	<b>7.31</b>
<b>Final Ranking</b>		<b>2</b>	<b>4</b>	<b>3</b>	<b>1</b>

**Peters Canyon Landscape Maintenance**

<b>Category</b>	<b>Weight</b>	<b>Landcare \$90,528</b>	<b>Tropical Plaza \$59,400</b>	<b>Habitat Restoration Sciences \$42,792</b>	<b>Nature's Image (no bid)</b>
Qualifications and Technical Expertise	30%	6.13	5.75	8.50	-
Approach to Work	30%	5.63	6.50	6.63	-
Cost	40%	1.00	5.00	9.00	-
<b>Overall Weighted Score</b>		<b>3.93</b>	<b>5.68</b>	<b>8.14</b>	<b>-</b>
<b>Final Ranking</b>		<b>3</b>	<b>2</b>	<b>1</b>	<b>-</b>

**San Joaquin Marsh Campus Landscape Maintenance**

<b>Category</b>	<b>Weight</b>	<b>Landcare \$104,187</b>	<b>Tropical Plaza \$394,929</b>	<b>Habitat Restoration Sciences (no bid)</b>	<b>Nature's Image (no bid)</b>
Qualifications and Technical Expertise	30%	6.38	6.75	-	-
Approach to Work	30%	5.25	6.00	-	-
Cost	40%	9.00	1.00	-	-
<b>Overall Weighted Score</b>		<b>7.09</b>	<b>4.23</b>	<b>-</b>	<b>-</b>
<b>Final Ranking</b>		<b>1</b>	<b>2</b>	<b>-</b>	<b>-</b>

March 12, 2018

Prepared by: D. Johnson / K. Welch

Submitted by: F. Sanchez / P. Weghorst

Approved by: Paul A. Cook

## ACTION CALENDAR

### CALIFORNIA WATERFIX PARTICIPATION THROUGH DUDLEY RIDGE WATER DISTRICT

#### SUMMARY:

IRWD owns approximately 883 acres of land within Dudley Ridge Water District (DRWD). Associated with this land, IRWD has the right to the use of 1,748 acre-feet per year (AFY) of State Water Project (SWP) Table A water. DRWD has requested that its landowners make a selection of their desired level of participation in the proposed California WaterFix (WaterFix), which will upgrade infrastructure associated with the SWP. DRWD will use the selections made by its landowners to negotiate DRWD's multi-level participation in the project. Staff has prepared a hydrologic and economic analysis of the various options that are being offered to DRWD landowners for participation in the WaterFix. At the Board meeting, staff will present the results of the analysis for IRWD's participation in the WaterFix. As a result of this analysis, staff recommends that the Board authorize the General Manager to submit an election to fully participate in the California WaterFix through Dudley Ridge Water District at the 100% level.

#### BACKGROUND:

The California WaterFix is the state's plan to upgrade outdated infrastructure in the Sacramento-San Joaquin Delta (Delta) to secure California's water supplies and to improve the ecosystem in the Delta. The current Delta water system is outdated and unreliable, and has been subject to environmental restrictions that have significantly reduced the ability to divert water to the SWP contractors south of the Delta. Furthermore, the system relies on levees that are vulnerable to earthquakes, floods and rising sea levels. IRWD's access to water supplies from the SWP would be severely restricted under a Delta levee failure scenario.

#### IRWD Access to SWP:

IRWD receives water from the SWP through annual imported water purchases from the Metropolitan Water District of Southern California. To augment IRWD's water supplies during a Delta levee failure and other supply interruptions scenarios, IRWD constructed its Strand and Stockdale Integrated Banking Projects (IRWD Water Banks) in the Kern Fan area of Kern County. In 2010, IRWD purchased the 883-acre Jackson Ranch that is located within DRWD for the purpose of providing a water supply to the IRWD Water Banks. IRWD has the right to the use of 1,748 AFY of SWP Table A water through its ownership of the Jackson Ranch.

The Table A water that IRWD receives every year through DRWD is stored at the IRWD Water Banks, or in reservoirs owned by Metropolitan, on a 2-for-1 unbalanced exchange basis, with half of the water being available to IRWD as Extraordinary Supply through an existing agreement with Metropolitan. The other half of the water is used by IRWD for agricultural purposes on the Jackson Ranch. IRWD also has access to Article 21 water from the SWP that under certain circumstances can be stored on the IRWD Water Banks.

*Kern Fan Groundwater Storage Project:*

Recently, IRWD and Rosedale-Rio Bravo Water Storage District submitted an application to the California Water Commission (CWC) for \$86 million in Water Storage Investment Program grant funding for the proposed Kern Fan Groundwater Storage Project. The Kern Fan Project would be a major expansion of both IRWD's and Rosedale's water banking capabilities in Kern County. The project would include the construction of a new 500 cubic feet per second (cfs) canal that would significantly increase the ability of both IRWD and Rosedale to divert additional Article 21 water into storage. This availability of Article 21 water is expected to be substantially greater with the implementation of the WaterFix. The Kern Fan Project would allow IRWD and Rosedale to benefit from this increased availability of Article 21 water.

Need for WaterFix:

The levees in the Delta are predicted to experience one or more failures within the next 25 years. When a failure occurs, water will rush into the lower-than-sea level islands behind them, pulling in salt water from the San Francisco Bay, impairing the quality of water such that it cannot be delivered to Southern California, the Bay Area, and Central Valley farmland. In addition, powerful existing state and federal pumps are strong enough to cause nearby rivers to flow in reverse. This reverse flow traps migrating and endangered fish, leading to declines in native fish populations. These endangered fish problems have resulted in significant restrictions being imposed on the SWP for the diversion of water out of the Delta. These restrictions are expected to increase in the near future if the WaterFix is not implemented.

Proposed WaterFix Facilities:

The WaterFix would modernize the decades-old Delta-based delivery system through the construction and operation of three new water intakes, which are located further from the habitats of endangered fish species, and two 40-foot diameter tunnels that would be located 150 feet below ground. These tunnels would carry up to 9,000 cfs of diverted water by gravity under the Delta to existing pumping facilities south of the estuary. Water would be lifted into existing conveyance and storage facilities for delivery to DRWD and the other SWP contractors, including Metropolitan. A paper published by Metropolitan on modernizing and improving California's water system through the construction and operation of the proposed WaterFix infrastructure is provided as Exhibit "A".

It has been proposed that the cost of the \$16.7 billion WaterFix project would be split between the SWP contractors paying 55% and participating Central Valley Project (CVP) contractors paying 45%. The operations and maintenance costs would be \$64.4 million per year.

*Two-Stage WaterFix:*

In February 2018, the California Department of Water Resources (DWR) announced that, based on response by SWP and CVP contractors, the construction of the WaterFix would occur in two stages. In the first stage, one tunnel would be constructed with 6,000 cfs capacity. In the future, a second stage of the project would include the construction of another tunnel that would facilitate federal participation.

The capital costs associated with the first stage facilities would be \$11.1 billion. The operations and maintenance costs for the first stage would be \$49.6 million per year. Following DWR’s announcement of WaterFix project being implemented through the staging of the tunnels, Metropolitan announced that it was evaluating whether to advance funds to build both pipelines as originally planned.

*Project repayment:*

The SWP share of the WaterFix cost would be paid by the SWP contractors in accordance with the long-term State Water Contract that each contractor has with DWR. Currently, the State Water Contract is the mechanism for DWR to recover the SWP share of the WaterFix costs from all contractors downstream of the Delta. Costs are assumed to be recovered in proportion to each SWP contractor’s baseline Table A contract amount. DRWD is currently involved with the other SWP contractors and DWR in negotiating details on an amendment to the State Water Contracts. Through the amendment, the term of the State Water Contract would be extended from December 31, 2035 to December 31, 2085.

The ultimate source of funds for planning, preconstruction activities and the construction of the SWP share of the WaterFix would be revenue bonds. The bonds would also fund the reimbursement of costs incurred for project planning, in the amount of \$240 million, which was previously contributed by various state and federal contractors, including Metropolitan. The management of the financing and construction of the WaterFix is expected to occur through a joint powers authority, in which Metropolitan will be a member.

Benefits of WaterFix:

The WaterFix would provide significant water supply benefits to the SWP contractors who choose to participate in the project. The following table depicts the benefits of the WaterFix as recently reported by DRWD associated with the construction and operation of the first stage of the WaterFix with one tunnel at a 6,000 cfs capacity.

Average Annual Water Supply Benefits to  
 State Water Project Contractors  
 With and Without First Stage of California WaterFix

Item	Current Conditions With 2025 Climate Change	Future Without WaterFix	Future with WaterFix
Average Table-A Allocation	62 %	51%	63%
Article 21 Occurrence	1-in-10 years	1-in-10 years	4.5 in 10 years

DRWD Landowner Participation in the WaterFix:

On February 26, 2018, staff received a letter from DRWD providing current information on the WaterFix including a request that its landowners indicate their desired level of participation in the WaterFix. The letter request is included as Exhibit "B". DRWD will use the selections made by its landowners in negotiating with DWR and the other SWP contractors, on behalf of its landowners, DRWD's multi-level participation in the project. A description of the options being offered to participate in the project is provided below.

*Options for WaterFix Participation:*

DRWD is offering its landowners the opportunity to choose between four separate options for participation in the WaterFix. These options are being offered based on the assumptions contained in DRWD's letter that is included as Exhibit "B". The four options are as follows:

Option 1: Partially opt out and pay 10% of the WaterFix costs while retaining the WaterFix benefits of:

- a. Additional Article 21 water, and
- b. Access to transfer capacity through the WaterFix facilities.

Option 2: Partially opt out and pay 15% of the WaterFix costs while retaining the WaterFix benefits of:

- a. Additional Article 21 water,
- b. Access to transfer capacity through the WaterFix facilities, and
- c. Emergency protection from a Delta outage through the WaterFix facilities.

Option 3: Fully participate and receive 100% of the proportional costs and benefits of the WaterFix including:

- a. Increased Table A amounts,
- b. Additional Article 21 water,
- c. Access to transfer capacity through the WaterFix facilities, and
- d. Emergency protection from a Delta outage through the WaterFix facilities.

Option 4: Fully opt out of participation in the WaterFix with no costs and benefits.

*Hydrologic and Economic Analysis:*

Staff has prepared a hydrologic and economic analysis of the four options that are being offered to DRWD landowners for participation in the WaterFix. At the Board meeting, staff will present an overview of each of the options available for participation. Staff will also present the results of the hydrologic and economic analysis of the options.

The findings of the analysis indicate that 100% participation in the WaterFix through Option 3 would provide the greatest Extraordinary Supply benefit to IRWD at a substantially reduced cost as compared to the alternative of securing water from Metropolitan during a major water supply interruption. In addition, the cost of water through full participation would not be significantly greater than opting out of participation in the project. The amount of water available to IRWD

would be approximately 30% greater if IRWD fully participated in the project versus opting out. The proposed Kern Fan Groundwater Storage Project would allow IRWD to maximize the use of this additional water.

Based on the findings of the hydrologic and economic analysis, staff recommends that IRWD express to DRWD its interest in fully participating in the WaterFix as a landowner in DRWD through selection of Option 3. DRWD has indicated to staff that IRWD would have the opportunity to revise its selected option for participation at a later date. IRWD's selection is therefore considered preliminary in nature and subject to change in the future based on the availability of new information.

**FISCAL IMPACTS:**

At the Board meeting, staff will present an economic analysis of participating in the WaterFix under each of the options currently be offered to landowners by DRWD.

**ENVIRONMENTAL COMPLIANCE:**

This item is not a project as defined in the California Environmental Quality Act (CEQA), Code of Regulations, Title 14, Chapter 3, Section 15378.

**COMMITTEE STATUS:**

Due to DRWD's response deadline of March 15, 2018, this item was not reviewed by the Supply Reliability Programs Committee.

**RECOMMENDATION:**

**THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO SUBMIT AN ELECTION TO FULLY PARTICIPATE IN THE CALIFORNIA WATERFIX THROUGH DUDLEY RIDGE WATER DISTRICT AT THE 100% LEVEL, WHICH WILL BE SUBJECT TO CHANGE BY IRWD AT A LATER DATE BASED ON NEW SUBSTANTIVE INFORMATION.**

**LIST OF EXHIBITS:**

- Exhibit "A" – Modernizing the System: California WaterFix Physical Infrastructure, provided by Metropolitan Water District of Southern California
- Exhibit "B" – Dudley Ridge Water District California WaterFix Information and Required Landowner Response



MODERNIZING THE SYSTEM:

# CALIFORNIA WATERFIX PHYSICAL INFRASTRUCTURE

The first in a series of three policy papers prepared for the consideration of Metropolitan's Board of Directors in advance of planned summer meetings and decisions in Fall 2017.

Modernizing and improving California's water system is essential for the reliable delivery of water supplies to much of the state. About 30 percent of the water that flows out of taps in Southern California homes and businesses comes from Northern California watersheds and flows through the Sacramento-San Joaquin Delta. But the Delta's declining ecosystem and 1,100 miles of levees are increasingly vulnerable to earthquakes, flooding, saltwater intrusion, climate change and further environmental degradation.

California WaterFix is the product of more than a decade of review, planning, and rigorous scientific and environmental analysis by water experts, engineers and conservationists, as well as unprecedented public comment. The proposed project will improve the security of our water system by fixing aging infrastructure and constructing new, state-of-the-art facilities using innovative technologies and engineering practices. Significant planning work for the design and construction of the project has been performed by the state, water agencies, and construction and engineering firms, which have determined the project is buildable. Details of the project features, actions to address public comment, risk management, schedule projection and cost estimates are addressed in a new white paper and summarized below.



## Approach to Design & Construction



### An extensive planning process evaluated various alignments, facility configurations and system options.

- The system would be capable of diverting up to 9,000 cubic feet-per-second from the Sacramento River and capturing additional wet period water supplies after all environmental flow and water quality criteria are met.
- Proposed construction plans, including the use of dual 40-foot diameter tunnels, is well within common practices in the engineering construction industry and will provide operational redundancy.

### Specific steps were taken during the design effort to reduce or eliminate the impact of the new facilities on the environment and Delta communities. As a result of input during the environmental planning process, the following changes were made:

- Reduced size of overall project
- Expanded use of tunnels for conveyance
- Revised tunnel alignment
- Reduced size and location of intermediate forebay
- Reduced pumping requirements
- Reduced construction impacts along Sacramento River

## Key Project Features



### DUAL CONVEYANCE:

A flexible dual intake system will deliver water to state and federal pumping plants in the south Delta. New intakes farther upstream will reduce overall adverse environmental impacts on the Delta and provide higher quality water to water contractors' service areas.

### MODERNIZED FACILITIES:

The existing system will be modernized with new facilities, equipment and technologies. State-of-the-art fish screens and intake structures will reduce harm to fish.

### OPERATIONAL FLEXIBILITY:

The new intake facilities will work in conjunction with the existing south Delta intake system, delivering water from just one system or both, depending on fishery and water quality conditions. Dual intakes will provide greater flexibility to protect fish when they are present.

### OPERATIONAL EFFICIENCY:

Gravity-fed tunnels will move water more naturally and efficiently. This will simplify overall operations and reduce long-term system and maintenance costs.

### MAXIMIZES THE USE OF PUBLIC LANDS:

The project alignment uses more public lands, reducing the impact to private property and agriculture.

### REDUCED ENVIRONMENTAL FOOTPRINT:

The proposed water facilities and operations have a greatly reduced project footprint compared to earlier proposals. This will reduce community impacts.

### OTHER ENVIRONMENTAL CONSIDERATIONS:

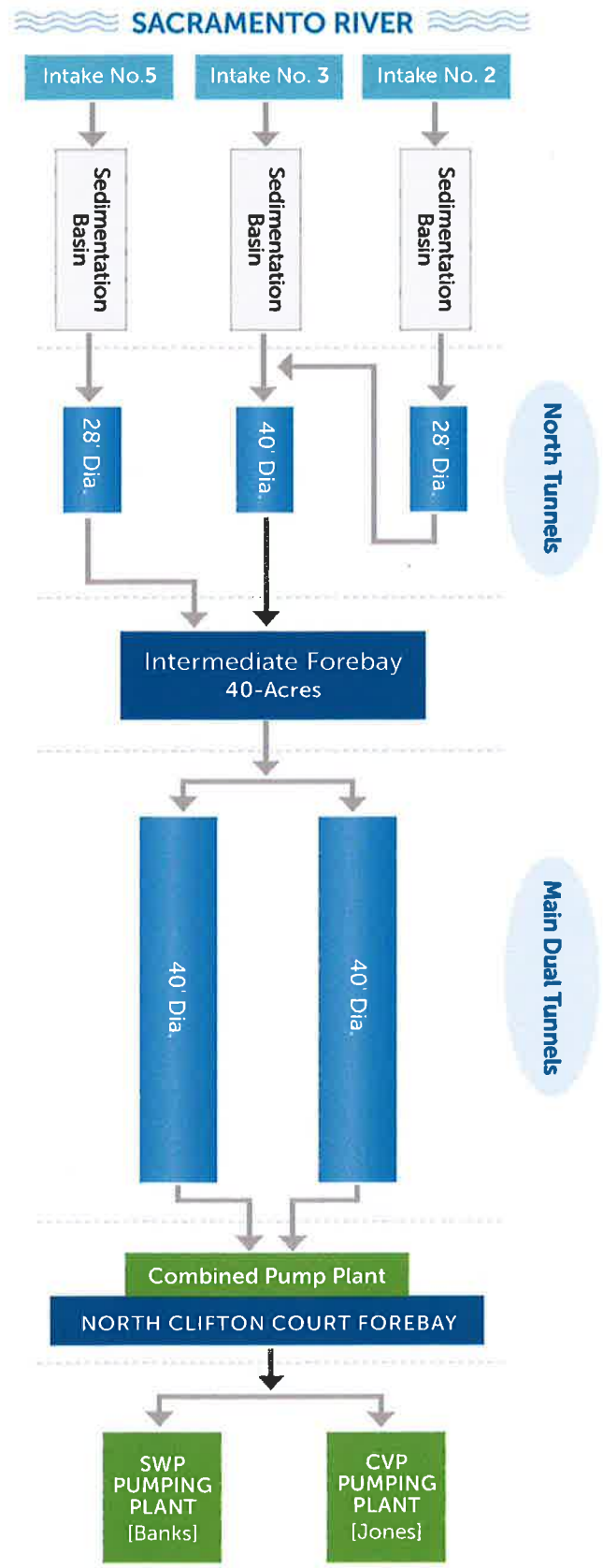
The plan allows for a more natural flow direction in the Delta during critical fish protection periods and increases water supply reliability with greater flexibility to divert water in ways that protect sensitive fish species.

### WATER SUPPLY RELIABILITY:

A modernized system can more reliably capture water from peak storms and flood flows to refill reservoirs and replenish groundwater basins.

### EMERGENCY PREPAREDNESS:

A modernized system will ensure that water is available for drought and emergency needs and help protect supplies from earthquakes or other natural disasters that could disrupt the current system.



## Minimizing Risk

CRITICAL ISSUES RELATED TO DESIGN, CONSTRUCTION AND OPERATIONS HAVE BEEN ADDRESSED DURING THE PLANNING PROCESS:

**Tunnels:** Extensive work and surveys to identify best practices of large tunnel projects with similar design, construction and project management confirmed that the proposed California WaterFix tunnel boring machines are well within the existing industry knowledge and experience.

**Leakage:** The lining system will be designed to withstand the maximum internal pressure calculated for the conveyance system, resulting in negligible leakage.

**Ground Vibration:** Tunnels will be constructed at least 100 feet below ground. Material over the tunnels will dampen and absorb any energy generated during tunneling activities.

**Surface Settlement:** The project will use geotechnical information, monitoring and structure projection methods to mitigate the risk of settlement effects and structural damage.

**Seismic Mitigation:** Because the proposed tunnel alignment does not cross any major fault rupture or creep zones, the deep tunnels will not be subject to liquefaction potential. The tunnel design uses precast segmental lining systems which have been successfully used in seismically active areas around the world.

**Geotechnical Considerations and Mitigations:** At proposed tunnel depths, dense layers of silts, sands and clays are anticipated. This material will be suitable for the planned tunneling activities.

**Flood Protection:** Facilities will be engineered and designed to withstand water level rise resulting from both a 200-year storm event and from sea level rise of 18 inches in the Delta.

## Construction Management



The Department of Water Resources is working with the State Water Contractors to resolve the final details of how the construction of California WaterFix will be managed to guarantee the project's safety and construction integrity and to ensure the project is delivered on time, on budget and in accordance with approved specifications, while managing risk prudently.



## Cost



Cost estimates were determined through a rigorous analysis by industry professionals and will be updated as additional information becomes available.

<b>Overall Cost</b>	<b>\$ 15.74 B</b>
<b>Conveyance System Cost</b>	<b>\$ 14.94 B</b>
Program management, construction management and engineering	\$ 1.91 B
Tunnels/shafts construction	\$ 6.82 B
Remaining construction	\$ 2.68 B
Contingency (~36% for tunnel/shafts and remaining construction)	\$ 3.38 B
Land acquisition (includes 20% contingency)	\$ 0.15 B
<b>Environmental Mitigation (includes 35% contingency)*</b>	<b>\$ 0.80 B</b>

*Program Estimate in 2014 Dollars*

*\*Significant additional fishery habitat restoration will occur through California EcoRestore <http://resources.ca.gov/ecorestore/>*

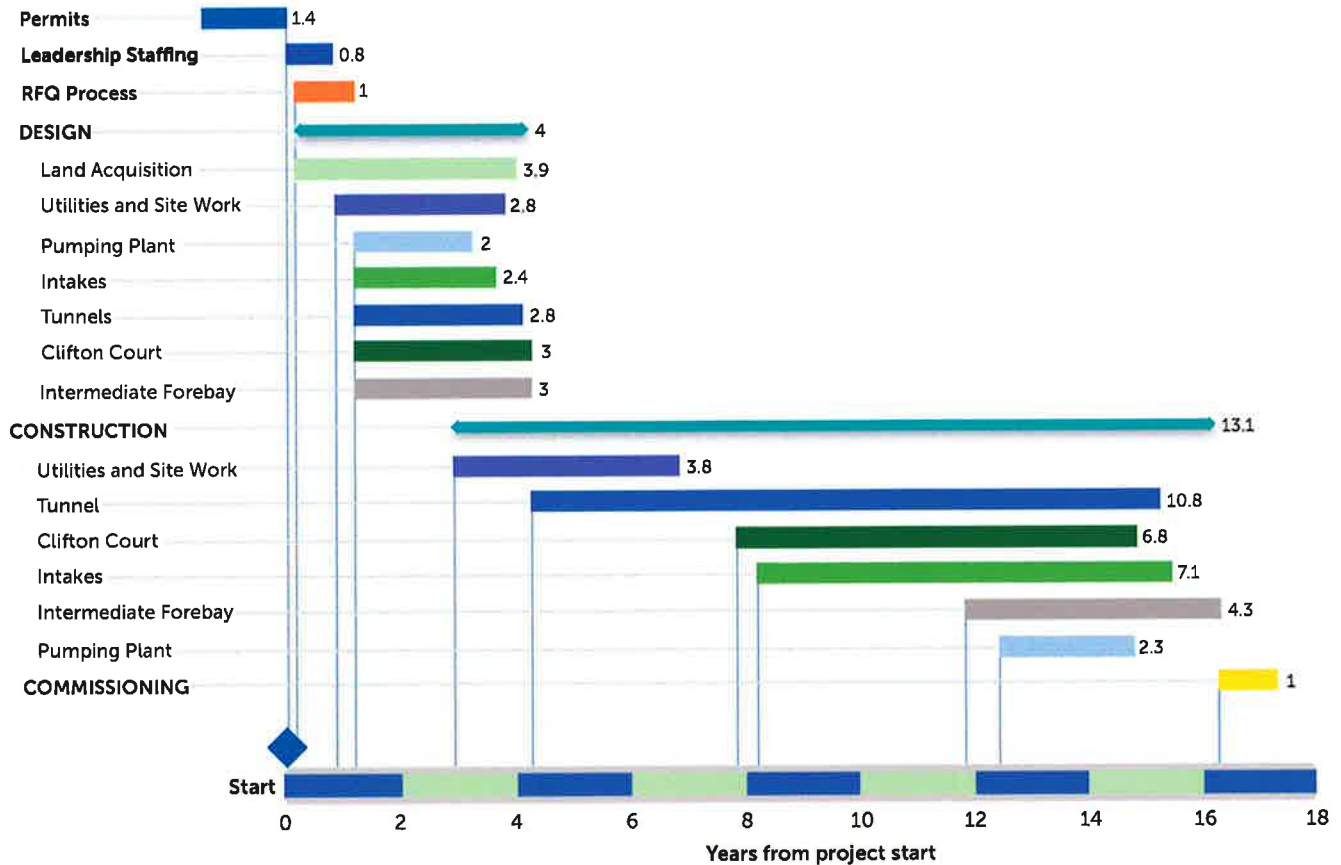
# Schedule



The current schedule estimates it will take 12 to 15 months to fully staff the project, up to four years to complete the design phase and approximately 13 years to complete construction.

## California WaterFix - Program Summary Schedule

Note: Years shown next to bars indicate task duration



### OUR MISSION

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

### ABOUT METROPOLITAN

The Metropolitan Water District of Southern California is a state-established cooperative of 26 member agencies – cities and public water agencies – that serve nearly 19 million people in six counties. Metropolitan imports water from the Colorado River and Northern California to supplement local supplies and helps its members develop increased water conservation, recycling, storage and other resource management programs.

### BE INFORMED, BE INVOLVED

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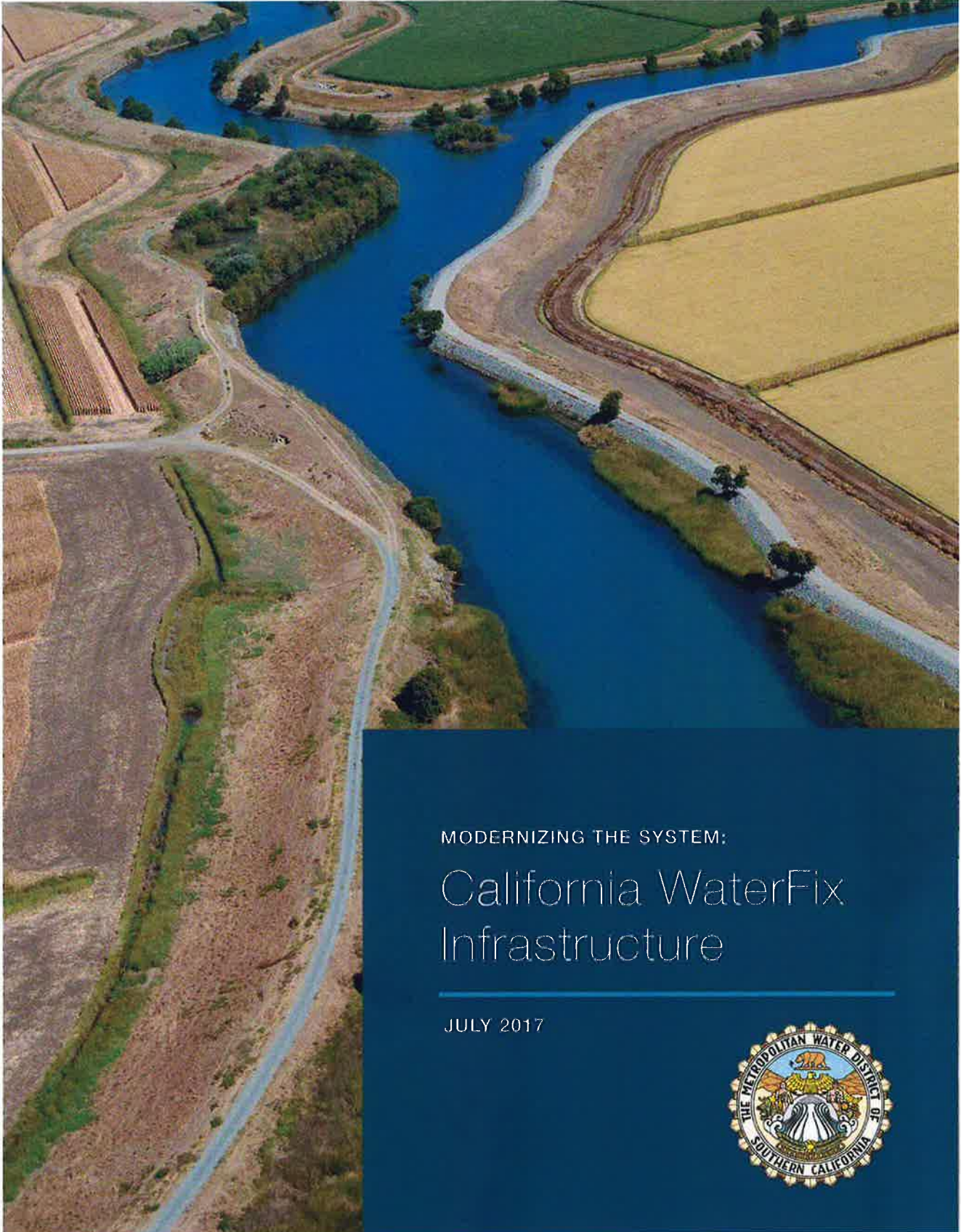
@mwdh2o

Photos courtesy CA Department of Water Resources

7/12/17



THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



MODERNIZING THE SYSTEM:

# California WaterFix Infrastructure

JULY 2017



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## Introduction

This is the first of three policy white papers prepared for the Metropolitan Water District of Southern California's Board of Directors on the proposed California WaterFix. The overall objective of these papers is to provide relevant information for the Board before the Board considers decisions on the project.

This initial paper focuses on the project's planned infrastructure improvements. It presents the key project features, including proposed facilities, governance structure, current cost estimates and implementation schedule, as well as the planned approach to managing and mitigating project risks. The remaining two policy white papers will focus on operations and financing/cost allocation.

Specific objectives of this paper are:

1. To review the physical infrastructure of California WaterFix, with a focus on the key project facilities (see Figure 1);
2. To outline the State's approach to managing and implementing the project through a proposed Delta Conveyance Design/Construction Joint Powers Authority, designated the Design and Construction Authority, or "DCA," and Metropolitan's potential role in the new DCA;
3. To outline the project's planned approach to risk management and present key risk-related issues, including steps being taken to mitigate potential risks to keep the project within cost and schedule targets.

## Summary

Water from the State Water Project (SWP) flows through the Sacramento-San Joaquin Delta to the Bay Area, San Joaquin Valley, Central Coast and Southern California. Metropolitan and the 28 other State Water Project contractors rely on the Department of Water Resources (DWR) to deliver water from the State Water Project (SWP); 24 of the contractors, including Metropolitan, would directly benefit from receiving water via the Delta through California WaterFix facilities. The other five water contractors receive water further upstream in the watershed or from the North Bay Aqueduct.

As Metropolitan's Board and the state Legislature have recognized, the current water delivery system in the Delta, with its 700-mile web of waterways, sloughs, canals, and islands, supported by about 1,100 miles of earthen levees, is unsustainable. Threats of earthquakes, floods, subsidence, climate change, rising sea levels, and increasing regulatory constraints on water operations, as well as other risks and uncertainties in the Delta, are contributing to a decline in water supply reliability and in the ecosystem. The Delta's ecosystem and water supply reliability will continue to decline unless action is taken.

Delta conveyance has been studied extensively, and many solutions have been proposed over the last 50 years. A summary of these efforts is presented in Table 1.

In 2007, Metropolitan's Board adopted its Delta Action Plan (DAP) and Delta Conveyance Criteria as policy direction. The Delta Conveyance policy established six specific criteria for comparing Delta conveyance options: providing water supply reliability, enhancing the Delta ecosystem, improving export water quality, allowing flexible pumping operations in a dynamic fishery environment, reducing seismic risks to the water supply and reducing long-term risks from salinity intrusion associated with rising sea levels. As proposed, California WaterFix addresses each of these criteria.



FIGURE 1: OVERVIEW OF THE DELTA AND CALIFORNIA WATERFIX FACILITIES



**TABLE 1: DELTA CONVEYANCE STUDIES AND PROPOSALS TIMELINE**

Year	Activity
<b>1960s</b>	<p>California Department of Fish and Game, now known as the California Department of Fish and Wildlife, biologists publish an article in American Fisheries Society Special Publication #3, showing that the best protection for native fish populations, and solution to the Delta’s environmental problems, is abandoning sensitive river channels for water transport.</p> <p>U.S. Fish and Wildlife Service backs the Peripheral Canal proposal, calling it the only engineering plan that would not have detrimental effects on fish and wildlife while offering the biggest opportunity for fish enhancement.</p> <p>Interagency Delta Committee completes its report recommending various Delta facilities, including the Peripheral Canal.</p>
<b>1994</b>	Bay Delta Accord is signed, authorizing “CALFED,” a joint state and federal agency process to develop water quality standards, coordinate operations of the SWP and CVP and work toward long-term Delta solutions.
<b>1998</b>	CALFED “Diversion Effects on Fish Team” finds that an isolated facility would substantially reduce entrainment and predation effects on the Delta’s native fish populations.
<b>2000</b>	CALFED Bay-Delta Program releases “California’s Water Future, a Framework for Action.” Among the list of comprehensive actions, it identifies the need to evaluate a screened diversion facility on the Sacramento River to improve water quality in the Delta and at the export facilities. Construction would begin by late 2007.
<b>2007</b>	Delta Vision Blue Ribbon Task Force recommends an assessment of dual conveyance, saying new facilities for conveyance and storage, and better linkage between the two, are needed to better manage California’s water resources for both the Delta and exports.
<b>2008</b>	Public Policy Institute of California states a peripheral canal is the best Delta conveyance option for meeting the coequal goals of a healthy Delta ecosystem and water supply reliability.
<b>2009</b>	The Governor enacts the Delta Reform Act, which includes the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem in a way that protects the Delta’s unique characteristics. The law directs state and federal officials to examine a reasonable range of ways to change Delta water project diversions, including isolated conveyance.
<b>2010</b>	The first administrative draft Bay Delta Conservation Plan (BDCP) was released.
<b>2012</b>	The second administrative draft Bay Delta Conservation Plan was released.
<b>2013</b>	Release of Draft BDCP and Draft EIR/EIS in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for formal public review and comment.
<b>2014</b>	Announcement of further refinements to the water delivery facilities to reduce impacts to Delta communities, minimize disturbances or dislocation to Greater Sandhill Cranes and improve the long-term reliability and operation of the proposed infrastructure.
<b>2015</b>	Announcement of a modified preferred alternative, Alternative 4A, known as California WaterFix.
<b>2015</b>	Release of Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement on the Bay Delta Conservation Plan/California WaterFix.
<b>2016</b>	Final BDCP/CA WaterFix and EIR/S.

Sources:

1. The information from the 1960s to 2009 is from “The History of Water Project Conveyance in the Delta,” which is a publication from the California WaterFix website. The following link is to a PDF version of this document: [http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/83my6\\_FIX\\_FS\\_ConveyanceHistory.pdf](http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/83my6_FIX_FS_ConveyanceHistory.pdf)
2. The information from 2010 to 2016 is from the Bay Delta Conservation Plan (BDCP) website at the link: <http://baydeltaconservationplan.com/Library/BDCPLibrary/BDCPPlanningProcess/BDCPPlanningProcessHistory.aspx>.

California WaterFix aims to provide the facilities necessary to support Delta water exports through dual-conveyance operation. Dual conveyance would divert water from the Sacramento River in the north Delta under certain hydrologic conditions using new facilities, while retaining current south Delta diversions through existing facilities. To divert water from the north Delta, three new screened intakes would be constructed along the Sacramento River, along with associated tunnels and pumping facilities. The new facilities would allow water to be delivered directly from the Sacramento River intake locations to the existing south Delta export pumps located at the State Water Project's Banks and Central Valley Project's Jones pumping facilities. Under appropriate south Delta conditions, north Delta diversions can be appropriately modulated, and water from the north Delta can be diverted through the existing south Delta facilities. This dual conveyance capability would potentially allow for diversions from both north and south Delta locations while taking into account the presence and needs of fish species. As part of the planning process, potential impacts of the proposed system facilities have been identified and appropriate risk management measures have been incorporated into the project as mitigation.

Dependent on the approval of Metropolitan's Board and other public water agencies, a new special purpose Design and Construction Joint Powers Authority (the Design and Construction Authority, or "DCA") composed of public water agencies, including Metropolitan, would design and construct California WaterFix, subject to DWR's oversight and ultimate decision-making authority. The DCA would be responsible for day-to-day implementation of all project aspects. This includes the management, design, construction and commissioning of California WaterFix facilities; managing the overall project budget of \$14.9 billion, plus about \$800 million for project mitigation (both in 2014 dollars); and ensuring that the project is completed within the proposed schedule, which currently estimates project completion 16 years after authorization. The DCA is expected to employ an active risk management strategy that identifies and takes action to address potential issues that could pose significant risk to the project's overall scope, schedule and budget. Subject to Board approval, Metropolitan, as the largest contractor for State Water Project water, would play an important and direct role in the DCA and overall governance of the project team.

California WaterFix has undergone an unprecedented level of public outreach, review and comment, along with extensive scientific analysis as part of the environmental planning process. Significant changes and refinements to the physical configuration and operational characteristics were made to address issues raised during the environmental planning process and to address the outcomes from the biological assessment/opinion processes. Taken together, these revisions have refined and improved the project and have reduced environmental impacts, while maintaining the underlying core capabilities of the proposed system. The planning process has been completed, and the federal and state lead resource agencies for California WaterFix —the California Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Reclamation)— have completed the environmental review process under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). In addition, the U.S. Fish and Wildlife Service and National Marine Fisheries Service (NMFS) have issued biological opinions on the project.

**Based on the information available to date, it is staff's view that the facilities as currently proposed would meet Metropolitan's adopted policy direction and, under the guidance of the DCA, the facilities could be completed within budget and on schedule with a high degree of confidence.**

## Why California WaterFix

### THE CURRENT SITUATION IN THE DELTA

The Sacramento-San Joaquin Delta is where California's two largest rivers meet, an area where saltwater from the Pacific mixes with freshwater from the rivers. Water flowing through the Delta supplies water to about 25 million Californians and about 3 million acres of agricultural production. Some regions of California are 100 percent dependent on Delta diversions for their water supplies.

Current operations of the State Water Project (SWP) and Federal Central Valley Project (CVP) rely on a series of channelized waterways to convey water through the Delta to state and federal pumping facilities located at the south end of the Delta. The pumping facilities then lift the water into the SWP aqueduct and Federal CVP canal.

There are many stressors affecting the Delta. The 1,100 mile levee system was developed beginning in the late 1800s to support agricultural activities, which changed the tidal wetland environment of the Delta. The levees and other Delta infrastructure are increasingly vulnerable to failure caused by continued subsidence, natural degradation, earthquake risks, flood conditions and sea level rise. The current water delivery system in the Delta is also increasingly affected by regulatory constraints on water project operations, salinity intrusion due to sea level rise, the presence of non-native species and the presence of endangered fish near the southern export pumps at certain times of year, which limit when or at what rate the pumps can export water. The continued decline of the Delta's ecosystem has led to severe restrictions in water supply deliveries, resulting in the need to improve California's water reliability and restore the Delta's fragile ecosystem.

The Bay Delta Conservation Plan/California WaterFix Final EIR/Final EIS states that improvements to the water conveyance system are needed to respond to increased demands on the system and risks to water supply reliability, water quality, and the aquatic ecosystem. Improvements are also needed because sea water intrusion from sea level rise causes more need for Delta outflow, which results in impacts to water supply. Operational flexibility can be increased to provide improved water supply reliability and minimize and avoid adverse effects on listed species. DWR's fundamental purpose in proposing the proposed project is to make physical and operational improvements to the SWP system in the Delta that are necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. (Bay Delta Conservation Plan/California WaterFix Proposed Final EIR/Final EIS, 2016, Chapter 2).

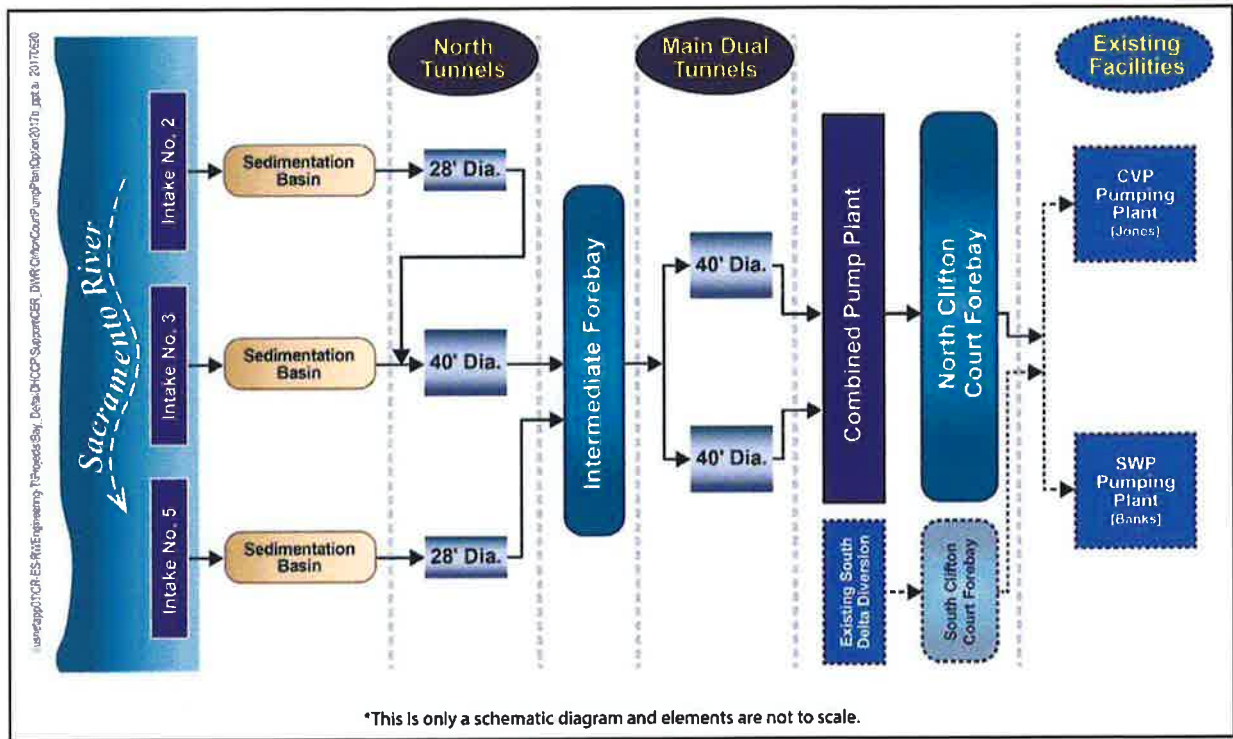
## THE DUAL CONVEYANCE SOLUTION

To address these current and potential threats to the existing Delta conveyance system, California WaterFix proposes a new dual conveyance system that would allow water from both the north Delta and south Delta to be delivered to the Banks and Jones pumping plants. The new north Delta facilities (see Figure 1 and Figure 2) could divert up to 9,000 cubic feet per second (cfs) from the Sacramento River, improving water supply reliability and export water quality. Retaining the current south Delta water exports under California WaterFix ensures an additional avenue to deliver water to the south Delta pumps when water quality and other environmental conditions (e.g., absence of fish species) permit. Providing flexibility in how water is conveyed across the Delta to the existing Banks and Jones pumping plants can avoid adverse impacts to sensitive fish species.

## PROJECT FEATURES AND BENEFITS

California WaterFix would include the following features (see also Figure 2 and Figure 3):

- A. **Isolated Deliveries:** Delivers water directly from the Sacramento River in the north Delta to pumping plants in the south Delta. This allows water delivered by California WaterFix facilities to flow to state and federal pumps without commingling with in-Delta channel water, thereby providing greater flexibility to protect fish when they are present.
- B. **Operational Flexibility:** Works in conjunction with the existing south Delta delivery system. If desired, diversions from the Sacramento River in the north Delta could take place simultaneously with diversions from the existing south Delta facilities, or from one system or the other.
- C. **Operational Efficiency:** Allows for water deliveries to occur entirely by gravity flow under certain hydraulic conditions. The remainder of the time, water would flow by gravity through the tunnels to the south Delta, where a new pumping plant would lift water into the North Clifton Court Forebay. Using gravity to make deliveries simplifies overall operations and reduces long-term system operation and maintenance costs.



**FIGURE 2: SYSTEM CONFIGURATION OF CALIFORNIA WATERFIX FACILITIES**

- D. **Modernized Facilities:** Upgrades a decades-old system with new facilities, equipment, and technologies that would improve and modernize operations. State-of-the-art fish screens and intake structures would allow for more efficient delivery of water from the new facilities, even when endangered species of fish are near the new intake structures.
- E. **Use of Public Lands:** Maximizes the use of public lands, reducing the impact to agriculture and other resources. This reduces the time and cost associated with purchasing private property, easements or rights of way.
- F. **Reduced Environmental Footprint:** Minimizes above-ground facilities by 1) using tunnels instead of canals to convey the water through the system, and 2) incorporating a number of refinements made during the design phase, such as eliminating the pumping stations at each of the three new intakes and reducing the size of the intermediate forebay. This represents a smaller footprint in comparison with other alternate intake facility proposals, reducing project impacts and mitigation costs.
- G. **Other Environmental Considerations:** Considers the environment and incorporates refinements resulting from the environmental review process to reduce impacts to the environment. This approach was used throughout the design process, from the alignment chosen, to the conceptual design of the fish screens at the intake facilities, to the extensive environmental commitments, avoidance and minimization measures incorporated into the project. Mitigation measures also would be incorporated where potentially significant impacts cannot be avoided. As stated, the current configuration would minimize adverse environmental impacts by:
  - Allowing for a more natural flow direction during fish-sensitive periods in the Delta to protect and benefit sensitive native fish species; and
  - Providing the flexibility to divert water while complying with state and federal laws and regulations that protect sensitive fish species.

- H. **Water Supply Reliability:** Safely and reliably captures water during periods of heavy rain and high Delta flows to refill reservoirs and replenish groundwater basins, with the flexibility to reduce pumping in dry periods, which would reduce impacts to sensitive fish species.
- I. **Emergency Preparedness:** Ensures that more water is available for drought and emergency needs, including an earthquake or other natural disaster that collapses Delta levees or otherwise disrupts the current system. The facilities would also enable diversions that would mitigate the impacts of temporarily losing the ability to divert water from the south Delta.

## California WaterFix Facilities

### MAJOR COMPONENTS AND FACILITIES

#### Sacramento River Intakes

Three intakes, each with a capacity of 3,000 cfs, are proposed along the Sacramento River (see Figure 3). The location of each intake was determined by extensive collaboration between DWR and state and federal fishery agencies to identify locations that would minimize incidental take of listed species.

Each of the three intake facilities consists of on-bank screened intake structures; gravity-fed intake conduits; flow meters and control gates; sedimentation basins to allow suspended material from the river to be removed from the water before the water enters the tunnel system; and a drop-shaft at the far end of the sedimentation basins to connect the intakes to the adjacent tunnel network. The bottom-most portion of each intake screen would be situated three to five feet above the river bottom in order to prevent large debris and other heavy suspended materials from entering the intakes or becoming impinged on the screens.

A main factor in sizing and configuring the intake structures was the need to meet specific flow velocities for the water moving past and through the screens. To meet recommended criteria set by state and federal fishery agencies to protect Delta smelt and migrating salmon, the screen area has been set to ensure the approach velocity of the water toward the screens would be no greater than 0.2 feet per second under design flow conditions.

#### Tunnels and Shafts

The tunnel portions of California WaterFix have been divided into two general sections, the North Tunnels and the Main Tunnels (see Figure 2 and Figure 3). The North Tunnels extend from the intakes to the intermediate forebay and have been sized so water flows from the diversions could be equally split between any or among all of the three river intakes that are in operation at any given time. The two Main Tunnels extend from the intermediate forebay to the combined pump plant at Clifton Court Forebay and have been sized so that each tunnel would be capable of delivering up to 4,500 cfs under design conditions. Dual parallel tunnels for the Main Tunnel reaches are proposed to meet the total desired capacity of 9,000 cfs and ensure system reliability, allowing one tunnel to be isolated for maintenance or major repairs while the second tunnel is kept in operation.

All tunnels would be excavated using tunnel boring machines (TBMs) instead of cut-and-cover construction. Although the Main Tunnels span about 30 miles, the tunnels would be constructed in segments or reaches about six to eight miles long. Each reach would be connected to subsequent tunnel reaches at shaft structures located along the alignment, as shown in Figure 3. As the TBMs advance, soil would be removed from the tunnel and concrete segments would be installed to form the tunnel lining system. This concrete segmented liner serves as the final lining system for the tunnels. This approach is commonplace on construction projects throughout the world and is used in both transportation and water infrastructure projects. The liner would be sealed with a series of gaskets and bolted connections between the adjacent segments to avoid leakage.

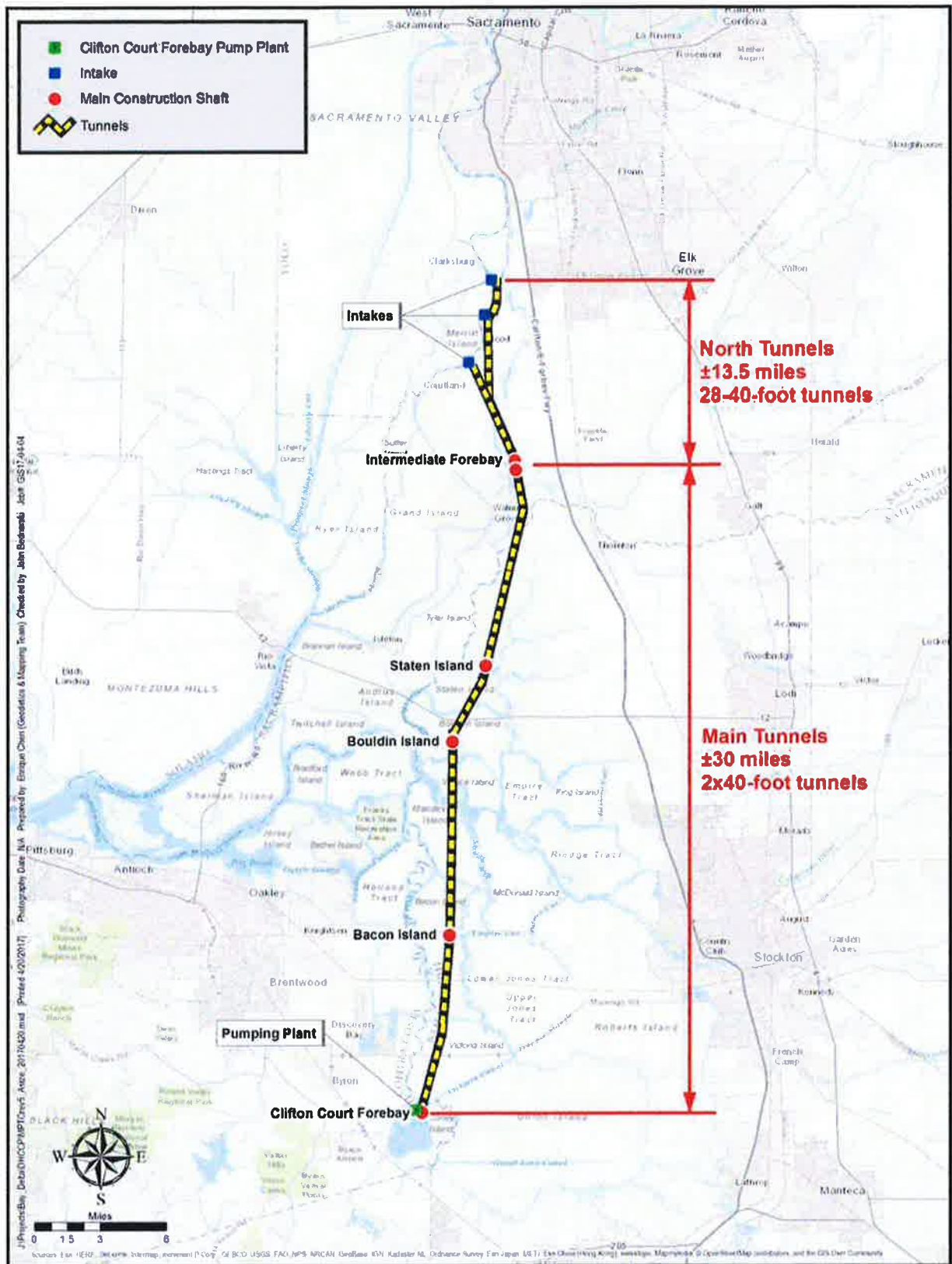


FIGURE 3: CALIFORNIA WATERFIX FACILITIES

Much of the Delta geology is covered with organic peat deposits. Although the peat deposits are very advantageous for agricultural purposes, they present a significant risk of liquefaction in a seismic event. However, the extent of the peat deposits is relatively well understood in the Delta, and ground conditions beneath the peat are generally characterized as dense deposits of silts, sands and clay layers. These dense layers would be very suitable for the planned tunnels because they would not be subject to liquefaction or settlement in the event of a seismic event. The tunnels would be constructed at sufficient depth below the ground surface (about 150 feet from ground surface to the bottom of the tunnel) to avoid existing surface infrastructure and liquefiable soil materials like peat. It is not anticipated that any cut-cover pipelines in the challenging Delta surface geology conditions would be part of California WaterFix facilities.

Deep shafts would be required along the tunnel alignments to facilitate construction, operation and maintenance of the conveyance system. During construction, the shafts would be used to launch and retrieve the TBMs, provide an access point into the tunnels for delivery of tunnel building supplies and labor, and provide a location to join adjacent tunnels to the larger tunnel system. After construction, some of the construction shafts would be modified and used to support long term operations and maintenance needs for the tunnels. Other shafts used in the construction process, such as maintenance shafts, would be sealed and buried to a depth that would support farming activities after construction concludes.

A significant area for investigation during the design activities would be developing the connection of the tunnels with the shafts. Special construction details would be developed through computer modeling to ensure that the tunnel-shaft connection points would be well understood, and so that the interaction of these two structures (tunnel and shaft) could sustain anticipated movement during a seismic event.

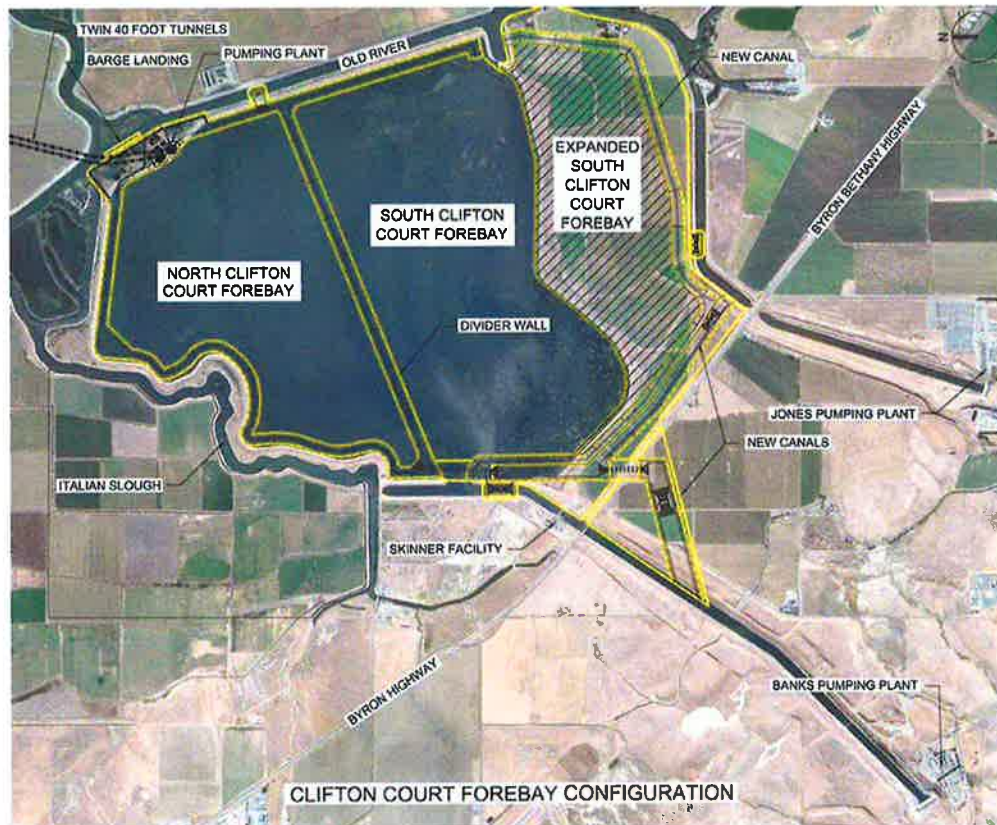
#### Intermediate Forebay

The 30-acre Intermediate Forebay allows for flows from the three separate intakes to be blended before entering the two Main Tunnels. The forebay would also help dampen hydraulic surge waves that could occur in the Main Tunnels if there is a power outage at the Clifton Court pump station. The forebay, along with flow meters and control gates in the intakes, would enhance the ability for independent operation of each river intake and the two Main Tunnels while providing for the overall operational stability of the system. The forebay would be comprised of earthen embankments and tunnel shaft structures, with the shaft structures allowing water to enter at the forebay's north end and exit at the forebay's south end.

#### Clifton Court Forebay

To achieve the dual goal of isolating delivery of water diverted from the Sacramento River to the pumps at the south end of the Delta while maintaining south Delta export capabilities, the existing Clifton Court Forebay would be separated into the North Clifton Court Forebay and the South Clifton Court Forebay (see Figure 4). Water from the new conveyance system would be pumped or flow from the tunnels into North Clifton Court. South delta diversions would enter South Clifton Court through the existing Old River gate structure.

The new South Clifton Court Forebay would be expanded by creating an additional storage area to the south of the existing levees, as shown in Figure 4. Separating the existing forebay into two sections allows fish-screened water from the north Delta intakes to be isolated from other waters throughout the delivery system. Additional new canals, gate structures and flow meters would also be constructed so water from the North and South Clifton Court Forebays can be conveyed to the existing Jones and Banks pumping plants. These canals and gates would be designed to allow single-mode diversion or simultaneous dual-mode deliveries of both waters to the pumping plants.



**FIGURE 4: CLIFTON COURT FOREBAY, INCLUDING PROPOSED MODIFICATIONS**

### Pumping Station at Clifton Court Forebay

A 9,000 cfs pumping station would be constructed at the northeast corner of the Clifton Court Forebay to lift the water from the Main Tunnels into the North Clifton Court Forebay. The pumping station would consist of two pumping plants, each rated at 4,500 cfs capacity. Each pumping plant would be located directly above the end of the Main Tunnel (see Figure 5). Water flowing south in the Main Tunnels would fill up a pumping well in the bottom of each pump plant before vertical turbine pumps lift the water into North Clifton Court.

Under certain hydraulic conditions in the Sacramento River, water can flow by gravity from the Sacramento River into North Clifton Court without using the pumping station. In these conditions, the pumps would be shut off, and water would flow by gravity directly from the tunnels through the surge channel in the pump plant and into North Clifton Court. In the event of a power outage at the pump plant, hydraulic surge waves would be dissipated at the pump station by allowing water to flow over the surge channel and into North Clifton Court.

### SUPPORTING INFRASTRUCTURE

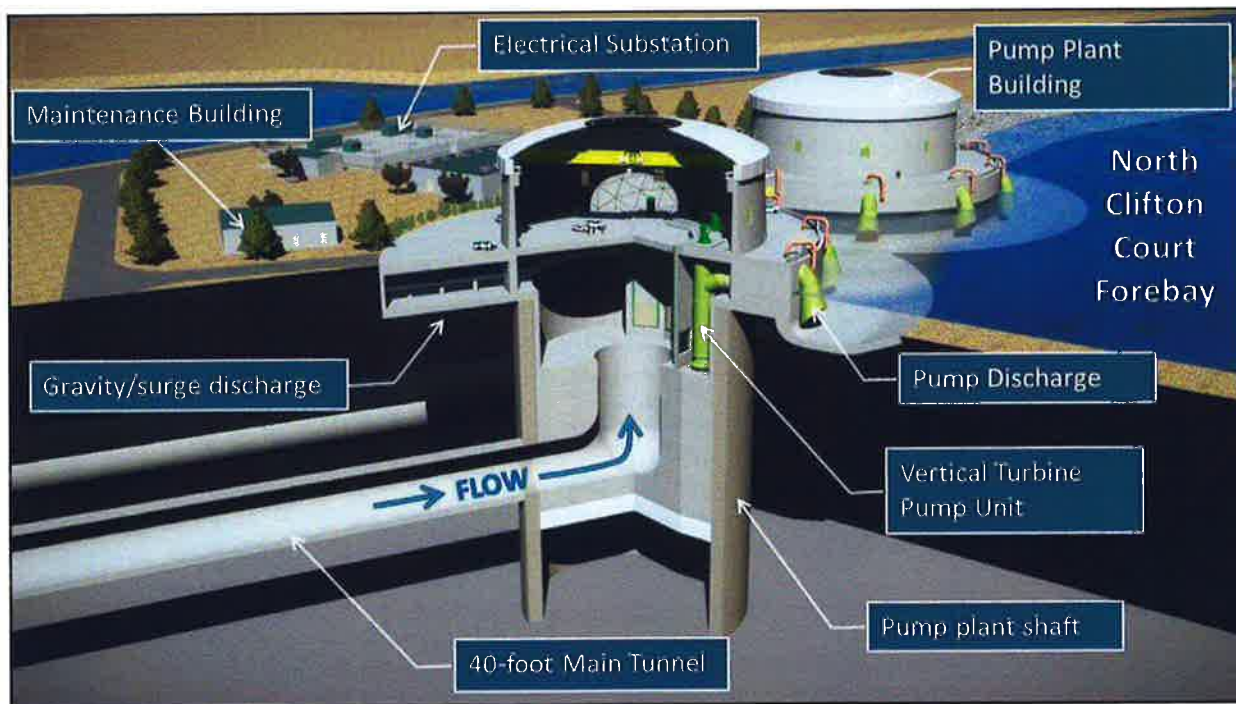
In addition to the major components of the project, construction of supporting infrastructure would be required for the operation of the new facilities and as a prerequisite for construction activities. Some of the required permanent and temporary infrastructure includes:

- High voltage electrical power lines to run the TBMs and operate the pumping facilities;
- Initial site grading and site preparation work;
- Access roadways and barge landings at key work sites;
- Improvements to existing municipal/private roads to support anticipated construction traffic;
- Restoration of public and private roads used to support project activities to pre-construction conditions once the project is complete;



- Improvements around critical infrastructure, including levees, to ensure stability during subsequent work; and
- Removal/relocation of existing gas and water wells that could conflict with tunnel or intake construction.

Completing these activities prior to the major construction work would help ensure that the overall program schedule and budgets would be maintained.



**FIGURE 5: PROPOSED PUMPING FACILITIES AT CLIFTON COURT FOREBAY**

### APPROACH TO DESIGN AND CONSTRUCTION

The proposed configuration of California WaterFix is the result of an extensive planning process that evaluated various alignments, facility configurations and environmental considerations. The results of this conceptual planning/engineering effort are documented in a series of Conceptual Engineering Reports, with the final draft report being released in 2015, and in the EIR/EIS, which was released in 2016. As part of the environmental documentation process, all alternatives received extensive environmental analysis consistent with CEQA, NEPA, and the Delta Reform Act, which included consideration of comments received during initial scoping, and the public review periods of the draft EIR/EIS (2013), partially recirculated draft EIR/supplemental draft EIS (2015) and the proposed Final EIR/Final EIS (2016).

As mentioned earlier, having dual 40-foot main tunnels ensures system reliability by providing redundancy, and the construction approach would use technologies and methodologies that are well understood within the construction industry. Tunnels of this size have been successfully constructed, or are in the planning/design phase, in many locations throughout the world (see Figure 6). As shown in this figure, the planned California WaterFix tunneling machines are at the lower end of the range for large tunnel projects that have been implemented.

During the planning process, an alternative to a twin tunnel configuration for California WaterFix, a single bore main tunnel sized to convey up to 9,000 cfs, was also investigated. Preliminary analysis indicated that a single-bore tunnel would require a tunnel with an inside diameter of about 56 feet. This tunnel size would require a TBM size of 60 feet or more in diameter (assuming use of a 24-inch thick concrete segmental liner). Currently, the two largest TBMs in the world are the Tuen Mun-Chep Lap Kok Hong Kong TBM at 57.7 feet in diameter and the Alaska

Way TBM in Seattle, Washington at 57.3 feet in diameter. At the time, the TBM used in the Seattle project was the largest TBM ever built, and the issues and multi-year delays experienced on this project are well documented. A potential California WaterFix single bore TBM at about 60 feet in diameter would represent a machine that is four percent larger than current technology experience, and a tunnel that large would set an engineering design and construction precedent, increasing the overall project risk.

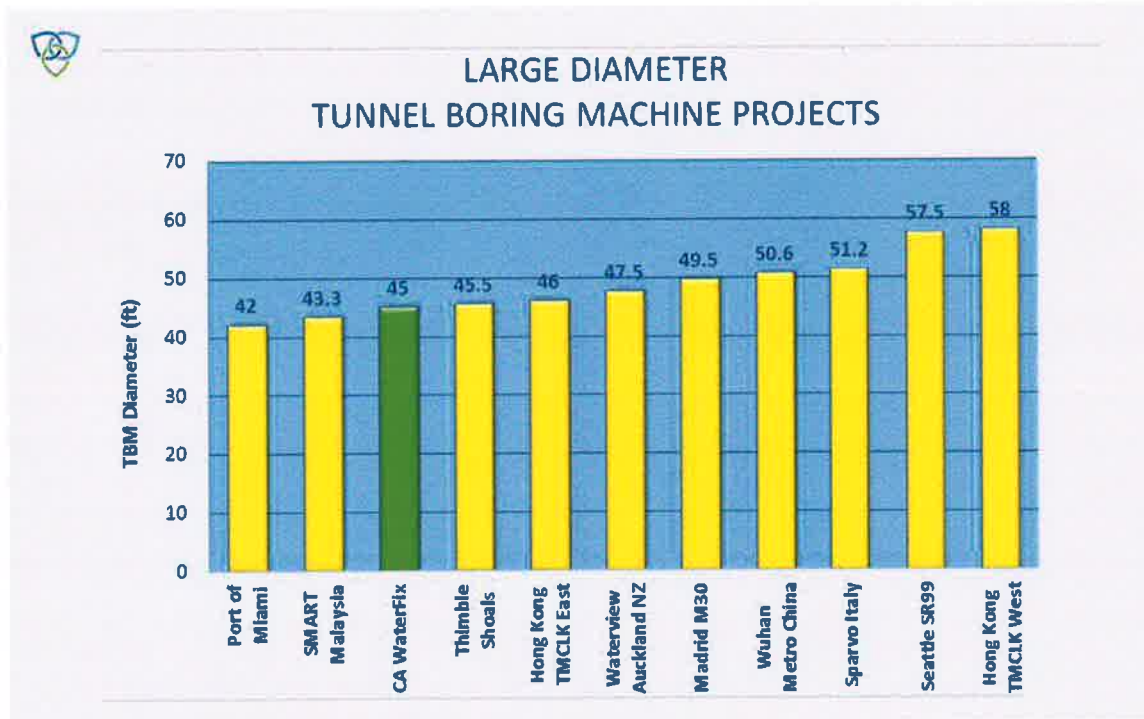


FIGURE 6: LARGE DIAMETER TUNNEL BORING MACHINE (TBM) PROJECTS

## ENVIRONMENTAL CONSIDERATIONS

California WaterFix facilities have been planned and configured in response to comments and input received during the environmental planning process to reduce the impacts of construction and operation of the facilities on the existing Delta environment. Specific steps taken during the design effort to limit or eliminate the impact of the new facilities on the environment include:

- A. **Reducing the Size of Overall Project:** As originally configured in the BDCP, water conveyance facilities consisted of five (5) screened intakes along the Sacramento River, each sized at 3,000 cfs, for a total system capacity of 15,000 cfs. The overall capacity was eventually reduced to 9,000 cfs, requiring only three of the original five intake locations.
- B. **Using Tunnels instead of Open Canals:** The original alignment consisted of a series of large canals to convey water from the three intakes to Clifton Court. The main canal footprint was estimated to be approximately 1,400 feet wide (including the embankments, spoil stockpiling, and access roads). This project configuration would have caused significant impacts to surface features in the Delta. The surface impacts alone of this alternative totaled more than 19,000 acres. The surface canal approach would have split or eliminated many private property holdings, disrupted irrigation patterns, caused migration barriers for terrestrial species, been subject to potential deformation during seismic events and generated substantial quantities of air pollutants associated with earthmoving during construction. The proposed all-tunnel configuration reduces surface impacts by approximately 90 percent with the use of tunnels, a majority of the tunnel construction equipment is electric operated, subsurface tunnel easements will reduce disruptions to surface features and terrestrial migration patterns remain undisturbed.

- C. **Expanding the Use of Tunnels Instead of Pipelines:** Early non-canal conveyance alignments relied on a combination of open-cut high-head pipelines and tunnels to convey water from the intakes to the intermediate forebay. Construction of the open-cut pipelines would have been very disruptive to local communities because of the size of the pipelines required. Under those conditions, excavations suitable for installation of double-barreled 16-foot high-head pipelines would be required in some locations, and would potentially run for several miles. In addition, it was anticipated that surface deposits of peat and high groundwater tables could be encountered during construction. Engineering refinements during the environmental process identified the use of tunnels as a preferred way to connect the river intakes to the intermediate forebay. Relatively short tunnels significantly reduce disruptions to the local communities and provide a way to efficiently address groundwater table conditions.
- D. **Revising Tunnel Alignments and Tunnel Contracting:** As originally configured, the project's main 40-foot diameter tunnels crossed under numerous rivers, sloughs and other waterways. At each of these locations, additional construction activities would have been necessary to protect the levees that line each of the waterways while the tunnel boring machines (TBMs) were being operated, potentially leading to unnecessary project risks. Additionally, the original main tunnel alignment crossed under a number of sensitive surface features, travelled under many private property holdings and would have required nearly double the number of construction contracts when compared to the current revised plans. Mitigation measures employed during the planning and conceptual engineering process attempted to minimize as many of these issues as possible. The current alignment 1) reduces tunneling under most sensitive surface features and private property, instead tunneling under publically held lands and avoiding crossing Army Corps levees wherever feasible; 2) minimizes the number of water-feature crossings; and 3) reduces the number of tunnel contracts to avoid unnecessary surface disruptions.
- E. **Revising the Size and Location of Intermediate Forebay:** The original forebay configuration consisted of about 750 acres of water surface area, along with the area required for the forebay embankments. Following input from local communities and reclamation districts, the size and location of this facility were revised. Current plans call for an intermediate forebay site of about 100 acres, which includes the forebay surface area, embankments and appurtenant facilities required for construction and operation.
- F. **Reducing Pumping Requirements for the Overall System:** The original configuration of California WaterFix facilities relied on pumping plants at each of the three river intakes to lift water out of the Sacramento River and into the tunnel system for conveyance to Clifton Court in the south Delta. This configuration did not allow the system to be gravity fed, even under extremely high water levels in the Sacramento River. Based on input received during the planning process, and the need to address certain technical tunnel design issues, the configuration was changed so the three individual pump stations at the Sacramento River were consolidated and moved to a single pumping plant located at Clifton Court Forebay. As currently configured, under some hydraulic conditions in the Sacramento River, and under certain delivery scenarios, California WaterFix would operate as a fully gravity-fed delivery system that can divert up to 4,500 cfs to Clifton Court. The remainder of the time, the pumps at Clifton Court Forebay would be operated. This approach would reduce the overall conveyance system's energy consumption when compared to the original concept.
- G. **Reducing Construction Impacts along Sacramento River:** Replacing the three river intake pumping plants with a consolidated pump plant at Clifton Court and revising the construction methods for the intake sedimentation basins would reduce temporary and permanent impacts to the communities that surround the intake locations. Eliminating the pump plants at the Sacramento River would also significantly reduce overall construction impacts at all three river intakes and avoids the permanent aesthetic impacts of the pump plants at each location, including the need for permanent overhead high voltage power lines and traffic impacts associated with DWR's operation of the pump plants. In addition, the design of the sedimentation basins, originally configured as pile-supported concrete basins, was revised to the current earthen configuration. This change would significantly reduce construction impacts at each intake site by eliminating the need to drive thousands of foundation support piles and the construction work associated with placing thousands of cubic yards of concrete in the basins.

- H. **Optimizing Location of Key Construction Sites:** While located relatively close to major urban communities such as Sacramento and Stockton, the Delta is considered a uniquely remote environment from a construction standpoint because of its limited highway access. Two state highways cross the Delta in an east-west direction, but north-south transportation routes through the Delta are generally limited to water routes. The original configuration placed several of the key construction sites in areas that were logistically difficult to access for major construction purposes. To access these sites, new roads, along with the use of existing levee roads, or water access points, would have to be established, potentially impacting local residents and agricultural interests. Based on comments received during the planning process, some construction sites were relocated closer to major transportation routes, reducing potential disruptions to local communities and traffic patterns.

Incorporating these revisions and commitments into the overall project planning process has led to the development of modernized conveyance facilities that are sensitive to the environment, landowners and public use of the Delta, while retaining the operational features required to reliably and efficiently deliver water to the state and federal water projects.

## Cost Estimate and Schedule

### ESTIMATE

The current cost estimate for California WaterFix is summarized below in Figure 7. All costs have been adjusted by the state to July 2014 dollars. The cost estimate will be updated periodically as additional information becomes available, particularly with respect to environmental mitigation.

ITEM	AMOUNT (\$BILLIONS)
Overall Cost	\$ 15.74
Conveyance System Cost	\$ 14.94
Program management, construction management, and engineering	\$ 1.91
Tunnels/Shafts construction	\$ 6.82
Remaining construction	\$ 2.68
Contingency (~36% for Tunnel/Shafts and Remaining Construction)	\$ 3.38
Land Acquisition (includes 20% contingency)	\$ 0.15
Environmental Mitigation (includes 35% contingency)	\$ 0.80

*Program Estimate in 2014 Dollars*

FIGURE 7: CALIFORNIA WATERFIX PROGRAM ESTIMATE

The resources used to develop the construction cost estimate include the items listed below:

1. Conceptual Engineering Report (CER), Modified Pipeline/Tunnel Option – Clifton Court Forebay Pumping Plant, Volume 2- Conceptual Engineering Report Drawings, Final Draft: April 1, 2015.
2. Wage and Workman's Compensation rates used by the consultant (SRMK) are Prevailing Rates as listed by the California Department of Industrial Relations, General Decision Number: CA140029 08/08/2014 CA29.
3. Equipment Ownership and Operating Cost. SRMK used US Army Corps of Engineers rates EP-1110-1-8, Vol. 07 published April, 2014.

## ESTIMATE METHODOLOGY

The methodology used to prepare the overall California WaterFix estimate was as follows:

- A. **Program Management, Construction Management and Engineering:** The \$1.91 billion cost is based on the anticipated program organization, the program schedule and the Conceptual Engineering Report (CER). For each organizational team, the number of full time equivalents needed to perform the functions of the team and the expected duration consistent with the program schedule was established. The program schedule accounts for staffing the organization in a sequential manner to allow for initiation, planning and execution of the needed functions. Costs for various levels of managers and staff were applied to the program schedule.
- B. **Tunnels/Shafts and Remaining Construction:** The construction cost estimate for the tunnels and shafts and remaining construction was prepared by a consultant, 5RMK. The construction cost estimate is a detailed Class 3 bottoms-up cost estimate as defined by the Association for the Advancement of Cost Engineering International (AACEI). A Class 3 estimate requires a design definition between 10 to 30 percent complete; the design definition for California WaterFix currently is between 5 to 10 percent complete. The common design definition between the Class 3 requirement and the current design definition for California WaterFix was 10 percent, and 5RMK was instructed to use this value to provide a more detailed Class 3 estimate.

Cost estimators used the same basic approach that a construction contractor would use if bidding the project. Based on information in the CER and past knowledge and experience, the cost estimators developed a work breakdown structure for all project features (such as intakes, tunnels, forebays, pump plants and utilities, etc.). Each feature was further broken down to components and systems to develop detailed quantities of material, labor and equipment to construct the facilities. Cost estimators established crews and equipment, production rates and assumed work schedules. Once these were established, the cost estimators applied prevailing wage rates, material and equipment costs based on vendor and subcontractor quotations.

The cost estimate for the tunnels/shafts and remaining construction also includes the following:

- Engineering, quality control and environmental staff time required to manage subcontracts;
- Construction contractor's management, supervision and staff along with all support staff and expendables (office supplies, communications, utilities);
- General automotive expenses for management and staff; and
- General plant expenses including offices, warehouse, site roads and other administrative costs.

Overhead, profit and General and Administrative (G&A) expenses were calculated as 12 percent of the construction cost.

- C. **Contingency:** Contingency as a percent of construction was established at 35.6 percent, which is consistent with an AACEI design definition of 7.5 percent, and is consistent with the level of design completed for California WaterFix to date.
- D. **Land Acquisition:** The land acquisition cost of \$150 million was developed based on the number of acres for the surface footprint, staging, borrow and subsurface easements required for California WaterFix, multiplied by current market rate per acre. The costs include mineral rights, gas well relocation, due diligence and transaction costs. A 20 percent contingency for unknown expenses related to land acquisition is also included.
- E. **Mitigation Cost:** The project is carrying a mitigation cost estimate of \$800 million. This includes estimated costs for environmental commitments such as natural community protection, channel margin enhancement, tidal and riparian natural communities, grassland and non-tidal marsh restoration, natural communities management, localized reduction of predatory fish, protections for cultural and biological resources and air quality enhancements. The cost also includes program administration, monitoring of

terrestrial and aquatic species, and property tax revenue replacement. In addition, a 35 percent contingency was added to account for unknown expenses/scope related to this project component.

### PROJECT SCHEDULE

The current high-level program summary schedule is presented in Figure 8. The schedule is primarily based on the information in the 2015 Conceptual Engineering Report as well as other available data for similar large-scale construction projects. The schedule includes estimates of 12 to 15 months to fully staff the DCA, up to four years to complete the design phase and about 13 years to complete construction. Once the DCA is established and the design is advanced, the design and construction teams would look for opportunities to reduce the overall schedule.

Upon project authorization, detailed schedules would be prepared for various project activities, based on the detailed Work Breakdown Structure (WBS) and applicable project documents. These detailed schedules would identify major milestones, time-sensitive areas and critical path activities. Any issues that have a real or potential impact on the schedule would be highlighted and would include the source of the issue and any mitigation measures taken to minimize or eliminate the impact. Schedule reports would be issued on a regular basis (at least monthly), as determined during program start-up.

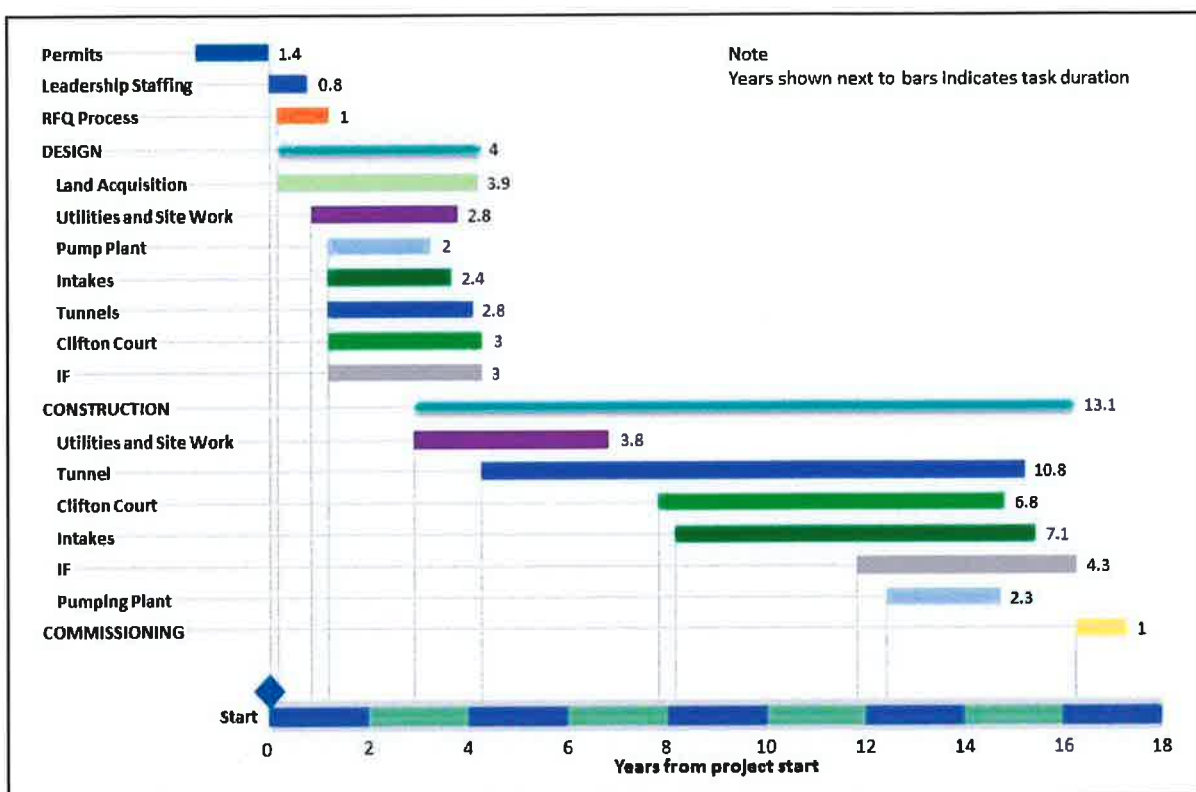


FIGURE 8: CALIFORNIA WATERFIX PROGRAM SUMMARY SCHEDULE

## Key Risk Areas

Two key risk areas related to design and construction have been identified during the planning process for California WaterFix: the program’s management structure –specifically, the ability of the program’s management team to control cost and schedule– and the overall constructability and operation of the infrastructure. Table 2 summarizes the risk areas and provides a structure that includes tools to mitigate the risk associated with each area:

**TABLE 2: KEY RISK AREAS AND MITIGATION TOOLS**

Key Risk	Tools to Mitigate the Key Risk
Management for Cost and Schedule Containment	<ol style="list-style-type: none"> <li>1. Forming the DCA as a new and separate purpose-driven organization with responsibility to implement the design and construction of California WaterFix.</li> <li>2. Establishing key functions within the DCA structure that focus on critical areas, including: <ul style="list-style-type: none"> <li>• <u>Risk Management</u>: Would ensure that all program risks are identified, tracked and mitigated throughout all phases of the program;</li> <li>• <u>QA/QC</u>: Would ensure that all design and construction work is conducted in strict accordance with program quality objectives;</li> <li>• <u>Internal Audit</u>: Would implement a continuous audit program to ensure that all program participants adhere to program policies, practices and protocols;</li> <li>• <u>Program Controls</u>: Would provide real-time budget, cost and schedule reports to the program teams and to the auditor on an as-needed basis; and</li> <li>• <u>Cost Estimations</u> Would provide new cost estimates on an as-needed basis and review cost information prepared by project designers and change order requests from contractors.</li> </ul> </li> </ol>
Infrastructure Constructability and Operations	<ol style="list-style-type: none"> <li>1. Simplifying the configuration of the overall program infrastructure to utilize standard design and construction methodologies;</li> <li>2. Utilizing gravity-fed operations when possible to simplify long-term system operation and reduce overall operational costs;</li> <li>3. Where possible, locating key project features on publicly-owned properties to enhance access during construction and operation;</li> <li>4. Establishing key construction work sites near existing, well-established transportation routes;</li> <li>5. Utilizing tunnel boring machines consistent with current construction industry standard practices to reduce overall construction risks;</li> <li>6. Stockpiling material excavated from tunnel construction in such a manner that the material would be potentially available for future Delta restoration projects;</li> <li>7. Reducing the number of program facilities to be constructed near existing population centers or in environmentally sensitive areas such as wetlands;</li> <li>8. Reducing the size of facilities and/or eliminating some facilities to reduce overall system complexity and cost;</li> <li>9. Consolidating three pumping facilities into a single combined facility at Clifton Court to simplify construction and operational activities; and</li> <li>10. Implementing a well-planned and thorough geotechnical investigation program as part of the preliminary and final design process for facilities.</li> </ol>

## Delta Conveyance Design and Construction Joint Powers Authority

The design and construction of California WaterFix would be managed under contract with DWR through a proposed Delta Conveyance Design and Construction Joint Powers Authority designated the Design and Construction Authority, or “DCA.” This approach was successfully used in the mid-1990s when DWR contracted with the Central Coast Water Authority to design and construct a portion of the Coastal Branch of the California Aqueduct. The Central Coast Water Authority was established as a public entity organized under a joint exercise of powers agreement and constructed water treatment and conveyance facilities to bring State Water Project supplies to Santa Barbara and San Luis Obispo counties.

In coordination with DWR, the DCA would design, construct and deliver completed California WaterFix facilities to DWR upon completion of system commissioning. The DCA would be a public agency, organized as a special purpose public agency pursuant to the Joint Exercise of Powers Act, consisting of certain public water agency members. A detailed agreement between DWR and the DCA would govern the roles and responsibilities of the parties to carry out the design and construction of California WaterFix. The overall goal of the DCA would be to safely design, construct and deliver the project on time, on budget and in accordance with approved specifications, while managing risk prudently.

Recognizing DWR staff resources are stretched to an extreme level due to the necessary commitment to complete significant repairs to the Oroville Reservoir spillways as a result of damage during heavy runoff in 2017, there is a need to employ different but proven approaches to pool resources for the design and construction of California WaterFix. Staff resources are needed for a period of about 13 to 17 years and would ultimately be reduced at the end of construction. Pooling experienced expertise in a manner that avoids the need to hire significant additional new staff at DWR is prudent. In any major infrastructure process, there is a period of acquiring needed additional staff, and then once the project approaches completion, there is a period of downsizing. Utilizing the DCA to pool experienced resources to manage activities and contractors is preferable and can avoid the expansion and contraction of staff at DWR. The DCA would sunset as California WaterFix is completed.

### ORGANIZATIONAL STRUCTURE

The anticipated organizational structure is shown in Figure 9 and the responsibilities of the offices within the structure are described below.

Note: The assumed organizational structure is based on a 2016 Draft Agreement Regarding Construction of Conveyance Project between the Department of Water Resources and the Conveyance Project Coordination Agency, which will no longer be executed. Nonetheless, it is expected that much of the organizational structure and functions described in that agreement would be adopted by the DCA.

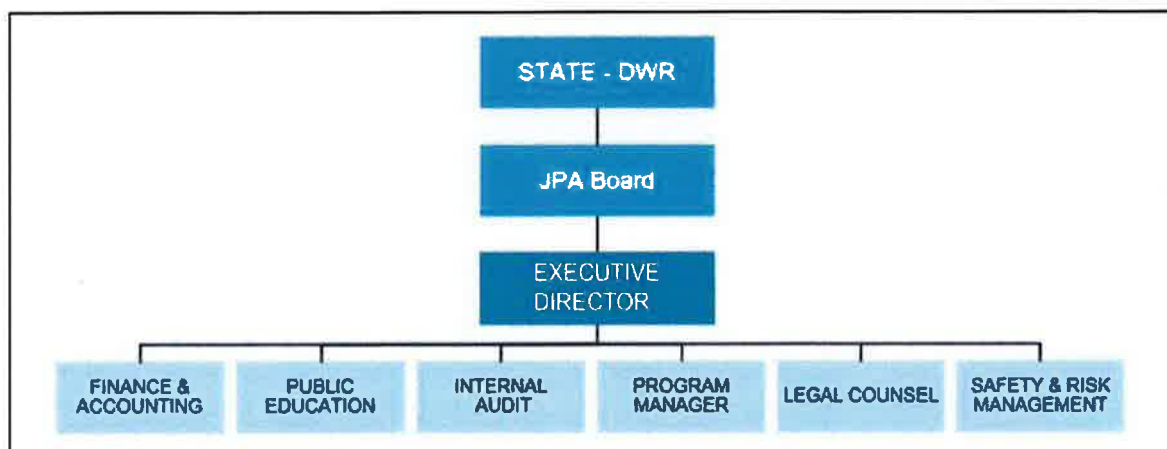


FIGURE 9: ORGANIZATION CHART



### Executive Director

The Executive Director would be the single point of accountability to the Board of Directors for delivery of the program design and construction. The Executive Director would set the overall direction of the program, coordinate all program execution with the Program Manager and Chief Engineer and ensure activities are on schedule, within budget and adhere to specifications. In addition, the Executive Director would lead external interactions and administrative support functions of the program organization and interaction with the DCA directors and DWR.

### Program Manager

The Program Manager would be responsible for all functions directly related to delivery of the facility. The Program Manager would:

- Provide program leadership, management and direction to ensure the design is completed according to the preferred project identified in the final EIR/EIS and consistent with mitigation requirements and plans;
- Establish and approve detailed program scope, schedule and budget activities;
- Be responsible for implementing team plans, staffing levels and setting team responsibilities;
- Ensure coordination and cooperation between teams; and
- Represent the program in interactions with the Board, DWR and external stakeholders as needed.

### Finance and Accounting

The Finance and Accounting group would manage cash flow requirement forecasts, monitor program funding and handle payments.

### Public Education

A dedicated Public Education group would initiate, coordinate, monitor and report on local public outreach and support DWR's Public Affairs Office on program related matters.

### Internal Audit

The Internal Audit group would assure conformance with approved processes and procedures. It would also review the various team actions/documents, develop monitoring and audit reports, review corrective action plans and verify corrections.

### Legal Counsel

The Legal Counsel would provide the program with legal direction and ensure compliance with applicable laws and regulations. They would also review each Request for Qualifications (RFQ), entity agreements, contracts, task orders and scope of services to assess compliance.

### Safety and Risk Management

The Safety and Risk Management team would minimize program risks to control costs and schedule. In addition, the team would identify the program insurance requirements and enforce safety program requirements.

### Workgroups

In addition to the above organizations, it is anticipated under the DCA structure that multiple workgroups would be formed from time-to-time to address specific aspects of the project. Workgroups would include a Technical Review Workgroup for purposes of reviewing and resolving technical design issues at the staff level. The workgroups would be focused in nature and may be formed and dissolved depending upon the subject matter and project status.

## PROJECT GOVERNANCE

The DCA would be responsible for delivering the project in accordance with baseline specifications for the project, including design specification, budget, schedule and mitigation obligations. As design work progresses, changes to the baseline specifications would be requested by the DCA at its discretion for approval by DWR. In addition, certain “material changes” on the project would require DWR approval. These include:

- A. **Cost:** Any actions that cumulatively could cause more than a 5% increase in budgeted costs for each major design feature or management item;
- B. **Schedule:** Any actions that could cumulatively add 6 months to the approved project schedule;
- C. **Operation:** Any actions that could impact the water delivery capability, reduce project life, or significantly increase operations and maintenance costs of the project; and
- D. **Permits:** Any actions that could be inconsistent with, or would require an amendment of, a major permit for the project.

### Coordination with DWR and Reporting

DWR’s Delta Conveyance Office would be responsible for managing the agreement with the DCA on behalf of DWR and be the DCA’s primary point of contact within DWR for all matters relating to project design and construction.

The DCA would provide detailed written reports at least monthly to DWR and the state and federal contractors regarding progress made toward completing the project, including 1) actual and forecasted expenditures, 2) the DCA’s review of expenditures and forecasts against the approved budget and 3) progress relative to the approved schedule. The DCA would prepare an annual report describing the DCA’s activities during the immediately preceding calendar year as well as project status. A draft of the annual report would be provided to DWR for review and comment.

### Dispute Resolution

A Technical Review Workgroup would be used to resolve technical and design-related disputes within the DCA and between the DCA and DWR and material changes to baseline specifications. All other disputes would be resolved at the staff level if possible. If the dispute cannot be resolved through the Technical Review Workgroup or at the staff level, a defined meet-and-confer process would be used to consider options and determine whether agreement can be reached on the matter, with ultimate escalation to the Director of DWR and Executive Director for resolution.

At any time, DWR or the DCA may initiate a non-binding review process concerning the dispute. In this process, DWR and the DCA would form a three member panel of experts, with one panel member selected by DWR, one by the DCA and a third by mutual agreement of the first two panel members. If a dispute between DWR and the DCA cannot be resolved, the Director of DWR would make the final decision after considering the recommendations of the non-binding review panel, as well as any other relevant information concerning the issue.

## Risk Management and Mitigation

### RISK MANAGEMENT PROCESS

The goal of the risk management process for California WaterFix would be to identify problem areas early. Each identified risk would be evaluated for its potential impact to cost, schedule, quality and safety. Risks that have the potential to have a significant impact on any of these items would be highlighted. The Risk and Safety Management Team, in coordination with program staff, would develop a methodology to identify and quantify

specific risks to the project, determine their consequences and associated probability and develop mitigation strategies. The overall risk management process is summarized in Figure 10.



**FIGURE 10: RISK MANAGEMENT PROCESS**

The Safety and Risk Management Team would be responsible for initially identifying project risks, with input as necessary from other groups and teams. The focus would be on risks that could impact project scope, schedule or budget, with each identified risk being added to a Project Risk Register for further discussion and evaluation. The Risk Register would be the basis for developing a “Risk Dashboard,” which would provide a simplified list of high-priority risks, a summary of the associated action plan and a summary of any known impacts. If a risk moves from “potential” to “actual,” the risk would become part of the Project Change Authorization process and incorporated into the project estimate.

**DESIGN, CONSTRUCTION AND OPERATION**

A number of critical issues related to the design, construction and operation of California WaterFix were investigated and addressed through the course of the planning and conceptual engineering efforts. These issues included the following:

1. The ability to successfully design and construct large tunnels;
2. The suitability of facilities to withstand anticipated seismic events that may occur in the Delta;
3. The risk of flooding and future sea level rise in the Delta;
4. The potential for various tunnel-related issues, including leakage, surface settlement and tunnel induced vibrations; and
5. The risks associated with levels of understanding regarding Delta geology.

Each issue and potential mitigation measures are described below.

**Large Tunnels:** As part of planning and conceptual engineering for California WaterFix, the engineering team performed a survey of large-diameter tunnel projects to determine if other large tunnel projects used TBMs similar in size to the 45-foot diameter machines that would be used as part of California WaterFix. The survey confirmed that numerous large-diameter (greater than 40 feet) soft-ground TBM projects have been successfully performed throughout the world and that several more large-diameter tunnel projects are planned in the near future. The survey results confirmed that the proposed California WaterFix TBMs are well within the existing industry knowledge and experience.

A separate survey was undertaken to gain a better understanding of recent challenges on large tunnel projects and to identify best management practices to ensure project success. This survey attempted to identify tunnel projects that were similar to California WaterFix tunnels in key areas such as design, construction and project management in order to anticipate and manage similar issues that could occur. A total of nine projects were surveyed, including projects in the United States, Asia and Europe. Each of these projects is well documented by media and industry coverage, and each has been recently completed or is considered substantially complete from a tunneling perspective. The survey results provided valuable lessons-learned that would be evaluated as part of the design process for California WaterFix, including the following:

- Extensive and high quality geotechnical information is the key for success on any tunnel project; and
- A proactive risk identification and management program is critical to success of large- or mega-projects.

**Tunnel Leakage:** The segmented lining system to be used for California WaterFix tunnels would be designed to withstand the maximum internal pressure calculated for the conveyance system, which is anticipated to be present in the northern-most reaches of the tunnel system, as well as all applicable static and ground loads. The individual segments would be fitted with embedded gaskets that would be compressed against one another as the tunnel rings are constructed. The installation of the tunnel segments, along with the compression of the gaskets during the tunnel ring building process, would be designed and constructed to minimize inflows or outflows from the tunnel under a wide range of operational and maintenance conditions.

An assessment completed in February 2017 of the potential leakage rates from the tunnels concluded that there would be negligible leakage from the tunnels or inflow to the tunnels. In fact, when taken as a complete system, it is estimated that there would be a net inflow of 3 cfs to the tunnel over the roughly 73.5 miles of project tunnels, or an inflow rate of 18 gallons per minute per mile of tunnel. Inflow to the tunnels and leakage from the tunnels calculated based on anticipated conditions for filling, dewatering and operation are anticipated to be minimal and well within typical ranges for tunnels of the size and length proposed for California WaterFix.

**Tunnel-Induced Ground Vibration:** California WaterFix tunnel alignments pass under or near sensitive surface structures such as historic buildings, levees, aqueducts and residential communities. In these locations, it is anticipated that the proposed tunnels would be constructed a minimum of 100 feet below ground. That depth would ensure that material over the tunnels would dampen and absorb any energy generated during tunneling and construction activities. Induced vibration to structures should be minimal and would not likely be perceptible to the communities on the surface and is not anticipated to have any impact on any of these structures.

**Surface Settlement Along the Tunnel Alignment:** California WaterFix would use the following to mitigate the risk of settlement effects and structural damage:

- Detailed geotechnical exploration;
- Pre-construction surveys for critical and settlement-sensitive facilities, utilities and surface features;
- Development and implementation of acceptable tunneling protocols and permissible settlement criteria;
- Real-time sophisticated TBM control and monitoring systems;
- Improved structure protection methodologies, including pre-excavation grouting; and
- Advanced ground settlement and vibration monitoring systems.

**Seismic Considerations and Mitigation:** Preliminary modeling of active and potentially active earthquake faults in the region was developed and evaluated as part of the Delta Risk Management Strategy (DRMS) study conducted in 2007. The results of this study are summarized below.

- Tunnel Alignment:** The proposed Delta tunnel alignment does not cross any major fault rupture or creep zones.
- Seismic Sources:** Potential seismic sources in the form of “blind” faults were identified. These blind faults have no surface features and limited information or data is available to characterize these fault zones.

- C. **Ground Motion Estimates:** Estimates of potential ground motion during a seismic event were developed as part of the conceptual engineering studies based on a 1,000 year event (85<sup>th</sup> percentile) and adjusted for buried tunnel lining systems.
- D. **Liquefaction:** Liquefaction was investigated, primarily as it would potentially affect surface facilities such as intakes, forebays, pumping stations and tunnel shafts. Studies indicate the deep tunnels would not be subject to liquefaction potential because they would be constructed below the elevation where liquefiable materials occur.
- E. **Lined and Grouted Tunnels:** Studies indicate that lined and grouted tunnels, such as those utilized in California WaterFix, perform better than unlined tunnels. Performance can be further enhanced by improving the contact between the liner and the ground (grouting of annular space between the liner and the surrounding soil).

Based on the results of the studies already conducted, seismic mitigation would be addressed as follows:

- For surface facilities and tunnel shafts, additional geotechnical investigations would be conducted on a site-specific basis to gain a more complete understanding of the expanse and depth of liquefiable material at each site. Based on the investigation results, appropriate design and construction methodologies would be used to eliminate or minimize the impacts of liquefaction on surface facilities.
- Additional field explorations and design solutions, including finite element modeling of the tunnels and shafts, would occur in the design phase of the project. These measures would address any seismically induced liquefaction or deformation potential at the specific locations where the tunnels connect to the shafts.
- The tunnel design concept includes the use of precast segmental lining systems. This system was selected because the same concept has been successfully used on an extensive basis in seismically active areas such as Japan, Puerto Rico, Taiwan, Turkey, Italy, Greece and the United States since the 1980s. Results of segmentally lined tunnel performance in seismic events show the tunnels would perform very well during and after such an event.

### Geotechnical Considerations and Mitigations

The Delta is an arm of the San Francisco Bay estuary that extends into the Central Valley. The geology of the Delta has been shaped by the landward spread of tidal environments resulting from sea level rise after the last glacial period. Since the last glacial age, flood-borne deposits, supplied by the major river systems in the Delta, have overlaid the region with sediment deposits and biomass accumulations. Taken together, the region, prior to the advent of agricultural interests in the late-1800s, was largely a tidal wetland and alluvial floodplain consisting of consolidated silts, sands and clays overlain with peat and peat muds.

During the development of the planning documents for California WaterFix, approximately 240 boring and cone penetrometer tests were conducted at the intakes, forebays and along the various conveyance alignments. Most of the investigations were conducted at depths between 100 and 200 feet, well within the foundational depth of planned facilities, including the tunnels and pump plants. Based on these investigations, and the use of existing historical information on the Delta, a preliminary geologic understanding of the Delta in the vicinity of California WaterFix facilities was developed.

At tunnel depths ranging from 100 to 150 feet below the ground surface, dense layers of silts, sands and clays are anticipated. This material would be suitable for the planned tunneling activities. At the ground surface, widely varying depths of peat and other organic material are expected. Data indicates that depths of peat in the Delta along the alignment vary from non-existent to about 40 feet deep, with the deepest deposits located in the center of the Delta near Bouldin, Venice and Mandeville islands. Construction in peat conditions would require specialized design approaches because of the unstable nature of the material.

In some locations along the alignment, there are geotechnical data gaps of several miles, due to the inability to gain access to private property during the planning phase of the project for geotechnical investigations. To

mitigate these data gaps and other known uncertainties related to geology along the alignment, the project would rely on existing information, along with the implementation of a new two-phase geotechnical investigation program. Under this multi-phased investigation plan, up to 2,000 additional investigations would be conducted, consisting of borings, cone penetrometer and other physical data collection methods. The initial phase of the effort would focus on determining if variations exist in what otherwise appear to be relatively consistent subsurface conditions. Based on the findings from the first phase of work, additional investigations are planned to fine-tune information and gather sufficient information so that accurate estimates of subsurface construction methods and costs can be determined. Additionally, this information would be used to finalize methods to successfully address constructing in ground conditions that are overlain with peat and contain high groundwater levels.

### Flood Protection Considerations

Flood protection for California WaterFix facilities would be consistent with DWR's *Proposed Interim Levee Design for Urban and Urbanizing Area State-Federal Project Levees* (DWR 2009). The conceptual engineering completed to date includes plans that the facilities would be engineered and designed to withstand water level rise resulting from both a 200 year storm event plus sea level rise of 18 inches in the Delta. This sea level rise estimate corresponds with 55 inches of sea level rise at the Golden Gate that has been used in the State's long term planning criteria over the next 100 years. Such protection would be provided by constructing the new facilities at elevations above those identified for flooding or sea level rise through a combination of raising and strengthening levees in all project construction locations, as well as other embankment and equipment pad layouts and elevations.

### ENVIRONMENTAL MITIGATION

Upon project approval, DWR will adopt a Mitigation Monitoring and Reporting Program (MMRP) that includes Avoidance and Minimization Measures, Environmental Commitments and Mitigation Measures to avoid or substantially lessen construction and operational impacts of California WaterFix. Mitigation may also be required to fulfill conditions in the biological opinions, CESA incidental take permits and other project permits.

California WaterFix is designed to mitigate its own construction impacts and for operations to not jeopardize any species listed under the Federal Endangered Species Act. This project and its mitigation complement other important state efforts to address the coequal goal of a restored Delta, including California EcoRestore, the Smelt Resiliency Plan and the Salmon Resiliency Plan.

### PROJECT CONFIDENCE

As a component of the risk assessment process, and to assist with creating the budget contingency, the California WaterFix project team evaluated the risks associated with the project budget to establish a baseline confidence level that the project would be completed within the estimated budget. This is a common practice with large construction projects, with the resulting confidence curves being used as one of the factors in determining overall project risk.

For California WaterFix, Aldea Services developed confidence curves for a variety of different cost scenarios, ranging from base cost, which does not consider mitigation costs or risk, to a total cost that includes the base cost, risk, mitigation and inflation. The resulting confidence curves, which were based in part on the risk assessment workshops and probabilistic analyses conducted by Aldea Service and the project team, are presented below in Figure 11. The results of these analyses indicate a 75 percent confidence level that the project would be completed within the budget estimate, based on information available at this stage of the project. A typical confidence level for projects of similar scope and size is 60 percent; however, because of the size and complexity of the program; a more conservative confidence interval of 75 percent was targeted.

At a 75 percent confidence level, the chart in Figure 12 shows how the base costs (blue) along with risk costs (red) and inflation costs (purple) are distributed over the estimated construction period on a year-by-year basis. The risk (red) costs are a direct calculation from the risk analysis and inflation is based on the average inflation rate

over 20 years prior to the analysis and applied to the scheduled construction period. The chart is consistent with the risk adjusted cost estimate and schedule included in the conceptual engineering report. As funding is available, additional information would be gathered, the program would be refined during design and the risk management process would be adjusted to the charted confidence curves.

Table 3 shows the comparison between the risk adjusted cost at a 75 percent confidence level in the second column and the 5RMK construction cost estimate in the third column. The table also includes the results of Class 3 bottoms-up construction estimate prepared by Jacobs Engineering as a check estimate. Jacobs Engineering prepared its estimate independent of the 5RMK estimate. The 5RMK and Jacobs Engineering estimates include a contingency of approximately 36 percent. Program Management (PM), Construction Management (CM), and Engineering (ENG) costs are held constant at \$1.91 billion and land acquisition costs at \$150 million. This table used three separate estimates to show the program can be completed within the proposed budget of \$14.94 billion.

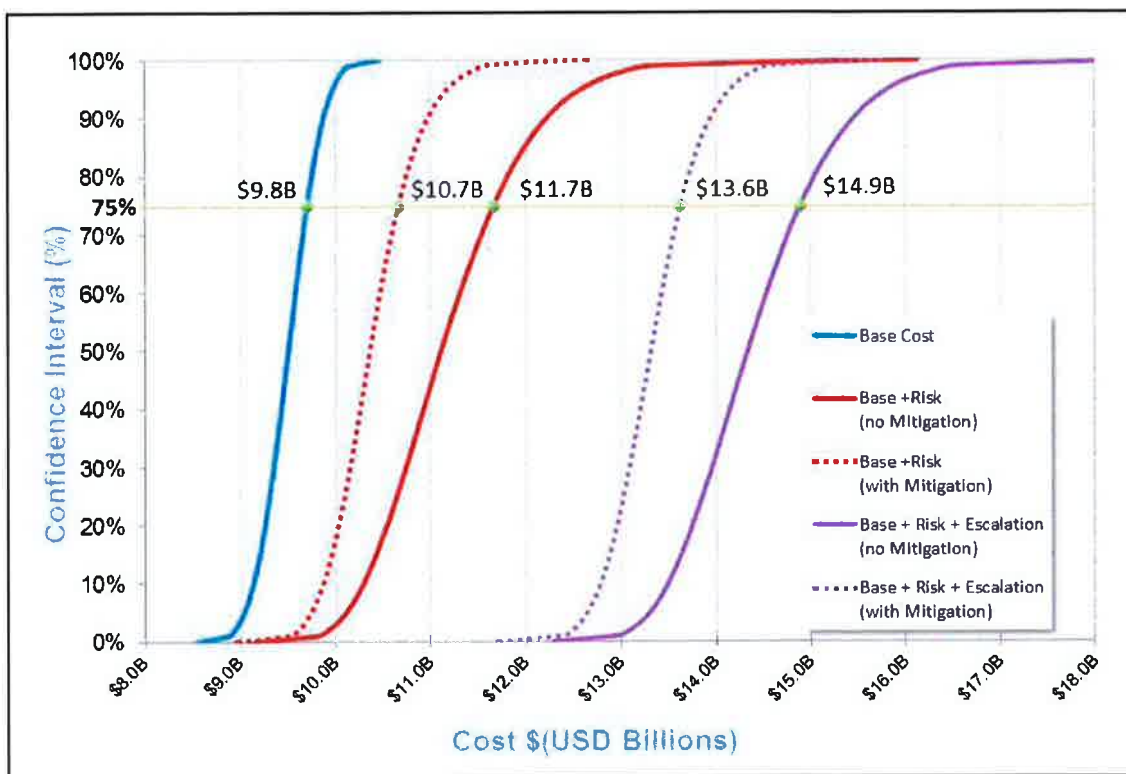


FIGURE 11: CONFIDENCE CURVES SHOWING 75% CONFIDENCE INTERVAL

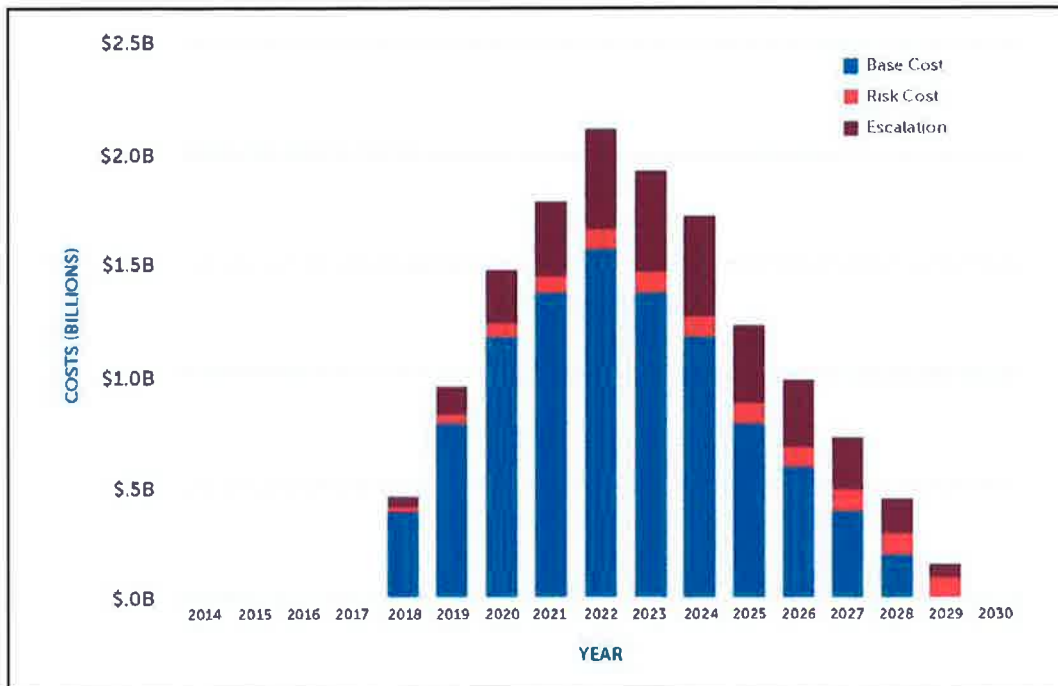


FIGURE 12: ANNUAL CONSTRUCTION EXPENDITURES FOR BASE, RISK AND ESCALATION

TABLE 3: COST COMPARISON, RISK ADJUSTED COST AT 75% CONFIDENCE LEVEL VS. INITIAL COST ESTIMATES

Item	(1) SRMK Estimate <sup>(*)</sup> , <sup>(**)</sup> (Billions)	(2) Jacobs Eng Estimate <sup>(*)</sup> , <sup>(**)</sup> (Billions)	(3) Risk Adjusted Estimate with Mitigation at 75% Confidence Interval <sup>(*)</sup> , <sup>(***)</sup> (Billions)
Construction	\$9.50	\$8.86	\$10.66
Contingency	\$3.38	\$3.15	
Construction Subtotal	\$12.88	\$12.01	\$10.66
PM/CM/Eng	\$1.91	\$1.91	\$1.91
Land acquisition	\$0.15	\$0.15	\$0.15
<b>Grand Total</b>	<b>\$14.94</b>	<b>\$14.07</b>	<b>\$12.72</b>

<sup>(\*)</sup> Program estimates in 2014 dollars  
<sup>(\*\*)</sup> ~36% Contingency on construction for SRMK and Jacob Engineering estimates  
<sup>(\*\*\*)</sup> Based on risks known at time of assessment



## Conclusion

Note: This is first of three policy white papers related to California WaterFix. The second white paper will address the operational aspects of California WaterFix as well as potential water supply and risk mitigation measures related to operational requirements and regulations. The third white paper will focus on how California WaterFix can be financed through different funding mechanisms and the allocation of costs between state and federal contractors and between the State Water Project contractors.

The reliable and continued supply of high quality water through the Delta faces many risks, including fishery declines, earthquakes, floods and rising sea levels. Despite previous actions and efforts by local, state and federal entities to address these issues, as well as other challenges in the Delta, the region's ecosystem has continued to decline. California WaterFix addresses these long-standing issues by providing a pathway to reliable water supplies with infrastructure that is designed to withstand earthquakes and adapt to flood and rising sea levels, while protecting habitat, species and the Delta ecosystem.

The project has undergone an unprecedented level of public review, comment and scientific input. Extensive analyses and risk assessments have been conducted to better understand and mitigate risks commonly associated with infrastructure projects of this size. For California WaterFix, the key risk areas have been identified, and tools to mitigate these risks have been incorporated into the project's risk management process.

In addition to meeting the needs of the state, California WaterFix as presented meets all of the Delta Conveyance Criteria adopted by Metropolitan's Board in 2007.

Metropolitan's 2015 Integrated Resources Plan Update, as adopted by Metropolitan's Board in 2016, includes a goal to stabilize SWP supplies, to pursue a successful outcome in California WaterFix and to establish efforts for long-term average supplies of about 1.2 million acre-feet. The proposed project is expected to achieve this goal.

The physical project meets the attributes of a potentially successful project based on staff analysis and comparison to the Board's Delta Conveyance Criteria. The proposed program management has evolved in a way to increase staff confidence in the ability to minimize and manage risks.

**DUDLEY RIDGE WATER DISTRICT**

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**CALIFORNIA WATERFIX INFORMATION AND  
REQUIRED LANDOWNER RESPONSE**

February 26, 2018

DRWD Landowners,

After a decade of studies, environmental reviews, and regulatory actions, at this time Dudley Ridge Water District ("DRWD" or "District") needs a strong indication from landowners related to your participation in the California WaterFix ("CWF"). This letter is intended to provide you, as a landowner within the District's water service area, with the information currently available and request your desired level of participation in the CWF.

First, some background. Although most of the State Water Project ("SWP") contractors have funded about \$240 million in CWF planning costs over the past several years, the District board had decided not to participate in this up-front funding, based on the representation that the District could "make-up" the deferred payments should the District decide to participate in the CWF. Until about nine months ago, each SWP contractor was allowed the option to opt-out of participation in the CWF; however, last year the State withdrew this option for SWP contractors and the District (barring litigation to the contrary) will require the District to participate in the CWF. In other words, if the District does nothing, we will be charged under our State contract for all of the CWF associated costs. We dispute that intended action by the State, but until the issue is resolved by a court, the State has made clear to us that the costs of CWF will be charged to the District.

Earlier this month the State announced a staging of the CWF, proposing to construct one tunnel ("pipeline") first and the second pipeline later, when federal participation is forthcoming. Later this month, Metropolitan Water District of Southern California ("Met"), announced that they are evaluating whether to advance funds to build both pipelines as originally planned. Clearly, there remains some flux in what facilities are proposed for the initial construction, but indications are that the unit cost to the District would be similar with either option.

At the same time, the District is negotiating with SWP urban contractors that would provide options for District landowners to determine what level of participation in the CWF is most appropriate for your business. For purposes of this request, the following

assumptions are being made. Should these assumptions or additional information become available that would materially impact the information herein, the District will revise this request and provide you with the opportunity to revise your decision.

**Current District Assumptions:**

- CWF would be staged with one pipeline with a capacity of 6,000 cfs, capital cost estimated at \$10.9 billion, and annual operating cost of \$49.6 million (2017 cost basis).
- CWF would be able to maintain the SWP yield at near the current level of 62% average supply as opposed to the projected reduction to about 50% average supply without the CWF.
- CWF facilities, costs, incremental yields, and impacts to your water rates for various participation levels would conform with the attached tabulations, including an option to defer capital principal and interest payments until the CWF facility is operational and unit costs not to exceed those shown.
- The Financing JPA and Design & Construction JPA would (1) be governed and managed by highly qualified professionals experienced in large projects and (2) allow a board position for one of the smaller ag contractors.
- The determinations of the State Water Resources Control Board ("SWRCB") related to CWF would not adversely impact the current economics of the project.
- All modern contracting methods would be available for construction of the CWF.
- The SWP contract 2018 amendment would incorporate enhanced water management provisions that (1) allow annual and multi-year transfers/sales within the SWP and (2) a more efficient and timely approval process (public negotiations on an amendment are underway between the SWP contractors and the California Department of Water Resources ("DWR"), with the intent of having an Agreement in Principle by June and executed contract amendments by November 2018).

Currently, the District is faced with four options related to CWF participation; the first two rely on successful completion of pending negotiations with urban SWP contractors to transfer a significant portion of the CWF benefits and costs from the District to an urban contractor(s).

1. Partial opt-out and payment of 10% of the CWF costs, retaining the CWF benefits of (a) receiving additional Article 21 water and (b) transfer capacity through the CWF facilities.
2. Partial opt-out and payment of 15% of the CWF costs, retaining the CWF benefits of (a) receiving additional Article 21 water, (b) transfer capacity, and (c) emergency protection from a Delta outage through the CWF facilities.
3. Full participation with 100% of the costs and benefits of the CWF.
4. Full opt-out of the CWF costs and benefits. This option could restrict the District's use of the enhanced water management provisions.

Options 1, 2 and 4 would result in a reduced SWP water supply over time, likely necessitating a reduction in cropped acreage. This illustrates where agricultural

investors differ from their urban counterparts in that ag entities have an ability to reduce demand by farming less acreage while urban purveyors have no choice but to satisfy urban demands. Also, negotiations to provide options 1 and 2 are not finalized, but we are optimistic that they can be achieved.

As shown in the attached tabulations, the CWF is projected to:

- Increase the current Table A supplies by 12% above the “without CWF” scenario,
- Increase Article 21 supplies in the wetter years by almost 8 times above the “without CWF” scenario,
- Provide significant additional capacity for non-project water through the Delta with no carriage losses, and
- Provide additional emergency protection for a Delta outage (earthquake, levee break, etc.).

To make an investment decision on the CWF, the District is providing you with the current costs and benefits for options 1, 2 and 3 of the CWF. The additional pipeline capacity would be allocated to participants based on their Table A amount (beginning in 2020, the District’s Table A amount will be 41,350 are-feet, or 1.019% of the SWP contractors south of the Delta). Aspects of the CWF that are not yet fully developed or determined include (a) the project financing, (b) assurances that the CWF will be carefully managed, (c) SWRCB impacts on CWF yields, and (d) what level of additional water management flexibility can be negotiated with the State.

Needless to say, uncertainties remain beyond the direct control of the District, SWP contractors, and DWR. The Governor, SWRCB, State and federal wildlife agencies, and the courts can all effect the future of the CWF. A project of this size and complexity will always have a major element of risk. Throughout the process, the District will continue to advocate on your behalf to mitigate or reduce these risks. Currently, \$127 million of financing is needed through the end of 2018 to maintain the project schedule until the Financing JPA is formed and bonds can be sold.

You may also want to review a DWR-funded economic analysis prepared February 12, 2018 by The Brattle Group ([www.californiawaterfix.com/economic-analysis/](http://www.californiawaterfix.com/economic-analysis/)). The findings show the economic impacts of benefit/cost ratios at various financing terms (1%, 1.5%, and 3% interest for 40 years) and ag participation (“trading” scenarios similar to District options 2 and 3 above). Although the analysis is based on a 6,000 cfs facility, it assumes (a) an ag benefit due to improved water quality, (b) increases in crop prices over the past decade will continue, (c) ag benefits from higher groundwater levels (not applicable within the District), (d) higher CWF yields than presented herein, and (e) does not estimate the economic benefit to ag for reduced Delta outages (but states it “may be substantial”).

**To complete our transfer negotiations with urban contractors and to establish our positions in the pending contract amendment negotiations, the District needs decisions from you. Specifically, which of the four options are you signing up for? So that the District can proceed with said negotiations in support of your decision on the CWF, please complete the attached "California WaterFix Participation Form" to the District office no later than March 15, 2018.**

Do not hesitate to call me (cell 559-355-5880) or the Board President (Bill Phillimore at 661-776-1315) if you have any questions.

Respectfully,

Dale K. Melville, P.E.  
Manager-Engineer

CC: Board of Directors  
Joseph Hughes, Esq.

# California WaterFix (“CWF”) Participation Form

**Landowner:** \_\_\_\_\_

**Representing Parcels (APN):** (attach additional page(s) if needed)

\_\_\_\_\_  
\_\_\_\_\_

**Selected CWF Option:** \_\_\_\_\_ If more than one option is selected, landowner must identify the specific parcels associated with each option. Selection of an option(s) is based on the “Current District Assumptions” described in the accompanying February 23 letter.

1. Partially opt-out and pay 10% of the CWF costs, retaining the CWF benefits of (a) receiving additional Article 21 water and (b) transfer capacity through the CWF facilities.
2. Partially opt-out and pay 15% of the CWF costs, retaining the CWF benefits of (a) receiving additional Article 21 water, (b) transfer capacity, and (c) emergency protection from a Delta outage through the CWF facilities.
3. Fully participate and receive 100% of the costs and benefits of the CWF.
4. Full opt-out of the CWF costs and benefits. This option could restrict the District's use of the enhanced water management provisions.

**Landowner acknowledgement:**

I understand that the Dudley Ridge Water District (“District”) will rely on this acknowledgment in making its decision as to the level of the District’s CWF participation and authorize the District to pursue arrangements to secure the option(s) I have identified for my participation in the CWF.

**Return this completed form for your lands to the District no later than Thursday, March 15, 2018** (email [dmelville@ppeng.com](mailto:dmelville@ppeng.com) & [rbesecker@ppeng.com](mailto:rbesecker@ppeng.com) or mail to Dudley Ridge Water District, 286 W. Cromwell Ave, Fresno, CA 93711-6162).

**Signature:** \_\_\_\_\_

**Printed Name of Signatory:** \_\_\_\_\_

## Description, Yields, and Costs to DRWD Landowners for the California WaterFix (“CWF”)

### 1. CWF Facilities

Features	6,000 CFS
	Staged Single Pipeline <sup>(1)</sup>
Intakes	2
Intermediate Forebay	No
Northern Tunnels	Reach 1 (28'ID)
	Reach 2 (44'ID)
Main Tunnels	Single Reaches
	4, 5, 6 and 7 (44'ID)
Clifton Court	Yes
Pumping Plant	(1) 6,000 CFS
Connection to Banks	Yes
Connection to Jones	No <sup>(2)</sup>
(1) DWR Staged Alternative (2) Could include connection to CVP if desired	

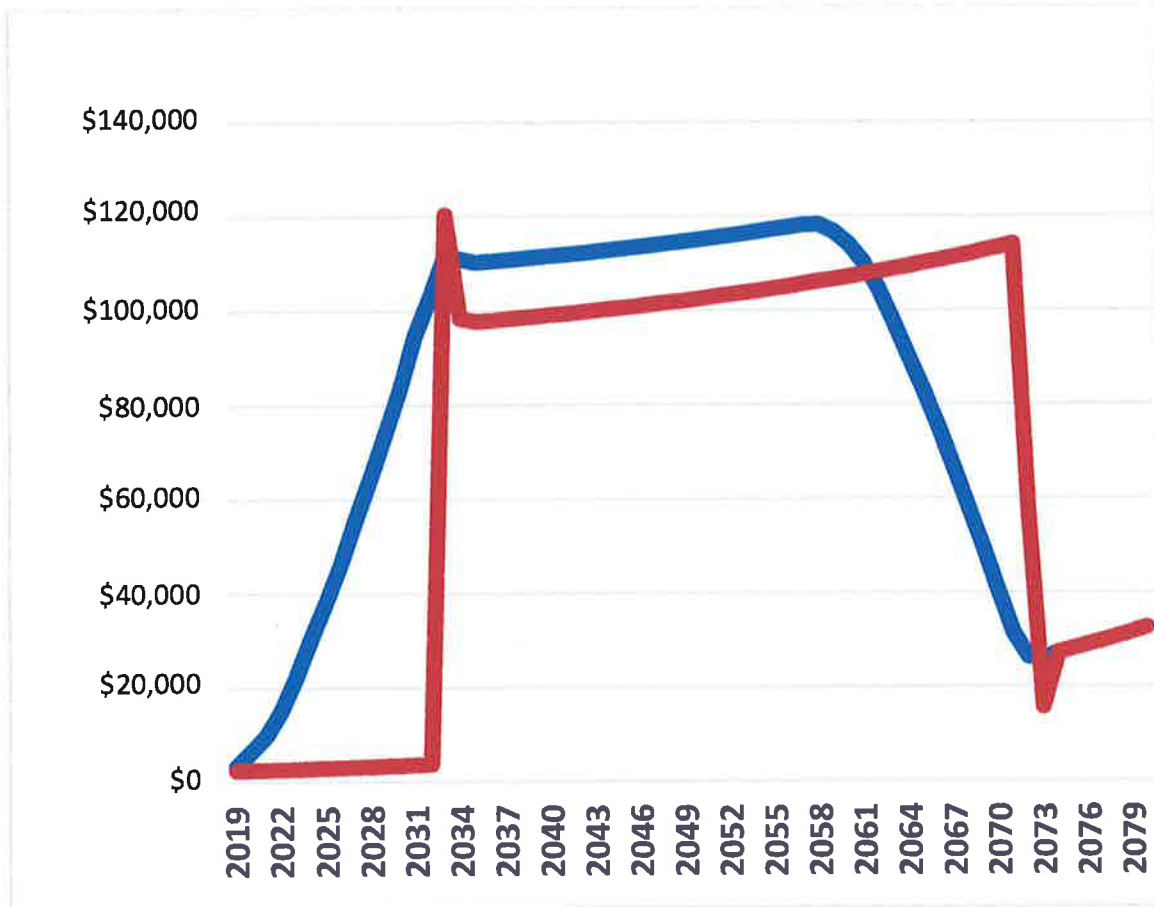
## **2. CWF Capital and Operational Cost Estimates** **(2017 costs in \$million)**

<b>Staged 6,000 cfs Single Pipeline</b>	
<b>Capital Costs</b>	
<b>Water Facility:</b>	
Construction	<b>\$6,305</b>
Contingency (36%)	<b>2,207</b>
Program Management, Engineering and Construction Management	<b>1,858</b>
Land Acquisition	<b>142</b>
<b>Sub-Total Water Facilities</b>	<b>10,512</b>
<b>Mitigation (Capital)</b>	<b>377</b>
<b>Total Water Facility and Mitigation Capital Costs</b>	<b>\$10,889</b>
<b>Annual Operations and Maintenance Costs</b>	
Water Facility O&M, Power, and Replacement	<b>31.9</b>
Mitigation (Operations)	<b>17.7</b>
<b>Total Annual O&amp;M Costs</b>	<b>\$49.6</b>

*SWP share of the above costs and benefits could range from 83-100%, depending on the extent of CVP participation (TBD).*



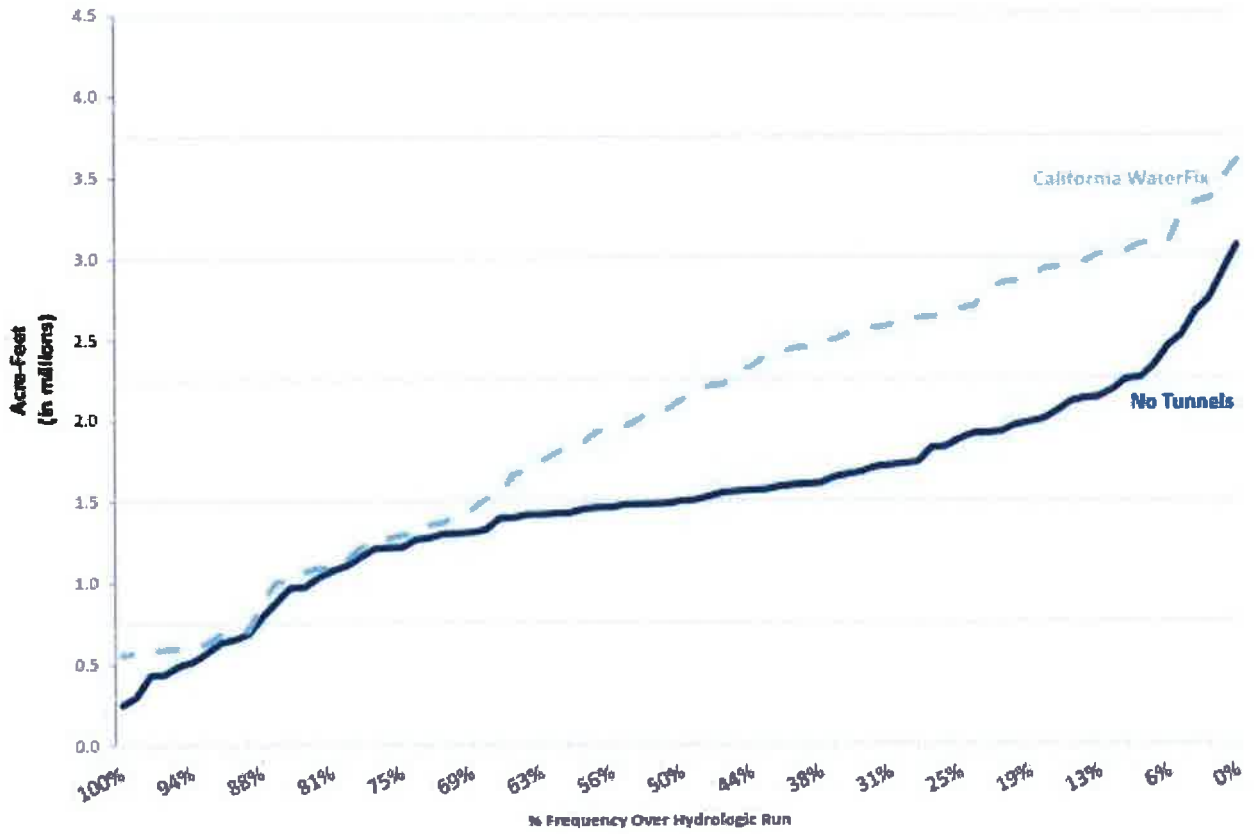
**3. Projected DRWD Payment Schedule (Annual-blue vs Capitalized-red)**



#### 4. Water Supply Benefits with and without CWF

	<b>CURRENT</b>	<b>FUTURE W/O CWF</b>	<b>FUTURE W/ SWP- only CWF</b>
<b>AVG TABLE A ALLOCATION</b>	<b>62%</b>	<b>51%</b>	<b>63%</b>
<b>ARTICLE 21 OCCURANCE</b>	<b>1 in 10 years</b>	<b>1 in 10 years</b>	<b>4.5 in 10 years</b>
<b>TRANSFER CAPACITY AVAILABILITY and LOSSES FOR TRANSFERS</b>	<b>Allocations less than 45% Incur 20-25% Delta losses</b>	<b>Allocations less than 45% Incur 20-25% Delta losses</b>	<b>All but in the wettest of years No Delta losses</b>
<b>DELTA OUTAGE RELIABILITY</b>	<b>3-5% each year of major Delta failure</b>	<b>3-5% each year of major Delta failure</b>	<b>A portion of Table A near 100% protection</b>

**Total SWP Deliveries  
(Probability of Exceedance)**



Source: CH2M Hill.

Note: Total SWP deliveries in this graph only include Table A, Article 21 and Article 56.

### 5. CWF Participation Options for DRWD

<b>Participation Level:</b>	<b>100%</b>	<b>15%</b>	<b>10%</b>	<b>100%/10% BLEND (50/50)</b>
<b>ADDITIONAL TABLE A (average)</b>	<b>5.2 taf/y</b>	<b>0</b>	<b>0</b>	<b>2.6 taf/y</b>
<b>ADDITIONAL ARTICLE 21 (average)</b>	<b>1.5 taf/y</b>	<b>1.5 taf/y</b>	<b>1.5 taf/y</b>	<b>1.5 taf/y</b>
<b>ADDITIONAL DELTA TRANSFER CAPACITY (average, July-September)</b>	<b>10.3 taf/y</b>	<b>10.3 taf/y</b>	<b>10.3 taf/y</b>	<b>10.3 taf/y</b>
<b>DELTA OUTAGE PROTECTION</b>	<b>1% of total pipeline availability</b>	<b>1% of total pipeline availability</b>	<b>none</b>	<b>0.5% of total pipeline availability</b>

### Yield Analysis for CWF

#### 6. Frequency of Different Water Year Types:

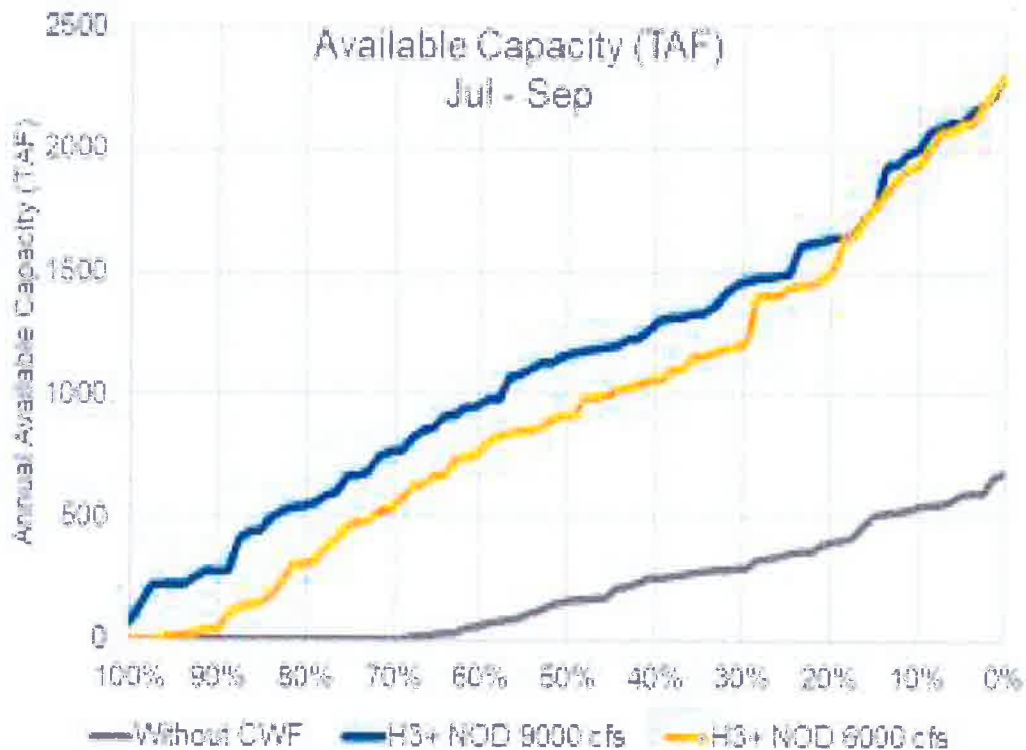
<b>Year Type</b>	
Wet	32%
Above normal	14%
Below normal	19%
Dry	21%
Critically Dry	14%
<b>Total</b>	<b>100%</b>

**7. SWP Table A Yield With and Without CWF:**

SWP Table A Yield (TAF)					
Current		Adjusted for Future w/o CWF		w/CWF	
Allocation	Yield	Allocation	Yield	Allocation	Yield
85%	3,547	65%	2,731	84%	3,505
80%	3,338	57%	2,376	77%	3,213
55%	2,295	53%	2,201	65%	2,712
47%	1,961	42%	1,767	46%	1,920
25%	1,043	23%	980	26%	1,085
<b>AVG 62%</b>	<b>2,596</b>	<b>51%</b>	<b>2,133</b>	<b>63%</b>	<b>2,642</b>

Note: As of 2020, DRWD will be 1.019% of the south of Delta Table A quantities above

**8. Available Capacity to Move Non-Project Water:**



State Water Contractors  
CA/OTIS WaterFix

November 15, 2017  
Draft-Subject to Revision

### 9. SWP Article 21 Yield With and Without CWF:

SWP Article 21 Yield (TAF)					
Current		Adjusted for Future w/o CWF		w/CWF	
Allocation	Yield	Allocation	Yield	Allocation	Yield
85%	31	65%	31	84%	304
80%	20	57%	20	77%	258
55%	17	53%	17	65%	106
47%	20	42%	20	46%	80
25%	13	23%	13	26%	18
<b>62%</b>	<b>22</b>	<b>51%</b>	<b>22</b>	<b>63%</b>	<b>173</b>

Note: As of 2020, DRWD will be 1.019% of the south of Delta quantities above

### Cost Analysis for CWF for DRWD Water Users

#### 10. SWP Table A Costs with and without the CWF:

Cost SWP Table A (\$/AF)						Cost CWF Only (\$/AF)
Current		Adjusted for Future w/o CWF		w/CWF		
Allocation	Cost	Allocation	Cost	Allocation	Cost	
85%	\$ 160	65%	\$ 201	84%	\$ 452	1,237
80%	\$ 169	57%	\$ 227	77%	\$ 492	1,143
55%	\$ 234	53%	\$ 243	65%	\$ 569	1,873
47%	\$ 270	42%	\$ 297	46%	\$ 779	6,256
25%	\$ 485	23%	\$ 515	26%	\$ 1,357	9,115
<b>62%</b>	<b>\$ 244</b>	<b>51%</b>	<b>\$ 277</b>	<b>63%</b>	<b>\$ 675</b>	<b>1,881</b>

Based on financing at 5% over 40 years with no capital principal and interest payments until the CWF is operational

### 11. SWP Article 21 Costs With and Without CWF:

Allocation	Cost SWP Article 21 (\$/AF)		
	Current	Adjusted for Future w/o CWF	w/ CWF
85%	\$ 25	\$ 25	\$ 92
80%	\$ 25	\$ 25	\$ 94
55%	\$ 25	\$ 25	\$ 88
47%	\$ 25	\$ 25	\$ 81
25%	\$ 25	\$ 25	\$ 46
<b>AVG</b>	<b>\$ 25</b>	<b>\$ 25</b>	<b>\$ 83</b>

### 12. Various DRWD Cost Comparisons for the Four CWF Options:

	Current	Option 1 w/ 10% CWF	Option 2 w/ 15% CWF	Option 3 w/ 100% CWF	Option 4 Future w/o CWF
Projected Average Allocation <sup>1</sup>	62%	51%	51%	63%	51%
SWP Fixed Costs (\$/Acre) <sup>2</sup>	\$177	\$284	\$261	\$548	\$215
SWP Variable Costs (\$/AF)	\$25	\$28	\$28	\$37	\$25
<b>Total Costs at Projected Avg. Table A Delivery (\$/AF)<sup>3</sup></b>	<b>\$202</b>	<b>\$312</b>	<b>\$289</b>	<b>\$585</b>	<b>\$240</b>
<b>Total Costs at Projected Avg. Table A &amp; Article 21 Delivery (\$/AF)<sup>3</sup></b>	<b>\$199</b>	<b>\$307</b>	<b>\$284</b>	<b>\$523</b>	<b>\$236</b>
<b>Capital CWF Debt (\$/ac)<sup>2,4</sup></b>	<b>NA</b>	<b>\$515</b>	<b>\$773</b>	<b>\$5,153</b>	<b>NA</b>

<sup>1</sup> Based on 2010 contract amount of 41,350 acre-feet Table A.

<sup>2</sup> Based on 2018 Standby Charge area of 23,118.60 acres.

<sup>3</sup> Includes in-District Water Toll charges.

<sup>4</sup> For DRWD's 1.094% portion of the \$10.889 billion CWF capital cost (\$119,126,000), the debt to landowners participating at 100% CWF level would be \$5,153/acre.