RECLAMATION DISTRICT NO. 1000
BOARD OF TRUSTEES
REGULAR BOARD MEETING

FRIDAY, JUNE 12, 2020
8:00 A.M.

WEB & TELEPHONE MEETING ONLY

MODIFIED BROWN ACT REQUIREMENTS IN LIGHT OF COVID-19

In Compliance with CA Executive Orders N-25-20 and N-29-20 members of the Board of Trustees and members of the public will participate in this meeting by teleconference. The call-in information for the Board of Trustees and the public is as follows:

Please join the meeting from your computer, tablet or smartphone.
https://global.gotomeeting.com/join/124819501

You can also dial in using your phone.
United States (Toll Free): 1 866 899 4679
United States: +1 (571) 317-3117

Access Code: 124-819-501

If you do not have the gotomeeting application downloaded, please allow yourself additional time prior to the meeting to install the free application on your computer, tablet or smartphone. The application is not required to participate via phone.

Any member of the public on the telephone may speak during Public Comment or may email public comments to kking@rd1000.org and comments will be read from each member of the public. During this period of modified Brown Act Requirements, the District will use best efforts to swiftly resolve requests for reasonable modifications or accommodations with individuals with disabilities, consistent with the Americans with Disabilities Act, and resolving any doubt whatsoever in favor of accessibility. Requests for reasonable modifications under the ADA may be submitted to the email address noted above, or by phone directly to the District.

All items requiring a vote of the Board of Trustees will be performed as a roll call vote to ensure votes are heard and recorded correctly. In addition, the meeting will be recorded and participation in the meeting via gotomeeting and/or phone will serve as the participants acknowledgment and consent of recordation.

AGENDA

1. PRELIMINARY

1.1. Call Meeting to Order
1.2. Roll Call
1.3. Approval of Agenda
1.4. Pledge of Allegiance
1.5. Conflict of Interest
(Any Agenda items that might be a conflict of interest to any Trustee should be identified at this time by the Trustee involved)

2. PRESENTATIONS

2.1. No Scheduled Presentations

3. PUBLIC COMMENT (NON-AGENDA ITEMS)

Any person desiring to speak on a matter which is not scheduled on this agenda may do so under the Public Comments section. Speaker times are limited to three (3) minutes per person on any matter within RD 1000's jurisdiction, not on the Agenda.

Public comments on agenda or non-agenda items during the Board of Trustees meeting are for the purpose of informing the Board to assist Trustees in making decisions. Please address your comments to the President of the Board. The Board President will request responses from staff, if appropriate. Please be aware the California Government Code prohibits the Board from taking any immediate action on an item which does not appear on the agenda unless the item meets stringent statutory requirements (see California Government Code Section 54954.2 (a)).

Public comments during Board meetings are not for question and answers. Should you have questions, please do not ask them as part of your public comments to the Board. Answers will not be provided during Board meetings. Please present your questions to any member of RD 1000 staff via e-mail, telephone, letter, or in-person at a time other than during a Board meeting.

4. INFORMATIONAL ITEMS

4.1. GENERAL MANAGER'S REPORT: Update on activities since the May 2020 Board Meeting.

4.2. SUPERINTENDENT'S REPORT: Update on activities since the May 2020 Board Meeting.

4.3. DISTRICT COUNSEL'S REPORT: Update on activities since the May 2020 Board Meeting.

5. CONSENT CALENDAR

The Board considers all Consent Calendar items to be routine and will adopt them in one motion. There will be no discussion on these items before the Board votes on the motion, unless Trustees, staff or the public request specific items be discussed and/or removed from the Consent Calendar.

5.1. APPROVAL OF MINUTES: Approval of Minutes from May 8, 2020 Regular Board Meeting.

5.2. TREASURER'S REPORT: Approve Treasurer's Report for May 2020.

5.3. EXPENDITURE REPORT: Review and Accept Report for May 2020.

5.4. BUDGET TO ACTUAL REPORT: Review and Accept Report for May 2020.

5.5. DECLARATION OF SURPLUS ASSETS AND DISPOSAL AUTHORIZATION: Review and Consider Declaration of Surplus Assets and Authorizing the General Manager to Dispose of Assets in 2020.

6. SCHEDULED ITEMS

6.1. REVIEW AND DISCUSS CAPITAL IMPROVEMENT PLAN UPDATE: Review and Discuss Capital Improvement Update.

6.2. REVIEW AND CONSIDER APPROVAL OF FISCAL YEAR 2020/2021 BUDGET: Review and Consider Adoption of Resolution No. 2020-06-01 Approving Fiscal Year 2020/2021 Budget.

6.3. REVIEW AND CONSIDER ADOPTION OF OFFICIAL PAY RATE SCHEDULE FOR FISCAL YEAR 2020/2021: Review and Consider Adoption of Resolution No. 2020-06-02 Approving Official Pay Rate Schedule for Fiscal Year 2020/2021.

6.4. ANNUAL BANKING AUTHORIZATION (SACRAMENTO COUNTY): Review and Consider Adoption of Resolution No. 2020-06-03 Authorizing Officers and Trustees as Signatories to the Operations and Maintenance Funds held by Sacramento County Treasurer.

7. BOARD OF TRUSTEE'S COMMENTS/REPORTS

7.1. BOARD ACTIVITY UPDATES:

7.1.1. RD 1000 Committee Meetings Since Last Board Meeting

- Urbanization Committee (Lee-Reeder, Burns & Gilbert) June 2, 2020
- Executive Committee (Smith & Burns) June 3, 2020

8. CLOSED SESSION

8.1. No Closed Session Items

9. RECONVENE TO OPEN SESSION

9.1. No Closed Session Items

10. ADJOURN

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 4.1**

TITLE: **General Manager's Report – June 2020**

SUBJECT: **Update on Activities Since the May 2020 Board of Trustees Meeting**

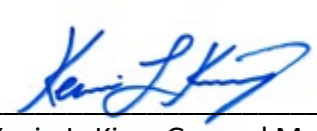
EXECUTIVE SUMMARY:

Reclamation District 1000's (RD 1000; District) General Manager, Kevin King, to provide verbal report of work performed during the month of May 2020.

ATTACHMENTS:

1. SAFCA Board Meeting – May 21, 2020

STAFF RESPONSIBLE FOR REPORT:



Kevin L. King, General Manager

Date: 06/05/2020

Sacramento Area Flood Control Agency

Board of Directors Agenda

OF April 16, 2020 - 3:00 pm

In compliance with directives of the County, State, and Centers for Disease Control and Prevention, this meeting was conducted by tele-conference. Public participation was encouraged by submitting written comments electronically to SAFCABoardClerk@SacCounty.net. Comments that were received up to one hour prior to commencement of the meeting were read into the record during the Board Meeting and included as part of the Final Board Record.

TELE-CONFERENCE MEETING

Directors/Alternates Present: Ashby, Avdis, Burns, Conant, Frost, Harris, Holloway, Jennings, Kennedy, Nottoli, Peters, Serna, and Shah

Directors Absent: None

ROLL CALL

PUBLIC COMMENTS

Written Comment submitted by Katherine Dixon via email April 14, 2020:

> *Subject: Reach A*
> *Please supply the final 'plan' for the future of the area between Reclamation 1000 and Orchard Way*
> *This was requested in October and multiple times subsequently USACE was supposed to have this finalized in Oct, Dec, January.*
> *Thank you*

EXECUTIVE DIRECTOR'S REPORT

1. Executive Director's Report for April 16, 2020 – no action

CONSENT MATTERS

Motion by Director Harris and seconded by Director Avdis to approve Resolution Nos: 2020-033; 2020-034; 2020-035; 2020-036; 2020-037; 2020-038; 2020-039; 2020-040; and 2020-041 of Consent Matters.

AYES:	Ashby, Avdis, Burns, Conant, Frost, Harris, Holloway, Jennings, Kennedy, Nottoli, Peters, Serna and Shah
NOES:	(None)
ABSTAIN:	(None)
RECUSE:	(None)
ABSENT:	(None)

2. Adopting the Action Summary for March 19, 2020 (Russell)

3. Resolution No. 2020-033 - Authorizing the Executive Director to Execute a Consulting Services Contract with Sills Ag Consulting, Inc. for Agricultural Soils Consulting Services (Sorgen)

4. Resolutions - Adopting a California Environmental Quality Act Action and Authorizing a Contract Change Order Related to the Bryte Landfill Remediation Project, Yolo County, California

   A. Resolution No. 2020-034 - Adopting Addendum No. 6 to the Mitigated Negative Declaration for the Project

   B. Resolution No. 2020-035 - Authorizing the Executive Director to Execute Construction Contract Change Order No. 4 to Contract No. 4444 for the Project

5. Resolution No. 2020-036 - Authorizing the Executive Director to Execute Amendment No. 2 to Contract No. 1422 with Gualco Consulting for Local Government Relations, Community Outreach and Right of Way Support Activities Related to the American River Common Features 2016 Project (Campbell)

6. Resolution No. 2020-037 - Authorizing the Executive Director to Execute a Contract with Geosyntec Consultants, Inc., for Professional Services Related to the Lower Elkhorn Basin, Reclamation District Consolidation Effort, Yolo County, California (Tibbitts)

7. Resolutions - Lower Elkhorn Basin Levee Setback Project (Jawanda)

   A. Resolution No. 2020-038 - Adopting the Final Environmental Impact Report and Addendums No. 1 and No. 2 on the Lower Elkhorn Basin Levee Setback (LEBLS) Project for the LEBLS Interior Drainage and Pump Station Design and Construction Project as a Responsible Agency

   B. Resolution No. 2020-039 - Authorizing the Executive Director to Negotiate and Execute Funding Agreement Amendment No.1 with the State of California, Department of Water Resources for the LEBLS Interior Drainage and Pump Station Project, Yolo County, California

8. Resolution No. 2020-040 - Authorizing the Executive Director to Execute a Contract with the Rio Linda & Elverta Recreation and Park District for Lower Dry Creek Floodway/Ueda Parkway Refuse and Flood Debris Removal and Fire Hazard Reduction/Weed Abatement Mowing Services (Sorgen)

9. Resolution No. 2020-041 - Ratification of Executive Director's Determination of Essential Critical Infrastructure and Essential Government Functions in Response to the Novel Coronavirus Disease 2019 (Gilchrist)

RECEIVE AND FILE

10. Report of Construction Contract Change Orders Issued Under Delegated Authority for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

11. Report of Insurance Claims Settled Under Delegated Settlement Authority for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

12. Report of Professional Services Agreements Issued Under Delegated Authority for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

13. Status Reports of Environmental Consulting Master Services Agreements for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

14. Report of Real Property Transaction Where Just Compensation is Less than $500,000 Executed Under Delegated Authority for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

15. Status Reports of Right of Way Consulting Master Services Agreements for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

16. Report of California Uniform Public Construction Cost Accounting Act (CUPCCAA) Contracts Issued Under Delegated Authority for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

17. Status Reports of Flood Risk Management Planning Master Services Agreements for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

18. Status Reports of Land Survey and Mapping Master Services Agreements for the Third Quarter, Fiscal Year 2019-20 (Gilchrist)

ADJOURN

Respectfully submitted,
Lyndee Russell

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 4.2**

TITLE: **Superintendent's Report – June 2020**

SUBJECT: **Update on Activities Since the May 2020 Board of Trustees Meeting**

EXECUTIVE SUMMARY:

This Staff Report is intended to inform the Board and serve as the official record of the activities the District's field staff engaged in for the month of May 2020. As well as provide information regarding District facility use and local weather impacts on District facilities and river levels.

The Superintendent report was created to provide monthly updates to the Board of Trustees on field related activities within the District boundaries, as well as provide a historical record. This allows for the District and the public the opportunity to refer back to data trends over time regarding the weather impact on District facilities, crew activities, and local river and canal conditions as well as general District activities from month to month.

RECOMMENDATION:

There are no staff recommendations, the information provided is strictly informational.

ATTACHMENTS:

1. Superintendent's Report Data Sheet

STAFF RESPONSIBLE FOR REPORT:

Donald Caldwell, Superintendent Date: 06/04/2020

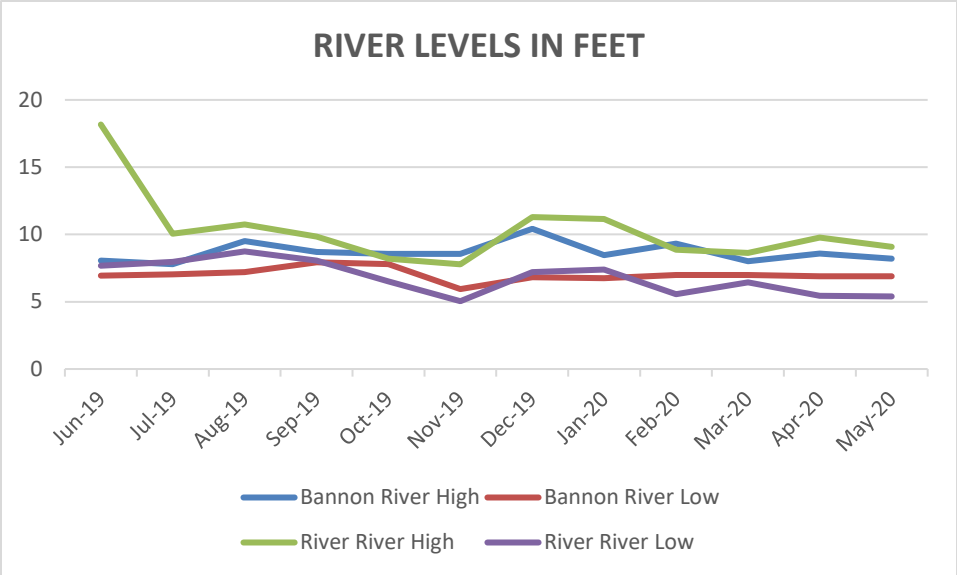
Kevin L. King, General Manager Date: 06/05/2020

Superintendent's Report
May 2020

River Levels:

Bannon H: 8.9'
L: 6.88'

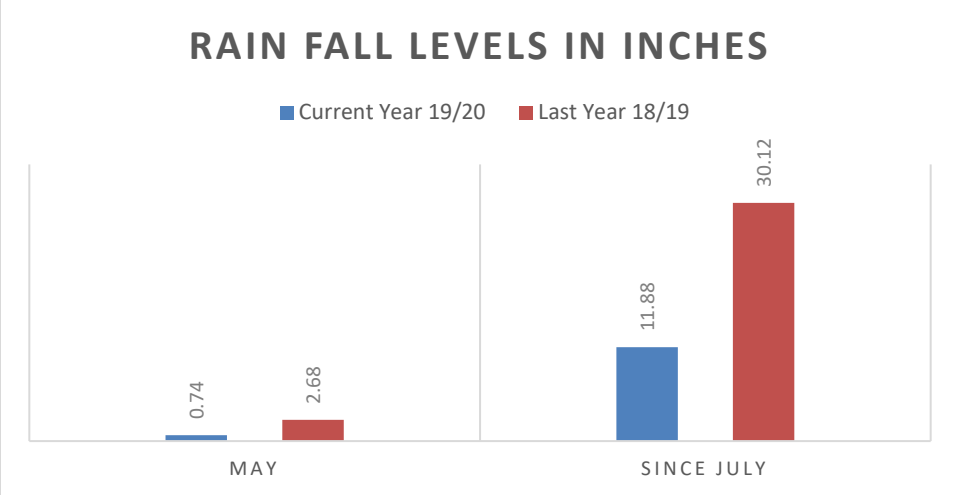
River H: 9.08'
L: 5.4'



Rain Fall Totals:

May rain totals were 0.74"

Rain totals since July 1st were 11.88"



Safety Topics for the Month of May
Equipment – Proper daily inspection before use.

District Complaints
The District received twelve complaints since the May 8, 2020, Board Meeting. Five complaints were for high weeds in the District which have since been mowed. The District received two trash complaints, all reported dumpsites have since been cleaned up by District crews. The district received one report of an unauthorized encampment, Superintendent Caldwell spoke with the camper who agreed to pack up their belonging and move. The District also received a complaint regarding a damaged fence between the La Lima subdivision and the District's pumping plant. Foreman Del Castillo is scheduled to repair the

fence damage. We received one final complaint of a tree located along the D-2 Ditch that is encroaching upon a private residence. Superintendent Caldwell is working with Foreman Del Castillo to determine the best course of action to address the issue.

The chart below represents various activities the field crew spent their time working on during the month of May 2020.

RD 1000 Field Crew	*Field Hours Worked	Activity
	12.5	Grounds
	10	Pump Plant Maintenance
	48	Pump Rounds
	31	Ditch Maintenance
	1.5	Erosion Repair
	60	Garbage
	20	Weed Control
	762	Mowing
	174	Equipment Repair

Hours worked do not include the Superintendent's time.

Pumping
There was no pumping during the month of May.

Unauthorized Encampment Activity There was no unauthorized encampment activity during the month of May.

Unauthorized Encampment Activity – Year to Date
This fiscal year to date the District has spent a total of 686 crew hours on unauthorized encampment activity for a total cost to the district of $48,700.20. This total includes labor,* equipment costs, materials, and dump fees.

**labor costs only include hourly wages and do not include a weighted rate for each employee*

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 4.3**

TITLE: **District Counsel's Report – June 2020**

SUBJECT: **Update on Activities Since the May 2020 Board of Trustees Meeting**

EXECUTIVE SUMMARY:

Reclamation District 1000's (RD 1000; District) General Counsel, Rebecca Smith and/or Scott Shapiro to provide verbal report of work performed during the month of May 2020.

ATTACHMENTS:

None

STAFF RESPONSIBLE FOR REPORT:

Kevin L. King, General Manager

Date: 06/05/2020

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 5.1**

TITLE: **Approval of Minutes**

SUBJECT: **Approval of Minutes from May 8, 2020 Regular Board Meeting**

EXECUTIVE SUMMARY:

This staff report is intended to serve as the official record of monthly meetings of the Board of Trustees. This document details meeting participants, proof of items discussed, summaries of board meeting discussion, and actions taken by the Board. Staff recommends Board approval of meeting minutes (Attachment 1) from the May 8, 2020, Regular Board Meeting.

BACKGROUND:

The Ralph M. Brown Act (Gov. Code §54950 et seq.) governs meetings by public commissions, boards and councils, and public agencies in California. The Act facilitates public transparency and public participation in local government decisions. The Act also contains specific exemptions from the open meeting requirements where governmental agencies have a demonstrated need for confidentiality. To further comply with transparency, Reclamation District No. 1000 documents meetings of the Board of Trustees through Board Minutes.

RECOMMENDATION:

Staff recommends the Board approve the Minutes from the May 8, 2020, Regular Board Meeting.

ATTACHMENTS:

1. May 8, 2020, Board Meeting Minutes

STAFF RESPONSIBLE FOR REPORT:

_____ Date: 06/04/2020
Joleen Gutierrez, Administrative Services Manager

_____ Date: 06/05/2020
Kevin L. King, General Manager

RECLAMATION DISTRICT NO. 1000
BOARD OF TRUSTEES MEETING

May 8, 2020
MEETING MINUTES

In light of COVID-19 and in Compliance with CA Executive Orders N-25-20 and N-29-20 members of the Board of Trustees and members of the public participated in this meeting by teleconference. The meeting was recorded without objection. Present were: Board President Jeff Smith; Vice President Chris Burns; Trustee David Christophel; Trustee Jag Bains, Trustee Elena Lee Reeder; Trustee Nick Avdis; Trustee Thom Gilbert; General Manager Kevin King; Co-General Counsel Rebecca Smith; General Counsel Scott Shapiro; Administrative Services Manager Joleen Gutierrez; District Superintendent Don Caldwell and Administrative Assistant Christina Forehand. District Engineering Consultant Scott Brown from Larsen Wurzel also attended the meeting as well as Kim Boehler representing NBS.

1. PRELIMINARY

1.1. Call Meeting to Order

President Smith called the meeting to order.

1.2. Roll Call
Administrative Service Manager Gutierrez called the roll.

1.3. Approval of Agenda

MOVED/SECONDED: Trustee Avdis/Trustee Christophel
AYES: Trustee Christophel, Trustee Bains, Trustee Lee Reeder, Trustee Smith, Trustee Avdis, Trustee Burns, Trustee Gilbert
NOES: None.
ABSTAIN: None.
ACTION: None.

1.4. Pledge of Allegiance

All recite the Pledge of Allegiance.

1.5. Conflict of Interest

No conflicts of interest were identified.

2. PRESENTATIONS

2.1. No presentations were scheduled.

3. PUBLIC COMMENT (NON-AGENDA ITEMS)

There were no public comments.

4. INFORMATIONAL ITEMS

4.1. GENERAL MANAGER'S REPORT: Update on activities since the April 2020 Board Meeting. General Manager Kevin King provided a verbal overview of his activities during April 2020.

4.2. SUPERINTENDENT'S REPORT: Update on activities since the April 2020 Board Meeting.

A copy of the Superintendent's Report for April 2020 was included in the May 8, 2020 Board Packet. Trustee Burns inquired if the damage to the canal near River Plaza from a car accident over the previous weekend had been repaired. Superintendent Caldwell informed Trustee Burns he had not been aware of the incident but would add repairs to the canal to his schedule.

4.3. DISTRICT COUNSEL'S REPORT: Update on activities since the April 2020 Board Meeting.

Co-Counsel Rebecca Smith gave a verbal report of her District related activities during April 2020. There were no comments or questions.

5. CONSENT CALENDAR

The Board considers all Consent Calendar items to be routine and will adopt them in one motion. There will be no discussion on these items before the Board votes on the motion, unless Trustees, staff, or the public request specific items be discussed and/or removed from the Consent Calendar.

5.1. APPROVAL OF MINUTES: Approval of Minutes from April 17, 2020, Regular Board Meeting.

ACTION: Approved

5.2. TREASURER'S REPORT: Approve Treasurer's Report for April 2020.

ACTION: Approved

5.3. EXPENDITURE REPORT: Review and Accept Report for April 2020.

ACTION: Approved

5.4. BUDGET TO ACTUAL REPORT: Review and Accept Report for April 2020.

ACTION: Approved

5.5. PROFESSIONAL SERVICES AGREEMENT: Review and Consider Authorizing General Manager to Execute a Professional Services Agreement with NBS for Comprehensive Financial Plan and Assessment Rate Study.

Trustee Burns requested that item 5.5 be pulled from the Consent Calendar for further discussion.

GM King explained the District went out for the Request for Qualifications Comprehensive Financial Plan and Assessment Rate Study back in March. We received interest from 3 respondents, and the recommendation of the Finance Committee is to recommend NBS for this work. NBS did propose as did other respondents for optional tasks after the comprehensive financial plan and assessment rate study.

Trustee Avdis requested further clarification on each phase of the agreement and inquired if the District had the option of approving only Phase 1. A lengthy discussion ensued regarding the merits of approving the Professional Services Agreement with NBS as written. All Trustees indicated they agreed with a financial study to determine the financial health of the District long term, however, an agreement on proceeding with Phase 2 or optional Phases 3 & 4 could not be met.

Trustee Lee Reeder commented on timing and made known that the Board would come across as tone-deaf to our friends, our neighbors, and our community if we moved forward with the proposal in the current economy. Trustee Reeder is concerned that the current scope of services, while in different phases, contains the term 'Prop 218.' She expressed concern that the average constituent will not be able to distinguish the difference between going with Phase 1, Phase 2, and the fact that Phase 3 and Phase 4 are in the proposal. Trustee Reeder stated the Board should be cognizant of what other people in our community are going through and suggested tabling this item until next year because the optics are terrible.

Item 5.5 was opened for public comment. Bruce Lee, President of the Sacramento County Tax Payers Association, informed the Board that due to several other potential assessments being proposed at the local and state level and given the current and potential future economic climate, ratepayers would likely be opposed to additional assessments in the near future.

Trustee Gilbert made a motion to approve the Professional Services Agreement with the proposal that Phase 2 be required to be affirmed after completion of Phase 1.

Trustee Smith seconded the motion but amended that optional Phases 3 and 4 be brought before the Board before approval.

Trustee Avdis requested that the motion be delayed for one month.

Trustee Burns made a substitute motion to authorize GM King to execute a professional services agreement with NBS to complete Phase 1 of the proposal, to remove all references to Phases 2, 3, and 4, and then report back to the Board in June on whether NBS is the lowest cost firm.

Trustee Avdis seconded the substitute motion.

SUBSTITUTE MOTION
MOVED/SECONDED: Trustee Burns/Trustee Avdis
AYES: Trustee Christophel, Trustee Bains, Trustee Burns, Trustee Lee Reeder, Trustee Advis
NOES: Trustee Gilbert, Trustee Smith
ABSTAIN: None.
ABSENT: None.
ACTION: A motion to authorize GM King to execute a professional services agreement with NBS

to complete Phase 1 of the proposal and to remove all references to Phases 2, 3, and 4 is approved.

5.6. PROFESSIONAL SERVICES AGREEMENT: Review and Consider Authorizing General Manager to Execute Professional Services Agreement with Richardson and Company, LLP. For Financial Audit Services.

ACTION: Approved.

Consent Calendar Items 5.1, 5.2, 5.3, 5.4, and 5.6 were approved in one motion.

MOVED/SECONDED: Trustee Gilbert/Trustee Lee Reeder
AYES: Trustee Christophel, Trustee Bains, Trustee Lee Reeder, Trustee Smith, Trustee Avdis, Trustee Burns, Trustee Gilbert
NOES: None.
ABSTAIN: None.
ACTION: A motion to approve Consent Calendar Items 5.1, 5.2, 5.3, 5.4, and 5.6 is approved.

Trustee Avdis departed the meeting at 9:05 A.M.

6. SCHEDULED ITEMS

6.1. FISCAL YEAR 2020/2021 DRAFT BUDGET: Review and Discuss Draft Budget for Fiscal Year 2020/2021

GM King provided in the board packet a copy of the Draft Budget for Fiscal Year 2020/2021. He informed the Board he had met with several of the Board Committees to ensure every trustee had the opportunity to provide input on the Draft Budget, and the draft would likely be similar to what is presented in the final budget at the June Board Meeting. Trustee Burns inquired about the position of Operations Manager. GM King stated he wanted to have that position as a place holder as he felt the District might need to hire an additional manager to assist with field operations and future succession planning. Trustee Lee Reeder requested that the Capital Office Upgrades budgeted amount to be reduced by $10,000.

No action was taken on Item 6.1

6.2. CHANGE ORDER: Review and Consider Authorizing the General Manager to Execute Contract Change Order with Larsen Wurzel and Associates, Inc.

MOVED/SECONDED: Trustee Smith/Trustee Burns
AYES: Trustee Christophel, Trustee Bains, Trustee Lee Reeder, Trustee Smith, Trustee Burns, Trustee Gilbert
NOES: None.
ABSTAIN: None.
ABSENT: Avdis
ACTION: A motion passed to Authorize the General Manager to Execute a Contract Change Order.

7. BOARD OF TRUSTEE'S COMMENTS/REPORTS

7.1. BOARD ACTIVITY UPDATES:

7.1.1. RD 1000 Committee Meetings Since Last Board Meeting

- Operations Committee (Smith, Christophel & Lee Reeder) April 17, 2020
- Finance Committee (Gilbert, Bains & Smith) April 21, 2020
- Legal Committee (Avdis, Bains & Christophel) April 27, 2020
- Finance Committee (Gilbert, Bains & Smith) April 27, 2020
- Executive Committee (Smith & Burns) April 29, 2020

8. CLOSED SESSION

Trustee Avdis rejoined the meeting during closed session discussion.

8.1 POTENTIAL LITIGATION: Conference with legal counsel, significant exposure to litigation pursuant to Gov. Code Sec. 54956.9(b) (3 cases).

8.2 EXISTING LITIGATION: Conference with legal counsel, existing litigation (Gov. Code Sec. 54956) (Meyer v. DWR et al., Sacramento Superior Court Case No. 34-2020-34-00276397).

9. RECONVENE TO OPEN SESSION

9.1 Report from Closed Session

Item 8.1 the Board voted to deny the claim. No action was taken on Item 8.2

10. ADJOURN

Meeting adjourned.

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 5.2**

TITLE: **Treasurer's Report**

SUBJECT: **Approve Treasurer's Report for May 2020**

EXECUTIVE SUMMARY:

This Staff Report is intended to inform the Board of the current total funds in the District's checking and money market accounts, Sacramento County Treasurer Fund, State Treasurer Local Agency Investment Fund (LAIF), and the City of Sacramento Pooled Investment Fund.

The Staff Report attachment provides the monthly beginning and ending balances of its Operations and Maintenance cash flow. The report considers the current month's receipts, fund to fund transfers, accounts payable, and payroll.

Noteworthy fund and cash flow items during the month of May 2020 are featured in the attached Treasurer's Report.

BACKGROUND:

Income and Cash

The District maintains funds in the California State Controller Local Agency Investment Fund (LAIF), the Sacramento County Treasurer, and Bank of the West.

The District's primary source of income is property assessments. Assessments are collected through respective Sacramento and Sutter County tax bills.

Annually, the Board of Trustees approves a Resolution designating officers and signatories to the Operations and Maintenance Fund held by the Sacramento County Treasurer. The District's Financial Reserve Policy guides current, future, and unexpected funding requirements. The District's Investment Policy guides investments made by the District of any surplus or reserve funds it may have.

RECOMMENDATION:

Staff recommends the Board approve the information in the May 2020 Treasurer's Report.

FINANCIAL IMPACT:

None.

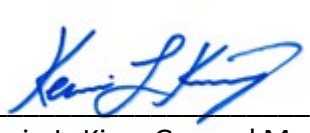
ATTACHMENTS:

TITLE: Treasurer's Report – May 2020

1. Treasurer's Report May 2020

STAFF RESPONSIBLE FOR REPORT:

Joleen Gutierrez, Administrative Services Manager Date: 06/04/2020



Kevin L. King, General Manager Date: 06/05/2020

Reclamation District 1000
Treasurer's Report
May 2020

Treasurer's Report for May 2020

May 2020	
Total Funds	8,542,875.14
Bank of the West - Checking	132,376.67
Bank of the West - Money Market	200,699.28
Bank of the West - FMAP	181.62
Sacramento County Treasurer	4,633,004.47
State Treasurer - Local Agency Investment Fund	1,466,516.23
City of Sacramento - Pool A	2,110,096.87

May 2020 - Operations and Maintenance Cash Flow			
Beginning Balance			5,793,418.58
	Income	Expense	
Current months receipts	493.94		493.94
Transfer from money market account	250,000.00		250,000.00
Transfer from County Treasury to Money Market, then to LAIF		(1,000,000.00)	(1,000,000.00)
Accounts Payable*		(183,692.36)	(183,692.36)
Payroll		(94,839.02)	(94,839.02)
Ending Balance			4,765,381.14

*See Attached Check Register

Current months receipts are made up of the following:

Refund of bank fee	40.00
Refund of payroll fees from ADP	250.00
Unidentified bank deposit	155.94
Refund from Occupational Health Centers	48.00
	493.94

The district also received $901,391.83 into the County Treasury during April 2020 for the second installmet of tax collections and interest. Because of the timing of receipt of the County Treasury statements, these amounts were not previously reported.

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 5.3**

TITLE: Expenditure Report

SUBJECT: Review and Accept Report for May 2020

EXECUTIVE SUMMARY:

This Staff Report is intended to advise the Board of monthly expenditures and provide an explanation of any expenses outside of the usual course of business. Staff recommends the Board review and accept the Expenditure Report for May 2020.

Expenses

The Administrative Services Manager reviews and the General Manager approves expenditures. This activity is disclosed monthly as an attachment to this staff report. The Expenditure Report (Attachment 1) reveals typical District spending for the month. Items of note were the District's increased Security Patrol costs due to increased patrolling related to COVID-19, a payment of $32,290.50 to Larsen Wurzel & Associates for SCADA engineering expenses and payment to Kjeldsen Sinnock & Neudeck Inc. for capital improvement project assessment work; a budgeted expense.

RECOMMENDATION:

Staff recommends the Board review and accept the Expenditure Report for May 2020.

FINANCIAL IMPACT:

None.

ATTACHMENTS:

1. May 2020 Expenditure Report
2. Financial Expense Comparison Summary

STAFF RESPONSIBLE FOR REPORT:

Joleen Gutierrez, Administrative Services Manager Date: 06/04/2020

Kevin L. King, General Manager Date: 06/05/2020

May 2020 Expenditure Report

Type	Date	Num	Name	Memo	Amount	Balance
Cash and Investments						**160,414.11**
1010.00 · Bank of the West Checking Acct						**160,414.11**
Bill Pmt - Check	05/01/2020	EFT	Cal Pers		-893.26	159,520.85
General Journal	05/01/2020		Bank of the West	Service charge refund	40.00	159,560.85
Check	05/01/2020	EFT	Bank of the West		-40.00	159,520.85
General Journal	05/05/2020			5/5/20 payroll activity Wages	-35,596.37	123,924.48
General Journal	05/05/2020			5/5/20 payroll activity Taxes	-15,193.09	108,731.39
Bill Pmt - Check	05/06/2020	4032020	Alhambra & Sierra Springs		-64.07	108,667.32
Bill Pmt - Check	05/07/2020	40991	Brookman Protection Services, Inc.	Covid-19 Patrolling	-31,320.00	77,347.32
Bill Pmt - Check	05/07/2020	40992	Carson Landscape Industries	Inv 231063	-320.00	77,027.32
Bill Pmt - Check	05/07/2020	40993	Interstate Oil Company		-1,455.07	75,572.25
Bill Pmt - Check	05/07/2020	40994	Steve Yaeger Consulting	Inv	-2,700.00	72,872.25
Bill Pmt - Check	05/07/2020	40995	US Bank Corp	VOID: acct 4246044555654049	0.00	72,872.25
Bill Pmt - Check	05/07/2020	40996	Valley Tire Center, Inc.	Inv 67265	-450.02	72,422.23
Bill Pmt - Check	05/07/2020	40997	Valley Truck & Tractor Company	Inv 982103	-208.60	72,213.63
Bill Pmt - Check	05/07/2020	8025266501	Comcast		-160.01	72,053.62
Bill Pmt - Check	05/07/2020	2383648	Napa Auto Parts		-3,300.99	68,752.63
Bill Pmt - Check	05/07/2020	12803266359	PG&E	Acct 8886406823-9	-75.71	68,676.92
Bill Pmt - Check	05/07/2020	31718770453	Sacramento County Utilities	Acct 50005654877	-113.70	68,563.22
Bill Pmt - Check	05/07/2020	60512800291	Sacramento County Utilities	Acct 50005654895	-113.70	68,449.52
Bill Pmt - Check	05/07/2020	40998	US Bank Corp	acct ending 4049	-3,157.89	65,291.63
General Journal	05/11/2020		Occupational Health Centers of CA	Refund from Occupational Health Centers of CA	48.00	65,339.63
Transfer	05/13/2020			Funds Transfer	100,000.00	165,339.63
Bill Pmt - Check	05/14/2020	40999	AT&T	Inv 000014675365	-284.51	165,055.12
Bill Pmt - Check	05/14/2020	50000	Blankinship & Associates, Inc.	NPDES Retainer	-2,000.00	163,055.12
Bill Pmt - Check	05/14/2020	50001	Carson Landscape Industries	Inv 231242	-730.00	162,325.12
Bill Pmt - Check	05/14/2020	50002	Chavez Accountancy Corporation	Inv 4192	-1,912.50	160,412.62
Bill Pmt - Check	05/14/2020	50003	Contour Sierra Aebi, LLC	Inv 3700	-347.44	160,065.18
Bill Pmt - Check	05/14/2020	50004	Great America Financial Services	Inv 26966667	-332.29	159,732.89
Bill Pmt - Check	05/14/2020	50005	Terrapin Technology Group	Inv 20-0629	-1,074.39	158,658.50
Bill Pmt - Check	05/14/2020	50006	West Yost Associates	Inv 2040976	-2,315.57	156,342.93
Bill Pmt - Check	05/14/2020	1001563577	Cal Pers	Pension	-12,754.78	143,588.15
Bill Pmt - Check	05/14/2020	13538319144	PG&E		-348.04	143,240.11
Bill Pmt - Check	05/14/2020	80013319975	Waste Management of Sacramento		-503.60	142,736.51
Bill Pmt - Check	05/14/2020	1001563579	Cal Pers	457	-300.00	142,436.51
Check	05/15/2020	EFT	ADP		-97.22	142,339.29

May 2020 Expenditure Report

General Journal	05/19/2020		ADP	ADP payroll fees credit	250.00	142,589.29
Bill Pmt - Check	05/20/2020	50007	95814 Digital	Inv 68045	-212.06	142,377.23
Bill Pmt - Check	05/20/2020	50008	Department of Motor Vehicles	Lic 4PA9382	-10.00	142,367.23
Bill Pmt - Check	05/20/2020	50009	Downey Brand LLP		-8,521.50	133,845.73
Bill Pmt - Check	05/20/2020	50010	Interstate Oil Company		-2,039.59	131,806.14
Bill Pmt - Check	05/20/2020	50011	Larsen Wurzel & Associates	SCADA	-32,290.50	99,515.64
Bill Pmt - Check	05/20/2020	50012	Powerplan	Inv 12027470	-1,348.94	98,166.70
Bill Pmt - Check	05/20/2020	1001567178	Cal Pers	Health Insurance	-18,937.97	79,228.73
Bill Pmt - Check	05/20/2020	AO7CVECF	Streamline	Inv 105079	-200.00	79,028.73
General Journal	05/20/2020			5/20/20 payroll activity Taxes	-13,935.32	65,093.41
General Journal	05/20/2020			5/20/20 payroll activity Wages	-30,114.24	34,979.17
Bill Pmt - Check	05/28/2020	1001572449	Cal Pers	457	-300.00	34,679.17
Bill Pmt - Check	05/28/2020	975044725	Verizon		-485.10	34,194.07
Bill Pmt - Check	05/28/2020	50013	95814 Digital	Inv 68063	-1,347.33	32,846.74
Bill Pmt - Check	05/28/2020	50014	Carson Landscape Industries	Inv 232219	-160.00	32,686.74
Bill Pmt - Check	05/28/2020	50015	Feather River AQMD	Permit 128	-75.60	32,611.14
Bill Pmt - Check	05/28/2020	50016	Glenn Thornton Plumbing, Inc.	Inv 26038	-172.00	32,439.14
Bill Pmt - Check	05/28/2020	50017	Kjeldsen, Sinnock & Neudeck, Inc.	Inv 27805	-19,618.75	12,820.39
Bill Pmt - Check	05/28/2020	50018	MBK Engineers		-3,953.50	8,866.89
Bill Pmt - Check	05/28/2020	50019	SMUD	Power	-26,560.18	-17,693.29
Transfer	05/28/2020			Funds Transfer	150,000.00	132,306.71
General Journal	05/28/2020		Bank of the West	Unidentified deposit on 5/28/20	155.94	132,462.65
Bill Pmt - Check	05/29/2020	15040060727	City of Sacramento		-4.51	132,458.14
Check	05/29/2020	EFT	ADP		-81.47	132,376.67
Total 1010.00 · Bank of the West Checking Acct					-28,037.44	132,376.67
Total Cash and Investments					-28,037.44	132,376.67
					-28,037.44	**132,376.67**

Total receipts	493.94
Transfers from Money Market	250,000.00
Payroll disbursements	-94,839.02
Accounts payable disbursements	-183,692.36

RD1000

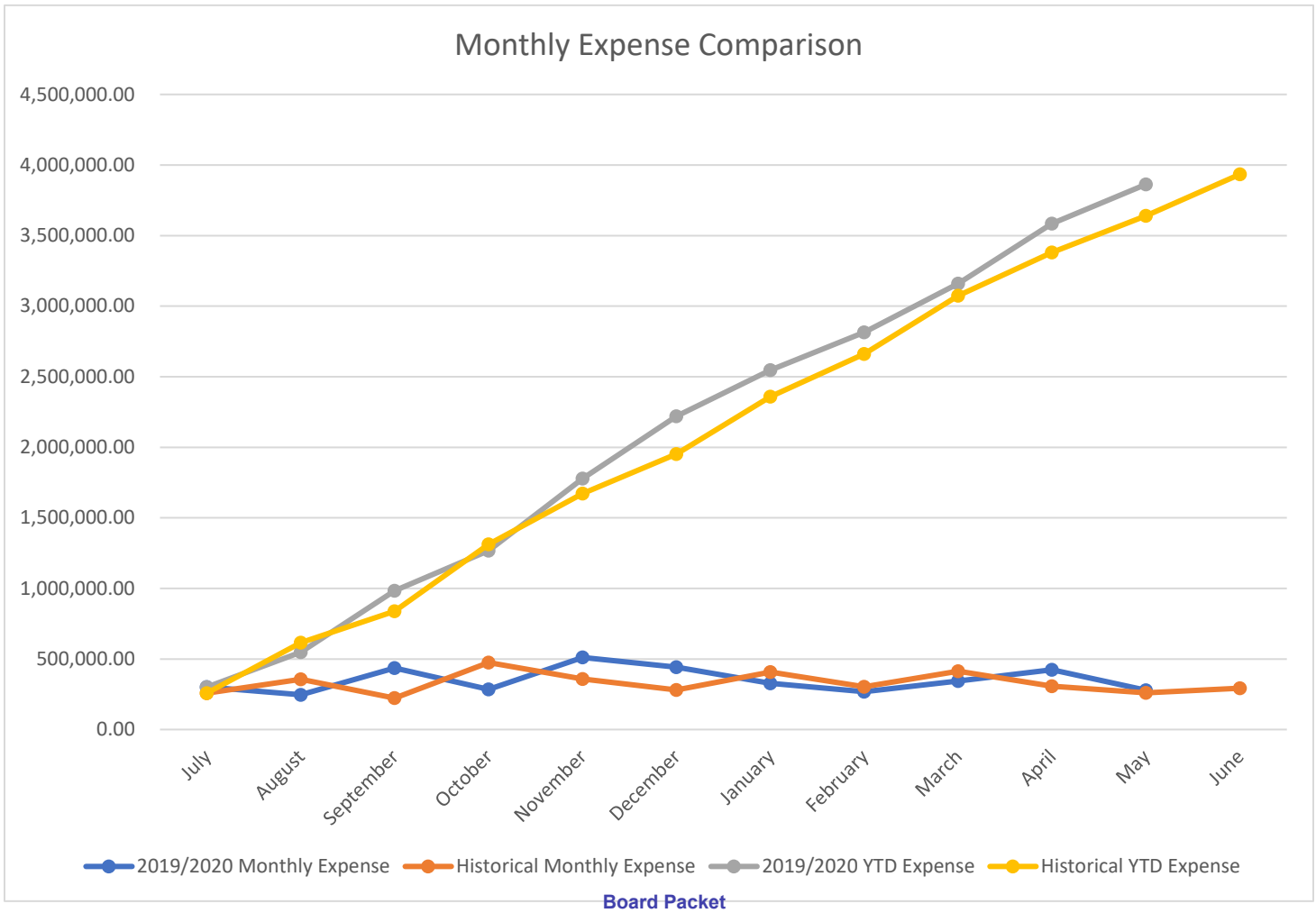
Monthly Historical Expense Comparison

The graph below compares current fiscal year monthly expenses as of May 2020 to historical monthly expense trends for the last three fiscal years. [See: Blue line/Orange line]

The graph also compares the cumulative year to date costs as well as historical year to date expense trends for fiscal year 2016/2017 through fiscal year 2018/2019. [See: Gray line/Gold line].

Variations in the month to month expense compared to the historical month to month expenses are due to single expense budgeted items. This includes large equipment purchases and the District's annual insurance liability renewal in which remittance of payment can vary slightly each year.

When comparing year to date expenses to historical expenses, the District is trending higher in the past year due to incurred costs related to the FMAP grant. While these expenses have been reimbursed to the District, initial charges were not excluded from the graph below. The District is also set to continue an annual upward trend in the future due to anticipated increases in personnel costs for current and retired employees as well as replacement of District equipment to meet required environmental standards.



RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 5.4**

TITLE: **Budget to Actual Report**

SUBJECT: **Review and Accept Report for May 2020**

EXECUTIVE SUMMARY:

This Staff Report is intended to provide a monthly budgetary snapshot of how well the District is meeting its set budget goals for the fiscal year. The monthly Budget to Actual Report contains a three-column presentation of actual expenditures, budgeted expenditures, and percentage of the budget. Each line item compares budgeted amounts against actual to date expenses. Significant budgeted line item variances (if any) will be explained in the Executive Summary of this report.

Attachment 1 provides a fiscal year to date report for the month ending May 31, 2020.

The attached report shows an administrative cost variance for Payroll Services, Group Insurance, and Annuitant Health Care. These line items reveal very minor variances due to service fees, insurance, and health care premium increases.

Security Patrol expenses have exceeded the budget due to the unforeseen COVID-19 pandemic. The District authorized additional 24-hr patrolling while District crews were sheltering in place. As of the end of May, normal Security Patrol services have resumed. A portion of this additional expense may be reimbursed by the Natomas Central Mutual Water Company (N.C.M.W.C.) to offset some of the expenses the District incurred.

BACKGROUND:

The Board of Trustees adopts a budget annually in June. District staff prepares the Budget, which shows current year budget versus expenditures and a proposed budget for the next fiscal year.

Three Board committees review the draft budget before being presented to the Board for adoption in June. The Personnel Committee reviews the wage and benefits portion of the Budget. The Operations Committee reviews the Capital expenditures Budget. After the two committees review and make recommendations to the budget, the final draft is prepared for the Finance Committee to consider. After review by the Finance Committee, the final Budget is presented to the Board for adoption at a regular Board meeting.

RECOMMENDATION:

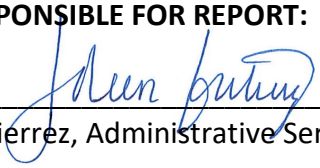
Staff recommends the Board review and accept the Budget to Actual Report for May 2020.

ATTACHMENTS:

1. Budget to Actual Report May 2020

TITLE: Budget to Actual Report

STAFF RESPONSIBLE FOR REPORT:



Joleen Gutierrez, Administrative Services Manager — Date: 06/04/2020

Kevin L. King, General Manager — Date: 06/05/2020

Reclamation District No. 1000
Budget to Actual Comparison
July 1, 2019 to May 31, 2020 (Eleven Months Ending of Fiscal 2020)

	Year to Date July 1, 2019 to May 31, 2020	Budget	Percent of Budget
Operation & Maintenance Income			
Property Assessments	2,161,303	2,250,000	96.06%
Rents	21,303	20,000	106.52%
Interest Income	122,795	65,000	188.92%
SAFCA - O/M Assessment	1,400,000	1,400,000	100.00%
Misc Income	2,474	-	Not Budgeted
FMAP Grant	570,145	574,000	99.33%
Annuitant Trust Reimbursement	-	70,000	0.00%
Security Patrol Reimbursement	33,900	31,000	109.35%
SCADA Reimbursement	133,012	-	Not Budgeted
Total	**4,444,932**	**4,410,000**	100.79%
Restricted Fund			
Metro Airpark Groundwater Pumping	37,628	22,000	171.04%
Total Combined Income	**4,482,560**	**4,432,000**	**101.14%**
Administration, Operations and Maintenance - Expenses			
Administration			
Government Fees/Permits	6,287	12,500	50.30%
Legal	58,054	97,000	59.85%
Liability/Auto Insurance	118,017	150,000	78.68%
Office Supplies	3,952	5,500	71.85%
Computer Costs	16,870	24,000	70.29%
Accounting/Audit	35,458	46,050	77.00%
Admin. Services	9,648	17,000	56.75%
Utilities (Phone/Water/Sewer)	16,496	23,700	69.60%
Mit. Land Expenses	2,592	3,000	86.40%
Administrative Consultants	21,063	130,000	16.20%
Assessment/Property Taxes (SAFCA - CAD)	7,928	8,000	99.10%
Admin - Misc./Other Expenses	2,528	8,250	30.64%
Memberships	32,327	40,500	79.82%
Office Maintenance & Repair	12,624	27,000	46.76%
Payroll Service	3,479	3,500	99.40%
Public Relations	4,876	45,000	10.84%
Small Office & Computer Equipment	5,573	12,000	46.44%
Election	37,832	55,000	68.79%
Conference/Travel/Professional Development	475	20,500	2.32%
Sub Total	**396,079**	**728,500**	**54.37%**
Personnel/Labor			
Wages	917,569	1,058,262	86.71%
Group Insurance	107,289	97,440	110.11%
Worker's Compensation Insurance	19,927	39,544	50.39%
OPEB - ARC	-	30,000	0.00%
Dental/Vision/Life	17,380	22,328	77.84%
Payroll Taxes	71,700	71,000	100.99%
Pension	158,658	178,264	89.00%
Continuing Education	2,994	5,000	59.88%
Trustee Fees	30,375	40,000	75.94%
Annuitant Health Care	79,186	70,000	113.12%
Sub Total	**1,405,078**	**1,611,838**	**87.17%**

Operations			
Power	409,388	500,000	81.88%
Supplies/Materials	22,825	22,000	103.75%
Herbicide	87,052	105,000	82.91%
Fuel	34,082	55,000	61.97%
Field Services	40,794	100,000	40.79%
Field Operations Consultants	11,185	20,000	55.93%
Equipment Rental	605	5,000	12.10%
Refuse Collection	12,793	25,000	51.17%
Equipment Repair/Service	3,125	16,000	19.53%
Equipment Parts/Supplies	30,367	60,000	50.61%
Facility Repairs	50,304	366,000	13.74%
Shop Equipment (not vehicles)	3,783	3,000	126.10%
Field Equipment	1,678	10,100	16.61%
Misc/Other 2	24	500	4.80%
Utilities - Field	7,658	8,000	95.73%
Government Fees/Permits - Field	8,458	12,000	70.48%
FEMA Permits	-	4,000	0.00%
Sub Total	**724,121**	**1,311,600**	**55.21%**
Equipment			
Equipment	273,160	132,000	206.94%
Sub Total	**273,160**	**132,000**	**206.94%**
Consulting/Contracts/Memberships			
Engineering/Technical Consultants	80,873	180,000	44.93%
Security Patrol	110,820	65,000	170.49%
Temporary Admin	14,000	15,000	93.33%
Sub Total	**205,693**	**260,000**	**79.11%**
FMAP Expenditures			
LOI/SWIF (Consultants)	22,889	20,000	114.45%
Equipment	296,580	305,100	97.21%
Operations & Maintenance (Field)	253,881	236,500	107.35%
Administrative	-	12,400	0.00%
Sub Total	573,350	**574,000**	**99.89%**
Total A, O & M Expenses	**3,577,481**	**4,617,938**	**77.47%**
Capital Expenses			
Capital Office Upgrades	14,435	30,000	48.12%
Capital RE Acquisition	12,750	50,000	25.50%
Capital Office Facility Repair	-	30,000	0.00%
Capital - District Server	8,945	10,000	89.45%
Capital Facilities	102,222	180,000	56.79%
Sub Total	**138,352**	**300,000**	**46.12%**
Total All Expenditures	**3,715,833**	**4,917,938**	**75.56%**

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 5.5**

TITLE: **Declaration of Surplus Assets and Authorization for Disposal**

SUBJECT: **Review and Consider Declaration of Surplus Assets and Authorize the General Manager to Dispose of Assets in 2020.**

EXECUTIVE SUMMARY:

The District, on occasion, needs to dispose of surplus assets, which include but are not limited to vehicles and equipment. In order to dispose of assets, the Board of Trustees must determine the assets are surplus and authorize disposal. As presented in Table 1 below, staff recommends the Board consider declaring the assets listed as surplus and disposing of said assets in 2020.

Table 1 - 2020 Surplus Assets

Year	Type	Make	Model	Hours/Mileage	Reason for Replacement
2005	4x4 P/U	Chevrolet	2500	140,198	Mileage/ Maintenance costs
2005	4x4 P/U	Chevrolet	2500	108,423	Mileage/Maintenance costs
2004	4x4 P/U	Chevrolet	2500	176,470	Mileage/Maintenance costs
2004	4x4 P/U	Chevrolet	2500	269,243	Mileage/Maintenance costs
2005	4x4 P/U	Chevrolet	2500	150,317	Mileage/Maintenance costs

RECOMMENDATION:

Staff recommends the Board review and consider declaration of the assets listed in Table 1 as surplus and authorize the General Manager to dispose of said assets in 2020.

FINANCIAL IMPACT:

Potential unexpected 2020 Revenue of $9,000.

ATTACHMENTS:

1. None.

STAFF RESPONSIBLE FOR REPORT:

Kevin L. King, General Manager

Date: 06/05/2020

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 6.1**

TITLE: **Review and Discuss Capital Improvement Plan Update.**

SUBJECT: **Review and Discuss Capital Improvement Plan Update.**

EXECUTIVE SUMMARY:

The Board of Trustees of Reclamation District No. 1000 (RD 1000; District) approved a Professional Services Agreement with Kjeldesn, Sinnock & Neudeck, INC. (KSN) on November 8, 2019 to update the District's Capital Improvement Plan. KSN provided the Draft Capital Improvement Plan Update (Attachment No. 1) on May 29, 2020 per the agreement.

RECOMMENDATION:

Staff recommends the Board review and discuss the Draft Capital Improvement Plan Update and provide comments to Staff and KSN.

ATTACHMENTS:

1. 2020 Capital Improvement Plan

STAFF RESPONSIBLE FOR REPORT:

_____ Date: 06/05/2020

Kevin L. King, General Manager

JOB NO. 2433-0010

2020 CAPITAL IMPROVEMENT PLAN

RECLAMATION DISTRICT 1000

SACRAMENTO, CALIFORNIA

PREPARED FOR:

KEVIN L. KING

GENERAL MANAGER

PREPARED BY:

KJELDSEN, SINNOCK & NEUDECK, INC.
CIVIL ENGINEERS & LAND SURVEYORS

1550 HARBOUR BOULEVARD, SUITE 212
WEST SACRAMENTO, CALIFORNIA 95691
TELEPHONE NUMBER: (916) 403-5900

MAY 2020

Table of Contents

Reclamation District No. 1000
20-Year Capital Improvement Program Update

FIGURES

TABLES

APPENDICES

Engineer's Seals and Signatures

	I hereby certify that this technical submission was prepared by me or under my direct supervision and that I am a duly registered engineer under the laws of the State of California. Finbarr (Barry) O'Regan No. C57527 My license renewal date is December 31, 2021
	I hereby certify that this technical submission was prepared by me or under my direct supervision and that I am a duly registered engineer under the laws of the State of California. William (Bill) D. Worrall No. C62870 My license renewal date is June 30, 2020

Section 1

Introduction and Background

1.1 DISTRICT BACKGROUND

Reclamation District No. 1000 (District) was formed on April 8, 1911 by special act of the State Legislature to reclaim land in the Natomas Basin for agricultural purposes. The District is governed by the Reclamation District Act (California Water Code Sections 50000 et. seq.) The District is responsible for the flood protection, control, and drainage in a 55,000-acre area directly north of the City of Sacramento.

The District system consists of approximately 42.6 miles of project levee, 30 miles of main drainage canals, 150 miles of sub drainage canals, eight (8) exterior pumping plants, and two (2) interior pumping plants. This system in tandem, collects stormwater runoff and agricultural drainage and discharges it out of the basin, while keeping exterior floodwaters out. The District's interior drainage canals are also used during the summer non-flood season to convey irrigation flows to cultivated lands primarily in the northern area of the basin.

1.1.1. DISTRICT MISSION STATEMENT AND GOALS

The District's mission is flood protection for the Natomas Basin and providing for the public's health and safety by the operation and maintenance of the levees, canals, and pump stations in a safe, efficient, and responsible manner.

In addition to maintaining all components of its system, the District is prepared to respond to flood fight emergency events. The District maintains a stockpile of flood fight material and is prepared to acquire more resources or labor 24/7 as necessary.

1.2 PURPOSE OF CIP UPDATE

This Capital Improvement Program update (2020 CIP) identifies and prioritizes capital assets and projects that are necessary to meet the District's mission statement and goals of continuously providing protection to the Natomas Basin in a strategic and efficient manner. It is anticipated that this 2020 CIP update will form the basis for regular updates and reassessment of CIP needs and priorities in future years.

This 2020 update focuses on the District's pumping plants as opposed to the District's levee system because: (i) the Natomas Levee Improvement Program (NLIP) continues to be implemented by the Sacramento Area Flood Control Agency (SAFCA) the U.S. Army Corps of Engineers (USACE), and California Department of Water Resources (DWR) and will result in improvement of the District's 42.6-mile exterior levee system to a 200-year level of flood protection by constructing levee

improvements and replacing some existing pumping plants, and (ii) the City of Sacramento is currently undertaking an assessment of the District's interior levee system to determine if it meets Federal Emergency Agency (FEMA) standards. The findings of that assessment will be used to inform and update the CIP in future years.

While the largest component of the CIP is to replace and upgrade existing pumping plants based on a condition and needs assessment, a life cycle and annualized budget to replace culverts and drains for which the District is responsible is also included in the plan. Assessment or prioritization to replace specific culverts is not part of the scope. The major maintenance items associated with life cycle replacement are also identified in the CIP.

The 2020 CIP uses a risk-based approach to identifying and prioritizing projects. Project prioritization was based upon:

- Relative criticality of assets
- Likelihood of asset failure
- Desired Level of Service for assets; and
- Expected asset life cycle.

This 2020 CIP update was created through input and data provided by District staff, and the District Engineer. Meetings, site visits, and workshops were held with District staff and District Engineer to jointly establish the goals and criteria for this 2020 CIP in alignment with the District's mission, and to ensure the accuracy on which decisions are based.

1.3 PREVIOUS CIP REPORT

In 2014, a 30-Year Capital Improvement Program was completed by Domenichelli and Associates. It identified proposed improvements for the District's pumping plants, main canals, and levees. The previous program focused on the effect of the NLIP led by the USACE, identifying projects to be funded by the NLIP, as well as separate improvements on the District's end.

A portion of the SCADA, security, and corporation yard improvements that were identified have been put into place.

Section 2

Description of Facilities

This section describes the District's facilities with a focus on the Pumping Plants, as they are the focus of this 2020 CIP. The identification and description of these facilities are listed below.

2.1 DISTRICT FACILITIES

The District's 55,000-acre service territory and facilities are shown on Figure 2-1, adapted from Mead and Hunt's 2016 report. The exterior Pumping Plants are described by number, followed by the Interior Pumping Plants.

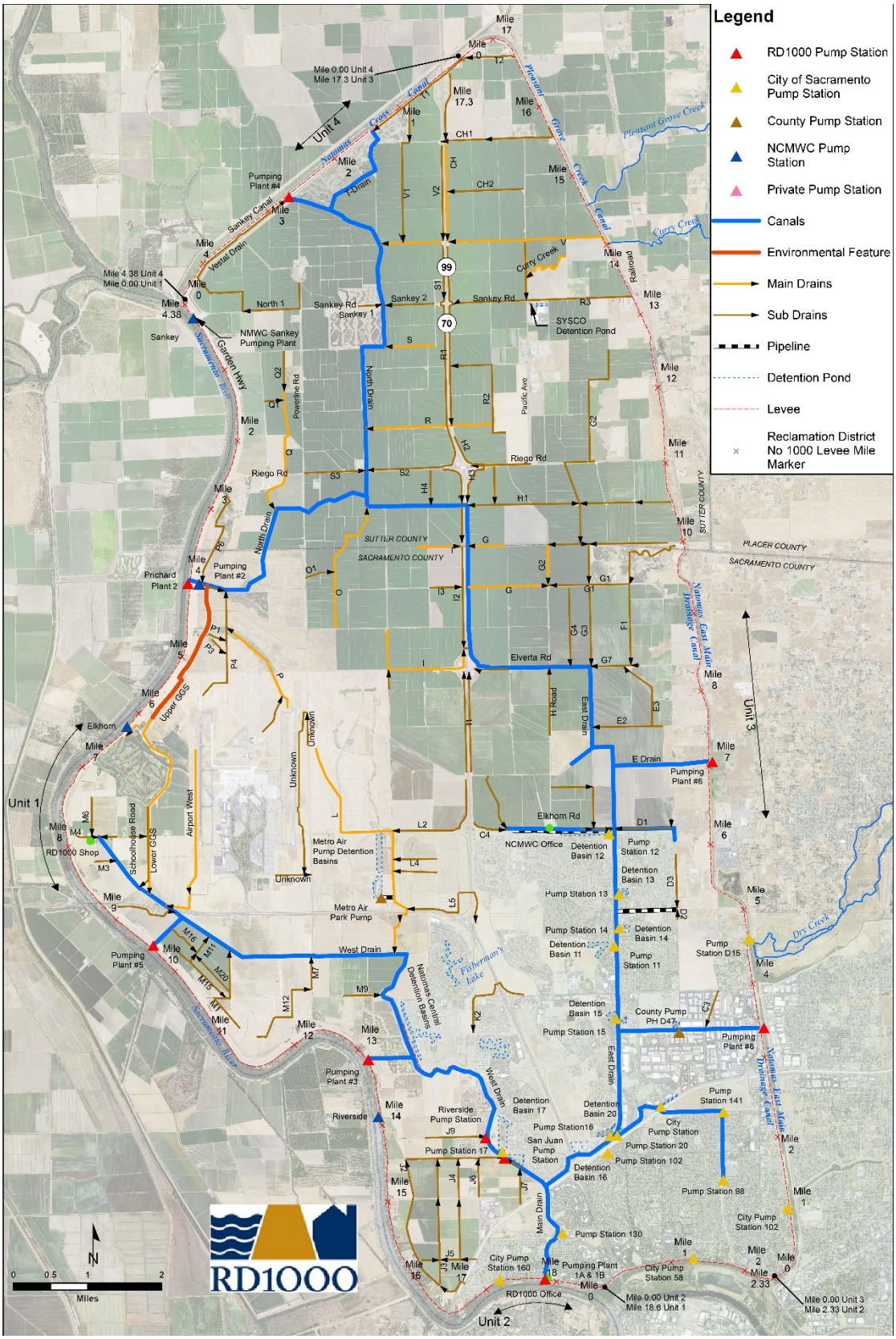


Figure 2-1 - Reclamation District 100 Service Territory and Major Features
Source: Mead and Hunt, 2016

2.1.1. PUMPING PLANT 1A

Pumping Plant 1A was the District's first plant, constructed in 1915, and has the second-greatest pumping capacity measured by cubic feet per second (cfs) in the District. It is co-located with Plant 1B across Garden Highway from District headquarters in the southern portion of the basin. Due to its age and difficulty starting and operating, Plant 1A has not been operated in over 20 years. The intake includes chained automatic bar screens for two (2) pumps and a manual bar screen for the other two (2) pumps. The four (4) pumps, housed inside a two-story concrete masonry unit building, discharge through four (4) manual cast iron slides gates into flows to two (2) concrete tunnels, that then transition into four (4) arch tunnels, each with a steel-framed wooden flap gate. The discharge goes through the levee with minimal elevation difference.

USACE is currently evaluating the four (4) tunnels for potential remediation or modification as part of the NLIP. The report with recommended action is expected within several months. The Plant capacity summary is found in Table 2-1 below.

Table 2-1 - Plant 1A Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	600	2,400v	136	621
2	650	2,400v	181	
3	600	2,400v	152	
4	650	2,400v	152	

2.1.2. PUMPING PLANT 1B

Pumping Plant 1B has the third-largest pumping capacity and is regularly relied upon to remove significant flows from the District. The plant, originally constructed in 1959 and then reconstructed in 2003, includes six (6) vertical turbine pumps, located in three (3) bays with two (2) pumps each. An automatic bar screen precedes the pump bays. The pumps lie on a concrete deck with an upper steel deck at motor level. The pumps discharge to steel pipes that cross under Garden Highway to the outfall structure.

The plant building houses the electrical and instrumentation. In 2012, a backup diesel generator was installed and the building expanded along with power system upgrades. With all the pumps running, the generator can support the plant for approximately 8 hours of runtime. The generator is capable of running all Plant 1B pumps plus two (2) Plant 1A pumps if necessary. The Plant 1B capacity summary is found in Table 2-2 below.

Table 2-2 - Plant 1B Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	400	2,400v	100	600
2	400	2,400v	100	
3	400	2,400v	100	
4	400	2,400v	100	
5	400	2,400v	100	
6	400	2,400v	100	

2.1.3. PUMPING PLANT 2

Plant 2 is located on the western side of the District at the end of the North Drain Canal. The plant was rebuilt and relocated in 2014 under the NLIP.

There are two (2) pumps and in Plant 2 located on a concrete platform with steel grating for access, with the electrical and instrumentation is housed in an adjacent cabinet with an overhang. Plant has automatic bar screens for each pump, and cathodic protection was added to the discharge pipes during reconstruction. Plant 2 also has a connection for a portable generator. The Plant capacity summary is found in Table 2-3 below.

Table 2-3 - Plant 2 Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	400	2,400v	80	120
2	250	2,400v	40	

2.1.4. PUMPING PLANT 3

Plant 3 is located northwest of Plant 1, connecting the West Drain. It was originally constructed in 1939, and then modified with increased capacity in 2001. There are four (4) drainage pumps, two (2) small irrigation pumps, and one (1) bay for future pump installation in Plant 3, all preceded by an automatic bar screen. The pumps are located outdoors on a concrete deck, with the electrical components housed in an adjacent building. The existing pumps discharge to a manifold structure connecting to a single pipe leading across the levee to the Sacramento River.

Current plant pumping capacity is 196 CFS, but pumping capacity is planned to be expanded by the USACE. Under USACE plans as part of the NLIP, the pumps will be replaced and the manifold will be replaced with separate discharge pipes. The current Plant capacity summary is found in Table 2-4 below.

Table 2-4 - Plant 3 Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	200	2,400v	38	196
2	200	2,400v	38	
3	300	2,400v	70	
4	200	2,400v	50	

2.1.5. PUMPING PLANT 4

Plant 4 is the northernmost plant in the District, at the end of the North Drain. It is the lone plant in the District that is supplied power by Pacific Gas and Electric (PG&E), as all others receive power from Sacramento Municipal Utility District (SMUD). Originally constructed in 1964 then reconstructed in 1986, Plant 4 is to be replaced under the NLIP. Design has been completed; construction was expected to be complete in 2020, but construction has been delayed and completion is now expected no later than 2022. Currently there are three (3) pumps in Plant 4 that discharge into the Natomas Cross Canal. The new plant will be similar to Plant 2 in layout, which includes replacing the current traveling automated screens with automated bar screens and the modifying voltage to 2.4kV. The current Plant capacity summary is found in Table 2-5 below.

Table 2-5 - Plant 4 Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	300	480v	76	306
2	400	480v	115	
3	400	480v	115	

2.1.6. PUMPING PLANT 5

Plant 5 is located at the end of the West Drain near the Sacramento Airport. Currently there are three (3) pumps at Plant 5 that discharge into the Sacramento River. Each pump intake includes a manual bar screen.

The plant is planned to be removed and replaced at a setback location because it is currently in the toe of the levee after the NLIP was constructed in its area. While it is included in the NLIP, a firm source of funding from USACE has not been committed. Like Plant 4, this plant will be replaced with similar layout and capacity to Plant 2 with automatic bar screens and voltage will be modified to 2.4 kV. There is also the intent to provide an empty space in the pump deck for an additional pump to handle more rapid runoff that could result from Sacramento Airport expansion activities.

The current Plant capacity summary is found in Table 2-6 below.

Table 2-6- Plant 5 Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	100	480v	19	57
2	100	480v	19	
3	100	480v	19	

2.1.7. PUMPING PLANT 6

Plant 6 is located on the east side of the District approximately one (1) mile north of Elkhorn Boulevard, in the east central part of the District. It was constructed in 1974, and updated in 1997. This plant is the last utilized for drainage purposes due to complaints of area residents across the Natomas East Main Drainage Canal (NEMDC), to which it discharges, that use of the plant causes flooding, despite evidence that this is actually a result of the NEMDC Stormwater Pump Station, also referred to as Pump Station D15, keeping its gates closed and backing water up the NEMDC. This plant has not been operated in at least 15 years.

The motors are housed in a steel building held elevated above the canal by steel sheetpiles and beams. There is a steel deck for manual screens just upstream of the four (4) pumps. The electrical components are housed in a separate building adjacent building. The current Plant capacity summary is found in Table 2-7 below.

Table 2-7 - Plant 6 Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	125	480v	28	180
2	200	480v	42	
3	300	480v	60	
4	250	480v	50	

2.1.8. PUMPING PLANT 8

Plant 8 is located on the east side of south portion of the District, just north of Interstate 80. The plant was originally constructed in 1983, and modified in 2001 for increased capacity, a new electrical and instrumentation building, and automatic trash racks. Plant 8 has the highest capacity of any plant in the system.

The plant includes a total of nine (9) pumps located outdoors on a concrete deck, with an electrical and instrumentation building located on the slope high above the pump platform. Automatic bar screens are located immediately in front of the pump deck. A steel deck above the platform allows access to the motors. Discharges route under Northgate Boulevard, a heavily travelled road serving both industrial and residential traffic before reach the levee and discharging into the NEMDC. The pipes under the levee and the outfall structure have recently been replaced as part of the NLIP. Pumps 8 and 9 have significant cavitation problems and are operated only in reserve when water levels are high.

The current Plant capacity summary is found in Table 2-8 below.

Table 2-8 - Plant 8 Capacity Summary

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	700	480v	105	779
2	700	480v	105	
3	300	480v	48	
4	200	480v	33	
5	300	480v	48	
6	700	480v	105	
7	700	480v	105	
8*	500	480v	115*	
9*	500	480v	115*	

*In reserve usage; operated when water levels reach a high elevation only.

2.1.9. SAN JUAN PUMPING PLANT

The San Juan Pumping Station is one (1) of two (2) interior plants in the District, located on the right bank of the West Drain Canal, south of San Juan Road. The plant was constructed in 1998 by the City of Sacramento for a development and was turned over to the District for operation. There are two (2) variable-speed hydraulically-driven axial flow pumps housed inside the plant building, each with a capacity of 65 cfs, alongside the electrical and instrumentation, that pump water from the sub drain to the West Drain. The pumps alternate operation because each has sufficient capacity to remove required flows. In addition to pumping operations, a siphon can be used as a backup system to drive flows into the West Drain should the main pump fail. The controls for the plant were replaced in 2015 and the coolers for the hydraulic fluid replaced in 2017.

2.1.10. RIVERSIDE PUMPING PLANT

The Riverside Pumping Station is the District's other interior plant, located approximately 1,800 feet north of the San Juan Pumping Station on the West Drain Canal. This plant was constructed concurrent with and is identical in layout and operation to San Juan Pumping Station, except that each pump has a lower capacity of 30 cfs due to its significantly smaller service area. The controls for the plant were replaced in 2015 and the coolers for the hydraulic fluid replaced in 2017.

Section 3

Program Approach and Development

3.1 APPROACH TO IDENTIFYING PROJECTS

The 2020 CIP consists of projects relating to the District's assets, contributing to the continuing function of the District. The focus of this 2020 CIP is the pumping plants under the District's jurisdiction, due to their criticality in the District's functions. This 2020 CIP uses a risk-based approach to identifying and prioritizing projects. Risk is a combination of the consequence of failure and the likelihood of failure. After identifying potential areas where the performance of assets might be less than optimal, the 2020 CIP identifies a plan to maximize risk reduction given the District's resources. The primary steps taken to identify and prioritize projects were to define the:

- Relative criticality of assets. Critical assets have a high consequence of failure. For example, a high-capacity pump station in a highly populated area has a much greater consequence if it fails to provide the design service than a low-capacity pump station in a rural part of the District.
- Likelihood of failure. Likelihood of failure is primarily a function of the condition of the major asset components and whether sufficient backup systems are in place. Plants and/or components with high probability of failure are strong candidates for improvements.
- Desired Level of Service that each pump station would ideally meet, and compare each pump station against the criteria. The Desired Level of Service defines what a plant should have to safely and reliably perform as designed; when plants lack these characteristics or their ability to reliably provide the service is questionable, improvements may be necessary.
- Asset life cycle for critical pump station components. Closely related to likelihood of failure, because as assets age they become more likely to fail, the District needs to plan for replacement of assets to maintain reliability and worker safety.

After the above steps identified potential projects, the projects will be prioritized in subsequent sections. Prioritization will be based upon the reduction in risk with the ability to implement in an efficient manner. An example of efficient implementation would be waiting until after a plant is reconstructed under the NLIP to add a component so that it can be connected to the plant once. Whenever possible, assets are bundled into larger projects for more efficient implementation. Bundling primarily occurs when multiple components at a single pump station are near the end their useful life at similar timeframes.

Section 4

Criteria for Developing Program

In the previous section, the process to develop the 2020 CIP was described, which included determining:

- Relative criticality of assets
- Likelihood of failure
- Desired Level of Service for all pumping plants
- Asset life cycle for critical pump station components.

The relative criticality of assets and likelihood of failure scoring and optimal Level of Service criteria were presented and agreed to at an Operations Committee Workshop. The asset life cycle was developed with District personnel.

In this section, the criteria for the above steps are developed and described.

4.1 RELATIVE CRITICALITY OF ASSETS

Because studies that can assign an accurate level of failure with respect to loss of life, injury, property damage, and economic damage, have not been performed and are beyond the scope of this plan, asset criticality is rated on a relative scale. The Asset Criticality Score assigns a relative rating to each District asset, consisting of a combination of an asset's capacity ranking and immediate service area rating. The rating quantifies the relative consequence if a specific asset fails to function during a flood event. The rankings are intended to reflect that the District's most critical pumping plants remove the greatest volume of runoff from the most heavily populated areas and/or critical commercial locations and therefore have high consequences of failure.

The criticality ranking begins by determining the type of service area and assigning an importance ranking. The Natomas Basin can generally be described as urban/densely populated in the southern third and rural (mostly agricultural) in the northern two-thirds, with the Sacramento International Airport located in the west-central part of the basin. In additional, Interstates 5 and 80 each route through the basin, serving as major thoroughfares. Interstate 80 routes east-west through the densely populated southern portion of the basin, while Interstate 5 routes north out of Sacramento before turning west past the airport and out of the basin.

The Immediate Service Area Rating assigns a number to each pumping plant that corresponds to the type of area that the plant immediate serves. As an area is more populated, or is an important part of

infrastructure, a higher rating is given for the protection of health and safety that the plant provides. The area types and their respective rating numbers are shown in Table 4-1 below.

Table 4-1 - Immediate Service Area Ratings

Immediate Service Area Type	Rating
Rural	1
Urban	2
Rural/Airport	2
Urban/Airport	3

The resulting Immediate Service Area criticality scores for plants are shown in Table 4-2 below:

Table 4-2 - Pumping Plant Immediate Service Area Ratings

Pumping Plant	Immediate Service Area Type	Rating
1A	Urban	2
1B	Urban	2
2	Rural	1
3	Urban/Airport	3
4	Rural	1
5	Urban	2
6	Rural	1
8	Urban	2
San Juan	Urban	2
Riverside	Urban	2

Although localized storm events do occur in the basin, because the Natomas Basin is relatively flat, the capacity of a plant to remove water from the basin is generally more important in determining an exterior pumping plant's criticality; if a high-capacity plant fails, the probability and degree of internal

flooding rises significantly more than with low-capacity plants. As a result, the relative scale for capacity scores is greater than the Immediate Service Area. The capacity ranking scales the capacity of the exterior pumping plants, with the highest capacity given the highest rank number of 6, and the lowest capacity given a capacity ranking of 1. Because Plants 1A and 6 have not been operated in several years and their reliabilities are questionable, and the Interior Pump Stations are significantly smaller, their relative capacities are not included in the rankings.

Table 4-3 - Pumping Plant Capacity Ratings

Pumping Plant	Capacity (cfs)	Rating
1A	621	-
1B	600	6
2	120	2
3	196	3
4	306	4
5	57	1
6	180	-
8	588	5

The net criticality ranking is determined by adding the Immediate Service Area and Capacity Ratings together as shown in Tab1e 4-4 below.

Table 4-4 - Pumping Criticality Ratings – Exterior Plants

Pumping Plant	Immediate Service Area Score	Capacity Score	Net Criticality Score
1A	2	-	-
1B	2	6	8
2	1	2	3
3	3	3	6
4	1	4	5
5	2	1	3
6	1	-	-
8	2	5	7

The net criticality rankings indicate that among regularly operated plants, Plants 1B and 8 are the most critical, while Plants 2 and 5 are the least critical. Interior Plants are excluded from the ranking.

4.2 LIKELIHOOD OF FAILURE

The likelihood of failure is primarily a function of the condition of the asset components, which is a result of age of the asset, amount of use, conditions under which operated, and amount of maintenance that has been performed. To state the relative likelihood of failure, a Condition Hazard Rating score is used, which assigns a 1-10 rating for the asset based on its condition. The score of each asset is based on age, physical assessment, and District experience. The higher the score, the more deteriorated the asset and the higher the probability of failure; a score of 1indicates a new asset, whereas a score of 10 indicates the asset is in run-to-failure mode. The definitions use to score each asset are in Table 4-5 below:

Table 4-5 - Condition Hazard Rating Definitions

Rating	Description
1	New or like new asset, no reduced functionality or increase in maintenance
2	Asset performs like new with slight increase in maintenance
3	Asset performs well but critical components showing some wear and increased maintenance
4	Asset still performs but replaceable critical components nearing end of useful life; replacement of components will restore condition to level 1 or 2. Potential for short-term failure but still highly unlikely
5	Notable decrease in performance but still reliable asset; with heavy maintenance load, asset has useful life >= 10 years
6	<50% of useful life remaining; budget for replacement should be firmly committed even if several years out
7	<30% of useful life remaining; replacement considered during annual district budgeting. Hazard level is below level of service for critical assets
8	<20% of useful life remaining, asset performance is significantly deteriorated but functional under normal scenarios
9	<10% of useful life remaining, asset performance is marginal
10	Failure Imminent, operating in run-to-failure mode

The condition assessment report is included as Appendix A. The condition hazard for each internal plant is listed in Table 4-6 below. Where plants have been replaced or are expected to be replaced under the NLIP, a Rating of 1 was assigned.

Table 4-6 - External Pumping Plant Condition Hazard Ratings

Pumping Plant	1A	1B	2	3	4	5	6	8
Condition Hazard Rating	9	2	1	1	1	6	7	6

The internal pumping plants, Riverside and San Juan, were each given a rating of 4.

4.3 LEVEL OF SERVICE

The Level of Service is the minimum level of functionality that an asset should provide, otherwise an upgrade or replacement project is generally deemed necessary. There are five (5) categories that describe the aspects of functionality that an asset can have: reliability, redundancy, capacity, operational flexibility, and maintainability. For each category, an asset either meets the minimum level, fails to meet it, or the category is not applicable. Table 4-7 below lists each category and the question(s) that are asked to determine whether an asset meets the requirements of each category. When the answer is a "no" a remediation project is considered.

Table 4-7 - Level of Service Definitions

Category	Question
Reliability	Can the asset dependably function as designed without committing additional resources during the design event?
Redundancy	Does the asset have sufficient backup systems to ensure its operation commensurate with its criticality?
Capacity	Are the asset's facilities able to provide the required service?
Operational Flexibility	Can the asset operate over a range of conditions? Can the asset be operated remotely?
Maintainability	Can employees safely and efficiently maintain the asset, and does the District have a sufficient supply of spare parts or are they readily available from suppliers?

The analysis of the Level of Service focuses on the District pumping plants due to their importance in the District's daily operations. Each separate component of the plants is given a Level of Service in order to assess each part for necessary improvements. The ten pumping plant components that were evaluated included:

1. Intake screens
2. Power supply
3. Motors
4. Pumps
5. Instrumentation and controls
6. Outfall structure and pipes
7. Cathodic protection system
8. Pump and motor structural
9. Access and security
10. Building

The above criteria result in the following Table 4-8 being used to evaluate and summarize each pumping plant's Level of Service. Where a component does not meet optimal level service, the efficiency and validity of whether a remedial action is needed is also evaluated. In some cases, it may be determined that remediation does not significantly increase pumping plant performance, so no action is taken. A column for remedial action under each Level of Service Indicator for those that do not meet the optimal is not shown for space limitations.

Table 4-8 - Level of Service Assessment Example Table

Pumping Plant:	Level of Service Indicators				
	Reliability	**Redundancy**	**Capacity**	**Operational Flexibility**	**Maintain-ability**
Pumping Plant Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens					
Power Supply					
Motors					
Pumps					
Instrumentation & Controls					
Outfall Pipes					
Cathodic Protection System					
Pump & Motor Structural					
Access & Security					
Building					

4.4 LIFE CYCLE REPLACEMENT

The major components of the pumping plants have typical life cycles that require replacement at regular intervals. This section describes the life cycle of these major components and the major maintenance expenses that should be budgeted to cost-effectively extend their useful life and reduce risk of failure. The typical life cycle for the same components in Level of Service were proposed and determined based on typical industry experience and the District's recent experience. This allows determination of where each major component at each plant is in its life cycle and plan for replacement.

The description of need for replacement with the life cycle for major components is below.

4.4.1. INTAKE SCREENS

The single greatest point of vulnerability at RD 1000 pumping plants is the intake screens. If screens are not able to remove aquatic vegetation and debris that is capable of clogging flow to pumps,

pumping plants can be rendered inoperable. RD 1000 is already expending significant effort to control these aquatic vegetation so reduction of the load cannot be expected. The major considerations include:

- Underwater maintenance by divers is regularly required to perform repairs to keep the screens operating, and to remove heavy vegetation and debris loads; large pumping plants require a more frequent service every two (2) years and smaller plants every four (4) years.
- Chains begin to stretch, wear out, and require significant maintenance with a noticeable deterioration in performance after about 10 years, which is their assigned life cycle.
- The assigned life cycle is 40 years as mechanical equipment rarely has a useful life exceeding this duration.

4.4.2. POWER SUPPLY

Several components make up the power supply chain: the transformer drop from the electricity provider; the motor control center; automated transfer switch; and the wiring in conduits that conducts the current to the motors to operate the pumps. In addition, the desired level of service is to have a generator to provide backup power in the event of electrical power outages. While each component may age at different rates, manufacturers often phase out support and manufacture of replacement components within 10 years. Although replacement components may not be available, most equipment can typically be operated for 20-30 years depending upon quality. An evaluation of the power supply systems is scheduled at 10 years to determine the remaining useful life and begin planning replacement. Concurrent replacement of all major power supply components, except for backup generators, is recommended for efficiency. Given that plants must be reliable, a useful life of 20 years is chosen.

Important notes for power supply include:

- The District's desire to move to a standard service medium-voltage service of 2.4 kilovolts (kV) because the components tend to produce less heat and have a longer life cycle. The local power providers do not service medium-voltage transformers so the District will need to increase its reliance on outside service providers to maintain its transformers as plants are converted to 2.4 kV service. In addition, pump motors must be replaced because they cannot be converted to run on medium voltage, and the District will need to implement a larger arcflash injury prevention program.
- Because natural gas service is less likely to be interrupted during a flood event than electric service, natural gas is the preferred source for backup generators where available. In areas without natural gas service, the power source will be diesel or propane.

4.4.3. INSTRUMENTATION AND CONTROLS

Instrumentation and controls are subject to the same limitations as power supply components in that replacement components become unavailable relatively soon after installation. Instrumentation and

control components have similar life cycles to electrical components, so the same life cycle is adopted, included a concurrent evaluation after 10 years and concurrent replacement at 20 years.

4.4.4. MOTORS

Motors, like all mechanical equipment, require a heavy maintenance schedule to perform and ensure a full useful life cycle. For the motors, a periodic "clean and bake" is the most cost-effective method. This entails removing the cover, replacement of worn bearings, evaluation of the windings and whether a rewind is necessary, and epoxy recoating of the cover. Clean and bake will minimize degradation of performance, particularly efficiency, until replacement is necessary. The following life cycle is adopted for motors:

- Highest 50%-use motors – clean and bake every 8 years
- Lowest 50%-use motors – clean and bake every 12 years
- Replacement of motor every 50 years.

Clean and bake has been discontinued for the last several years so an accelerated program to catch up on deferred maintenance for the next 5 years is recommended.

4.4.5. PUMPS

Pumps are typically serviced and replaced concurrently with the motor they are installed with. Pumps will be removed and serviced concurrently with motor clean and bake and replaced on the same schedule as their motors.

- Highest 50%-use pumps – remove and service/evaluate every 8 years
- Lowest 50%-use pumps – remove and service/evaluate every 12 years
- Replacement of pump every 50 years.

4.4.6. OUTFALLS

Outfall structures are located on the water side of levees with flowing water. Outfall pipes all cross under paved roads, with most of the roads atop the external levees, making replacement expensive and disruptive to the public. Both the outfall structures and pipelines are located where they are subject to deterioration, so a comprehensive evaluation will be performed regularly that includes CCTV of the pipelines and operation and service of all valves and gates. The following maintenance and life cycle schedule is adopted:

- Pipeline CCTV evaluation and service/operation of valves and gates: 5 years
- Replacement of valves and gates: 25 years
- Replacement of Pipelines and Outfall structures: 75 years.

4.4.7. CATHODIC PROTECTION SYSTEM

While viewed as a component of the pipeline, nearly all outfall pipes are steel and cathodic protection systems are the most cost-effective method of extending the useful life of steel pipelines. The anode beds must be periodically replaced while the impressed current system and wiring last significantly

longer. Anode bed useful life varies significantly depending upon the soil moisture but is typically 3-12 years. The impressed system rectifier is evaluated concurrent with the electrical and instrumentation systems. Useful life of the of components are

- 10 years for anode beds
- 25 years for impressed system, exclusive of wiring
- 75 years for wiring, to be replaced incidental to pipe replacement.

4.4.8. Pump and Motor Structural

The majority of pumps are located on concrete structures suspended above the canals, with steel decks or grating for access to motors. The structures are expected to have a long useful life with minimal maintenance. The following life cycle for each is adopted:

- Steel decking and grating: 75 years
- Pump and motor platform: 75 years.

4.4.9. Access and Security

Prevention of vandalism to keep plants operating as designed is a priority of the District given that each pump station is located off easily accessible roadways but are unmanned the vast majority of the time. The primary means of securing plants is complete perimeter fencing with anti-climb features and cameras. Each has the following anticipated lifecycle:

- Security Cameras: 10 years
- Fencing: 50 years.

Electrical and instrumentation is usually housed in a locked building providing further security, but its primary purpose is protecting components from the elements with climate control, so it is considered a separate component.

4.4.10. Buildings

Buildings house the power supply electrical and instrumentation components that includes climate-control to prevent overheating. While the buildings are expected to have a long useful life, the ventilation and roof require regular replacement to maintain the necessary dry, cool conditions. The following life cycles are assigned:

- Ventilation: 15 years
- Roof Replacement with external painting: 25 years
- Building: 75 years.

4.4.11. Life Cycle Summary

The discussion of major components and their assigned life cycles is summarized in Table 4-9 below.

Table 4-9 - Asset Life Cycle

Item	Life Cycle, years	Notes
Intake Screens		
Dive Inspection	2-4	2 for major plant, 4 for minor
Chains	10	
Unit	40	
Power Supply (meter to pump)		
Evaluation	10	Assess remaining life cycle, plan replacement date
Transformer	20	Transformer replacement based on performance
In-building/in-panel ATS, etc.	20	
Backup Generator	30	
Instrumentation & Controls		Typically on same cycle as power supply
Evaluation	10	
Unit	20	
Motors		
Clean & Bake	8-12	High-use motors more frequent, low-use less
Unit	50	
Pumps		
Remove & Inspect	10	Concurrent with Motor Clean & Bake
Unit	50	
Outfalls		
Comprehensive Inspection	5	CCTV for pipes, service valves, operate outfall gates
Valves and Gates	25	
Outfall Structure	75	
Pump and Motor Structural		
Structure and Platform	75	
Steel Access and Grating	75	
Cathodic Protection System		
Anode Beds	5-10	Highly dependent upon soil moisture
Unit	25	Rectifiers may be replaced with electrical
Access & Security		
Fences	50	
Cameras	10	
Building		
Ventilation	15	
Roof and Paint	25	
Unit	75	

The life cycles are used to plan capital replacement and major service in conjunction with the condition assessment and Level of Service.

Section 5

Identification of Projects

5.1 CAPITAL IMPROVEMENT PROJECTS

As described in the previous sections, each pumping plant was evaluated for its likelihood of failure, level of service, and which components are coming due for replacement based on life cycle. This section includes a catalog of prioritized potential projects based upon that analyses. For the major maintenance items, a maintenance budget for each is established.

For each plant, projects at each plant are identified from the

- Condition assessment
- Level of Service evaluation, and
- Major component life cycle.

5.1.1. PUMPING PLANT 1A

5.1.1.1. Pumping Plant 1A Condition Assessment

The condition assessment noted that the plant is in poor condition in several aspects:

- The plant must be manually started and monitored at all times to be operated; the electrical power systems appears old and outdated and may not be up to code
- The interior of the plant does not have physically safe access and locations for operations and maintenance, furthermore, building dimensions probably restrict the ability to make these safe
- Based upon their age there is a high probability that the pumps are coated in lead-based paint;
- Based upon its age it is assumed that the building interior contains lead-based paint and asbestos-containing insulation;
- The exterior paint is peeling excessively and not providing the level of protection needed; while it was confirmed that the building has been painted twice in the last 25 years, meaning the peeling paint is unlikely to contain lead-based paint, the underlying layers may contain lead-based paint.

Based on the above operational issues, at the workshop KSN held with the District to present the findings of its assessment and provide its approach to developing the 2020 CIP, parties agreed a Condition Hazard Rating Score of 9 was appropriate, defining performance as marginal.

The following potential projects are identified based on the condition assessment:

Table 5-1 - Pumping Plant 1A Assessment Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Safety	Potential lead and asbestos	Evaluation for remediation and abatement
	Unsafe operation and maintenance areas	Evaluation by qualified safety professional and install of new facilities
Power Supply	Outdated and potentially unreliable	Upgrade system
Building	Peeling exterior paint	Repaint

5.1.1.2. Pumping Plant 1A Level of Service

Table 5-2 - Pumping Plant 1A Level of Service

Pumping Plant: 1A	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	Y
Power Supply	Y	N	Y	Y	N
Motors	N	N	Y	Y	Y
Pumps	N	N	Y	N	Y
Instrumentation & Controls	N	Y	Y	N	Y
Outfall Pipes	Y	Y	Y	Y	N
Cathodic Protection System	Y	Y	Y	Y	Y
Pump & Motor Structural	N	NA	Y	NA	Y
Access & Security	N	NA	N	Y	N
Building	Y	NA	Y	NA	Y

Table 5-3 - Pumping Plant 1A Level of Service Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Intake Screens	Half of pumps have manual bar screens	Install automatic bar screens
	No backup	None
Power Supply	Potential Arc flash hazard	Replace including PLC system
	Minimal backup capacity	Convert existing generator to use natural gas
Motors	Manual control	Install PLC system for automation
	No backup	None
Pumps	Priming system needs automation	Install PLC system for automation
	No backup	None
Instrumentation & Controls	Need for standardization and automation	Replace instrumentation and controls and install SCADA system
Outfall pipes	Lack on inspection access	Install access manholes
Access & Security	Walkway is of old age	Replace access walkway

- It was determined that it was not feasible or efficient to provide backup screens, motors, pumps, or cathodic protection, so no improvement projects are proposed for those potential shortcomings; this is the case for all Pumping Plants.

- Part of the existing screens are manually cleaned, so it is recommended that automatic bar screens be installed to increase operational efficiency and to reduce labor cost.

- District staff expressed concerns about the potential for arc flash hazard in the Plant 1A building, so in the short term, it is recommended that an external PLC system is installed to remove the need for workers to enter the building to start the pumps. The pumps, motors, and instrumentation and controls will all benefit from automation of the system. The walkways inside the building are also old, and do not appear to provide safe access to components; therefore it is recommended that they be replaced.

- The Plant 1B backup generator can power 2 of 4 pumps in Plant 1A when Plant 1B operates at capacity. Conversion to natural gas which would extend the runtime indefinitely and is considered a major and cost-effective upgrade for Plant 1A.

- The outfall pipes do not have access manholes for inspection. In order to routinely maintain and inspect the pipes, manholes should be installed.

5.1.1.3. Pumping Plant 1A Life Cycle State

As the pump station is in poor condition, nearly all components have reached the end of their standard useful lives, except for the roof, which has just been replaced. Currently upgrades to the plant are occurring on an ad-hoc basis to keep the plant potentially viable in case it is needed during a significant

storm event. Additionally, the District is awaiting evaluation of the outfall tunnels and would prefer to wait for the result to consider which replacements make sense. The lone item at Plant 1A identified for potential life cycle replacement are the chains on the automatic bar screen, which are effectively new given the plant has not been operated since their installation. The chains are assumed to require replacement in 2041. No additional life cycle components are included in the 2020 CIP.

5.1.2. PUMPING PLANT 1B

5.1.2.1. Pumping Plant 1B Condition Assessment

Plant 1B shows minimal outward signs of potential failure. The lone item that was identified as a potential shortcoming was the limited capacity of the backup generator diesel tank.

Based on the lack of operational issues, at the workshop parties agreed a Condition Hazard Rating Score of 2 was appropriate, defining performance as nearly like new. The following potential projects are identified based on the condition assessment:

Table 5-4 - Pumping Plant 1B Assessment Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Backup Generator	Limited runtime with existing tank	Convert existing generator to use natural gas

5.1.2.2. Pumping Plant 1B Level of Service

Based on the condition assessment and workshop with the District, Table 5-5 summarizes where Plant 1B does or does not meet the optimal level of service indicated by the District.

Table 5-5 - Pumping Plant 1B Level of Service

Pumping Plant: 1B	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	Y
Power Supply	Y	N	Y	Y	Y
Motors	Y	N	Y	Y	Y
Pumps	N	N	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	Y	Y
Outfall Pipes	Y	NA	Y	Y	Y
Cathodic Protection System	Y	N	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	Y	NA	Y	Y	Y
Building	Y	NA	Y	NA	Y

Pump station components that do not meet the desired level of service and should be considered for near-term capital improvements are summarized in Table 5-6.

Table 5-6 - Pumping Plant 1B Level of Service Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Intake Screens	No backup system	None
Power Supply	Current diesel generator is limited in size	Convert existing generator to use natural gas
Motors	No backup system	None
Pumps	Cavitation issues at pump suction intakes	Construct baffles to separate each pump in a shared bay.
Cathodic Protection	No backup system	None

- The current generator fuel tank is only large enough to provide backup for approximately 8 hours at capacity. The District would like at least 72 hours of capacity. Therefore it is recommended that the generator be converted to natural gas power, which can be brought in from the nearby PG&E natural gas line.

- The pumps currently suffer from some cavitation due to the proximity as they are paired in bays. The proposed solution would be to construct baffles between each pump suction to

prevent the water siphoning from affecting the other pumps. Anti-cavitation plates affixed to the bottom of the intakes are also considered.

5.1.2.3. Pumping Plant 1B Life Cycle State

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-7.

Table 5-7 - Pumping Plant 1B Life Cycle Replacement Initial Schedule

Item	Component or Service Item	Base Replacement Year	Life Cycle (Years)	Next Replacement or Service
Intake Screens	Dive Inspection	2003	2	2021
	Chain Replacement	2003	10	2021
	Unit Replacement	2003	40	2043
Power Supply	Evaluation	2012	10	2022
	Transformer	2012	20	2032
	In-building/in-panel ATS, etc.	2012	20	2032
	Backup Generator	2012	30	2042
Instrumentation & Controls	Evaluation	2003	10	2021
	Unit Replacement	2003	20	2023
Motors	Clean & Bake	2003	8	2021
	Replace Unit	2003	50	2053
Pumps	Remove & Inspect	2003	8	2021
	Replace Unit	2003	50	2053
Outfalls	Comprehensive Inspection	2003	5	2021
	Valves and Gates	2003	25	2028
	Outfall Structure	2003	75	2078
	Pipes	2003	75	2078
Cathodic Protection	Anode Beds	2003	5-10	2021
	Unit	2003	25	2028
Pump and Motor Structural	Structure and Platform	2003	75	2078
	Steel Access and Grating	2003	75	2078
Access and Security	Fences	2003	50	2053
	Cameras	2003	10	2021
Buildings	Ventilation	2003	15	2021
	Roof and Paint	2003	25	2028
	Building Replacement	2003	75	2078

5.1.3. PUMPING PLANT 2

5.1.3.1. Pumping Plant 2 Condition Assessment

Plant 2 was reconstructed in 2014, and is in excellent condition. The only recommended projects identified in the condition assessment is to either install a permanent backup generator or purchase a portable generator that can power Plant 2 and other similar size plants. Based on the recent reconstruction, at the workshop parties agreed a Condition Hazard Rating Score of 1 was appropriate, defining performance as like new.

The following potential projects are identified based on the condition assessment:

Table 5-8 - Pumping Plant 2 Assessment Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Backup Generator	None; hookup for portable at plant	Add permanent backup generator or purchase portable generator that can operate several of the smaller plants

5.1.3.2. Pumping Plant 2 Level of Service

Table 5-9 - Pumping Plant 2 Level of Service

Pumping Plant: 2	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	Y
Power Supply	Y	N	Y	Y	Y
Motors	Y	N	Y	Y	Y
Pumps	Y	N	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	Y	Y
Outfall Pipes	Y	NA	Y	Y	Y
Cathodic Protection System	Y	N	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	N	NA	NA	Y	Y
Building	Y	NA	Y	NA	Y

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-10.

Table 5-10 - Pumping Plant 2 Level of Service Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Intake Screens	No backup system	None
Power Supply	No onsite back up	Install natural gas or diesel backup generator
Motors	No backup system	None
Pumps	No backup system	None
Cathodic Protection	No backup system	None
Access & Security	Fencing does not include anti-climb fabric	Install anti-climb fabric

- It was determined that it was not feasible or efficient to provide backup screens, motors, pumps, or cathodic protection, so no improvement projects are proposed for those potential shortcomings.
- The current plant has a generator hookup, but it is optimal to have an onsite generator to provide backup power without needing available staff or portable generator. It is proposed to install an onsite generator at the Plant 2 site. The type of generator will be determined based upon natural gas availability at the site.
- The plant's security system is up-to-date, but the fencing needs anti-climb fabric to prevent intrusion.

5.1.3.3. Pumping Plant 2 Life Cycle State

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-11.

Table 5-11 - Pumping Plant 2 Life Cycle Replacement Initial Schedule

Item	Component or Service Item	Base Replacement Year	Life Cycle (Years)	Next Replacement or Service
Intake Screens	Dive Inspection	2014	4	2021
	Chain Replacement	2014	10	2024
	Unit Replacement	2014	40	2043
Power Supply	Evaluation	2014	10	2021
	Transformer	2014	20	2034
	In-building/in-panel ATS, etc.	2014	20	2034
	Backup Generator	-	30	TBD
Instrumentation & Controls	Evaluation	2014	10	2021
	Unit Replacement	2014	20	2023
Motors	Clean & Bake	2014	12	2021
	Replace Unit	2014	50	2053
Pumps	Remove & Inspect	2014	12	2021
	Replace Unit	2014	50	2053
Outfalls	Comprehensive Inspection	2014	5	2021
	Valves and Gates	2014	25	2039
	Outfall Structure	2014	75	2089
	Pipes	2014	75	2089
Cathodic Protection	Anode Beds	2014	5-10	2021
	Unit	2014	25	2028
Pump and Motor Structural	Structure and Platform	2014	75	2089
	Steel Access and Grating	2014	75	2089
Access and Security	Fences	2014	50	2053
	Cameras	2014	10	2024
Buildings	Ventilation	2014	15	2029
	Roof and Paint	2014	25	2039
	Building Replacement	2014	75	2089

5.1.4. PUMPING PLANT 3

5.1.4.1. Pumping Plant 3 Condition Assessment

Plant 3 is in a condition that it is expected to be able to provide the necessary service until it is replaced under the NLIP. Because a new plant will soon be in place, at the workshop parties agreed a Condition Hazard Rating Score of 1 was appropriate. No potential projects are identified that would not be identified under the Level of Service evaluation.

5.1.4.2. Pumping Plant 3 Level of Service

Table 5-12 - Pumping Plant 3 Level of Service

Pumping Plant: 2	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	Y
Power Supply	Y	N	Y	Y	Y
Motors	Y	N	Y	Y	Y
Pumps	Y	N	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	Y	Y
Outfall Pipes	Y	NA	Y	Y	Y
Cathodic Protection System	Y	N	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	N	NA	NA	Y	Y
Building	Y	NA	Y	NA	Y

- The new Plant 3 is expected to be very similar to Plant 2, therefore the same Level of Service assumptions have been used. Components not expected to meet the level of service standard and potentially need near term capital improvements are included in Table 5-13.

Table 5-13 - Pumping Plant 3 Level of Service Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Intake Screens	No backup system	None
Power Supply	No onsite back up	Install natural gas or diesel backup generator
Motors	No backup system	None
Pumps	No backup system	None
Cathodic Protection	No backup system	None
Access & Security	Fencing does not include anti-climb fabric	Install anti-climb fabric

- It was determined that it was not feasible or efficient to provide backup screens, motors, pumps, or cathodic protection, so no improvement projects are proposed for those potential shortcomings.

- It is proposed to install an onsite generator at the Plant 3 site. Whether natural gas is available at this location must be determined.

- The fencing will need anti-climb fabric to prevent intrusion.

5.1.4.3. Pumping Plant 3 Life Cycle State

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-14.

Table 5-14 - Pumping Plant 3 Life Cycle Replacement Initial Schedule

Item	Component or Service Item	Base Replacement Year	Life Cycle (Years)	Next Replacement or Service
Intake Screens	Dive Inspection	2022	4	2026
	Chain Replacement	2022	10	2032
	Unit Replacement	2022	40	2062
Power Supply	Evaluation	2022	10	2032
	Transformer	2022	20	2042
	In-building/in-panel ATS, etc.	2022	20	2042
	Backup Generator	-	30	TBD
Instrumentation & Controls	Evaluation	2022	10	2032
	Unit Replacement	2022	20	2042
Motors	Clean & Bake	2022	12	2034
	Replace Unit	2022	50	2072
Pumps	Remove & Inspect	2022	12	2034
	Replace Unit	2022	50	2072
Outfalls	Comprehensive Inspection	2022	5	2027
	Valves and Gates	2022	25	2047
	Outfall Structure	2022	75	2097
	Pipes	2022	75	2097
Cathodic Protection	Anode Beds	2022	5-10	2027
	Unit	2022	25	2047
Pump and Motor Structural	Structure and Platform	2022	75	2097
	Steel Access and Grating	2022	75	2097
Access and Security	Fences	2022	50	2072
	Cameras	2022	10	2032
Buildings	Ventilation	2022	15	2037
	Roof and Paint	2022	25	2047
	Building Replacement	2022	75	2097

5.1.5. PUMPING PLANT 4

5.1.5.1. Pumping Plant 4 Condition Assessment

Plant 4, while showing signs of age, is in a condition that it is expected to be able to provide the necessary service until it is replaced under the NLIP. The new plant replacement has been designed and is expected to be constructed by 2022. Therefore workshop parties agreed a Condition Hazard Rating Score of 1 was appropriate. No potential projects are identified that would not be identified under the Level of Service evaluation.

5.1.5.2. Pumping Plant 4 Level of Service

Table 5-15 - Pumping Plant 3 Level of Service

Pumping Plant: 2	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	Y
Power Supply	Y	N	Y	Y	Y
Motors	Y	N	Y	Y	Y
Pumps	Y	N	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	Y	Y
Outfall Pipes	Y	NA	Y	Y	Y
Cathodic Protection System	Y	N	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	N	NA	NA	Y	Y
Building	Y	NA	Y	NA	Y

- The new Plant 3 is expected to be very similar to Plant 2, therefore the same Level of Service assumptions have been used. Components not expected to meet the level of service standard and may need near term capital improvements are included in Table 5-16.

Table 5-16 - Pumping Plant 4 Level of Service Potential Projects

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Intake Screens	No backup system	None
Power Supply	No onsite back up	Install natural gas or diesel backup generator
Motors	No backup system	None
Pumps	No backup system	None
Cathodic Protection	No backup system	None
Access & Security	Fencing does not include anti-climb fabric	Install anti-climb fabric

- It was determined that it was not feasible or efficient to provide backup screens, motors, pumps, or cathodic protection, so no improvement projects are proposed for those potential shortcomings.

- It is proposed to install an onsite generator at the Plant 4 site after construction. Natural gas is not available at Plant 4 so a diesel or propane tank sufficient for 48-72 hours is desired.

- The fencing will need anti-climb fabric to prevent intrusion.

5.1.5.3. Pumping Plant 4 Life Cycle State

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-17. The same life cycle as Plant 3 is assumed.

Table 5-17 - Pumping Plant 4 Life Cycle Replacement Initial Schedule

Item	Component or Service Item	Base Replacement Year	Life Cycle (Years)	Next Replacement or Service
Intake Screens	Dive Inspection	2022	4	2026
	Chain Replacement	2022	10	2032
	Unit Replacement	2022	40	2062
Power Supply	Evaluation	2022	10	2032
	Transformer	2022	20	2042
	In-building/in-panel ATS, etc.	2022	20	2042
	Backup Generator	-	30	TBD
Instrumentation & Controls	Evaluation	2022	10	2032
	Unit Replacement	2022	20	2042
Motors	Clean & Bake	2022	12	2034
	Replace Unit	2022	50	2072
Pumps	Remove & Inspect	2022	12	2034
	Replace Unit	2022	50	2072
Outfalls	Comprehensive Inspection	2022	5	2027
	Valves and Gates	2022	25	2047
	Outfall Structure	2022	75	2097
	Pipes	2022	75	2097
Cathodic Protection	Anode Beds	2022	5-10	2027
	Unit	2022	25	2047
Pump and Motor Structural	Structure and Platform	2022	75	2097
	Steel Access and Grating	2022	75	2097
Access and Security	Fences	2022	50	2072
	Cameras	2022	10	2032
Buildings	Ventilation	2022	15	2037
	Roof and Paint	2022	25	2047
	Building Replacement	2022	75	2097

5.1.6. PUMPING PLANT 5

5.1.6.1. Pumping Plant 5 Condition Assessment

Plant 5 has been identified by the District for replacement. While showing signs of age, Plant 5's condition is such that it is expected to be able to provide the necessary service until it is replaced, whether under the NLIP or directly by the District. The plan is to begin design of the plant replacement in the upcoming year and begin to look for funds through the NLIP and/or grants. If external funding is not secured, it is assumed that the District will fund construction in 2026. Design is

assumed to include all components necessary to meet all Levels of Service that will be installed at other plants, such as a backup generator. The Condition Hazard Rating of the Plant is 6; it should be monitored in upcoming years and further degradation could accelerate the urgency to replace it.

5.1.6.2. Pumping Plant 5 Level of Service

New Plant 5 will be designed to incorporate all Level of Service improvements, no analysis was performed.

5.1.6.3. Pumping Plant 5 Life Cycle State

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-18. Construction is assumed in 2026 and it is assumed the plant will include any upgrades necessary to achieve optimal status in all areas, since all items can be incorporated into design.

Table 5-18 - Pumping Plant 5 Life Cycle Replacement Initial Schedule

Item	Component or Service Item	Base Replacement Year	Life Cycle (Years)	Next Replacement or Service
Intake Screens	Dive Inspection	2026	4	2030
	Chain Replacement	2026	10	2036
	Unit Replacement	2026	40	2066
Power Supply	Evaluation	2026	10	2036
	Transformer	2026	20	2046
	In-building/in-panel ATS, etc.	2026	20	2046
	Backup Generator	2026	30	2056
Instrumentation & Controls	Evaluation	2026	10	2036
	Unit Replacement	2026	20	2046
Motors	Clean & Bake	2026	12	2038
	Replace Unit	2026	50	2076
Pumps	Remove & Inspect	2026	12	2038
	Replace Unit	2026	50	2076
Outfalls	Comprehensive Inspection	2026	5	2031
	Valves and Gates	2026	25	2051
	Outfall Structure	2026	75	2101
	Pipes	2026	75	2101
Cathodic Protection	Anode Beds	2026	5-10	2036
	Unit	2026	25	2051
Pump and Motor Structural	Structure and Platform	2026	75	2101
	Steel Access and Grating	2026	75	2101
Access and Security	Fences	2026	50	2076
	Cameras	2026	10	2036
Buildings	Ventilation	2026	15	2041
	Roof and Paint	2026	25	2051
	Building Replacement	2026	75	2101

5.1.7. PUMPING PLANT 6

5.1.7.1. Pumping Plant 6 Condition Assessment

Under existing District operational practices, Pumping Plant 6, is the last plant to be operated during a storm event. It is only used in extreme conditions or when other assets have failed or flows are significant, and has not been operated in several years. The components that could be viewed during the assessment show visual signs of aging but not to the point that the plant could not function. While the District checks the power systems monthly during the flood season, the pumps have not been spun in several years. It is understood that operating the pumps off the local meter would initiate a service charge of $2,000 per month for 12 months. To more cost effectively test the pumps, a method to power the pumps using a portable generator is recommended to confirm the pumps will actually operate if and when needed.

Other potential projects noted during the assessment include:

- Replacement of the manual bar screens with an automatic bar screen
- The pump columns and outfall piping appeared corroded but could not be examined closely enough
- Fencing to prevent access to the bar screen deck.
- The plant has no backup generator or hookup for a portable generator.

Potential project based on the assessment are listed in Table 5-19 below.

Table 5-19 - Pumping Plant 6 Assessment Potential Projects

Pumping Plant 2: Near Term Capital Condition Assessment Improvements		
Pump Station Component	**Sub-optimal Reason**	**Proposed Improvement Project**
Intake Screen	Currently are manually cleaned	Install automatic bar screen
Pump Column and Outfall Piping	Potential corrosion; to be confirmed	Evaluation and potential replacement
Access & Security	Fencing does not prevent access to all facilities	Install new anti-climb fencing around entire plant perimeter
Backup Generator	None; hookup for portable at plant	Add permanent backup generator or install hookup if portable generator(s) to be purchased

5.1.7.2. Pumping Plant 6 Level of Service

Table 5-20 - Pumping Plant 6 Level of Service

Pumping Plant: 6	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	N	N	Y	Y	N
Power Supply	Y	N	Y	Y	Y
Motors	Y	N	Y	Y	Y
Pumps	Y	N	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	N	Y
Outfall Pipes	N	Y	Y	Y	Y
Cathodic Protection System	Y	Y	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	N	NA	NA	N	Y
Building	N	NA	Y	NA	Y

Table 5-21 - Pumping Plant 6 Level of Service Potential Projects

Pumping Plant 6: Near Term Capital Improvements		
Pump Station Component	**Sub-optimal Reason**	**Proposed Improvement**
Intake Screens	Intake screens are manual bar screens	Install automatic bar screens
	No backup	None
Power Supply	No backup	Install propane or diesel backup generator
Motors	No backup	None
Pumps	No backup	None
Instrumentation & Controls	Need for standardization and automation	Install SCADA system
Outfall pipes	Visible signs of corrosion	Evaluate and potentially rehabilitate or replace outfall pipes
Access & Security	New fencing is required	Install anti climb fencing
	Lack of security	Install security cameras and alarm
	Building lock is rusted	Replace building locks

- It was determined that it was not feasible or efficient to provide backup screens, motors, pumps, or cathodic protection, so no improvement projects are proposed for those specific deficiencies.
- The existing bar screens are manually cleaned, and it is recommended to install automatic bar screens to reduce the need for labor.
- There is no backup power supply, so to increase reliability, it is recommended that an onsite backup generator be installed.
- This plant's instrumentation and controls are recommended to be integrated into the SCADA system.
- The outfall pipes have visible signs of corrosion and need replacing.
- The security fencing and locks at the plant are old and are not effective at keeping the plant secure, so upgrades are needed.

5.1.7.3. Pumping Plant 6 Life Cycle State

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-22.

Table 5-22 - Pumping Plant 6 Life Cycle Replacement Initial Schedule

Pumping Plant Life Cycle Replacements				
Item	**Component or Service Item**	**Base Replacement Year**	**Life Cycle (Years)**	**Next Replacement or Service**
Intake Screens	Dive Inspection	1997	4	2024
	Chain Replacement	1997	10	NA
	Unit Replacement	1997	40	2021
Power Supply	Evaluation	1997	10	2021
	Transformer	1997	20	2022
	In-building/in-panel ATS, etc.	1997	20	2022
	Backup Generator	1997	30	2022
Instrumentation & Controls	Evaluation	1997	10	2021
	Unit Replacement	1997	20	2022
Motors	Clean & Bake	1997	12	2024
	Replace Unit	1997	50	2047
Pumps	Remove & Inspect	1997	12	2024
	Replace Unit	1997	50	2047
Outfalls	Comprehensive Inspection	1997	5	2022
	Valves and Gates	1997	25	2022
	Outfall Structure	1997	75	2072
	Pipes	1997	75	2072
Cathodic Protection	Anode Beds	1997	5-10	2021
	Unit	1997	25	2022
Pump and Motor Structural	Structure and Platform	1997	75	2072
	Steel Access and Grating	1997	75	2072
Access and Security	Fences	1997	50	2047
	Cameras	1997	10	2022
Buildings	Ventilation	1997	15	2022
	Roof and Paint	1997	25	2022
	Building Replacement	1997	75	2072

5.1.9. PUMPING PLANT 8

5.1.9.1. Pumping Plant 8 Condition Assessment

This plant has the greatest nominal capacity to remove move volume of water from the basin but has significant issues that limit its practical capacity. The coatings for the discharge pipes were noted to be in poor condition where exposed although obvious pitting could not be visually observed where bare steel was visible. District staff indicated that the pipes are out-of-round beyond manufacturer tolerance, increasing the potential for failure. The plant has a hookup for a portable generator but no permanent backup generator. District operational staff note that electrical components have been consistently failing and needing replacement. Workshop parties agreed the Condition Hazard Rating Score is 6.

The following potential projects are identified based on the condition assessment:

Table 5-23 - Pumping Plant 8 Assessment Potential Projects

Pumping Plant 2: Near Term Capital Condition Assessment Improvements		
Pump Station Component	**Sub-optimal Reason**	**Proposed Improvement Project**
Backup Generator	None; hookup for portable at plant	Add permanent backup generator

5.1.9.2. Pumping Plant 8 Level of Service

Table 5-24 - Pumping Plant 8 Level of Service

	Level of Service Indicators				
Pumping Plant: 8	**Reliability**	**Redundancy**	**Capacity**	**Operational Flexibility**	**Maintain-ability**
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	Y
Power Supply	N	N	Y	Y	Y
Motors	Y	Y	Y	Y	Y
Pumps	Y	Y	Y	Y	Y
Instrumentation & Controls	N	Y	Y	N	Y
Outfall Pipes	N	N	Y	Y	Y
Cathodic Protection System	Y	N	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	N
Access & Security	N	NA	NA	Y	N
Building	Y	NA	Y	NA	Y

Pump station components that will require life cycle replacements to maintain level of service standards are listed in Table 5-25.

Table 5-25 - Pumping Plant 8 Level of Service Improvements

Pump Station Component	Sub-optimal Reason	Proposed Improvement Project
Intake Screens	No backup	None
Power Supply	No backup	Install natural gas backup generator on property across Northgate Blvd.
	Unreliable low voltage power supply	Upgrade power supply to medium voltage.
Motors	Incompatible with 2.4 kV standard	Replace motors
Pumps	Pair replacement with motor	Replace pumps
Instrumentation & Controls	Old age	Replace instrumentation and controls and install SCADA system
Outfall Pipes	Outfall pipes are out of round	Replace pipeline not included in USACE work
Cathodic Protection	No backup	None
Access & Security	Camera system out of date	Replace cameras and hook up to SCADA
	Pump platform access issues	Install walkway for workers

In general, it is recommended that a major replacement project of most Plant 8 components be implemented, driven mostly by the poor condition of the electrical and instrumentation. While the electrical and instrumentation is approaching the end of its normal useful life, District experience is that the components have degraded faster than expected. For example, the District has replaced 4 of 9 soft starters which is beyond expectation over the timeframe. The replacement project will be bundled to include the following components:

- Transformer and power supply: modified to 2.4 kV to match other plants
- Backup generator: powered by natural gas from PG&E line on Northgate Boulevard
- Motors: Must be replaced to run on 2.4 kV power
- Pumps: Pumps should be replaced when the motors they are paired with
- Pump platform steel deck: elevated deck should be expanded to the stairs so the pumps and motors can be accessed when water flood the platform due to low elevation of platform
- Cathodic protection system: should be replaced
- Ventillation: should be replaced to operate on new voltage and as is past its normal useful life
- Cameras: should be replaced
- Building: should be re-painted and roof evaluated for replacement.

The outfall pipes have been found to be out of round, and need rehabilitation or replacement, up to where NLIP replacement work stops. While the hydraulics need to be coordinated with the replacement of the pumps in the major replacement, it is recommended as a separate project because

separate contractors would be preferred. An evaluation to determine the rehabilitation method or replacement is recommended, with the construction project budgeted for replacement for conservative budgeting.

5.1.9.3. Pumping Plant 8 Life Cycle State

Pump station components that will require life cycle improvements to maintain level of service standards according to the schedule in Table 5-25. Given that a major overhaul of the plant is recommended to occur with implementation assumed in 2022, that is the baseline year for beginning most life cycle replacement components.

Table 5-26 - Pumping Plant 8 Life Cycle Replacement Initial Schedule

Item	Component or Service Item	Base Replacement Year	Life Cycle (Years)	Next Replacement or Service
Intake Screens	Dive Inspection	2022	2	2024
	Chain Replacement	2001	10	2022
	Unit Replacement	2001	40	2041
Power Supply	Evaluation	2022	10	2032
	Transformer	2022	20	2052
	In-building/in-panel ATS, etc.	2022	20	2042
	Backup Generator	2022	30	2052
Instrumentation & Controls	Evaluation	2022	10	2032
	Unit Replacement	2022	20	2042
Motors	Clean & Bake	2022	8	2030
	Replace Unit	2022	50	2072
Pumps	Remove & Inspect	2022	8	2030
	Replace Unit	2022	50	2072
Outfalls	Comprehensive Inspection	2022	5	2027
	Valves and Gates	2022	25	2047
	Outfall Structure	2022	75	2097
	Pipes	2022	75	2097
Cathodic Protection	Anode Beds	2022	5-10	2027
	Unit	2022	25	2047
Pump and Motor Structural	Structure and Platform	2001	75	2076
	Steel Access and Grating	2001	75	2076
Access and Security	Fences	2001	50	2051
	Cameras	2022	10	2032
Buildings	Ventilation	2022	15	2037
	Roof and Paint	2022	25	2047
	Building Replacement	2001	75	2076

5.1.10. SAN JUAN PUMPING PLANT

5.1.10.1. San Juan Pumping Plant Level of Service

Table 5-27 - San Juan Pumping Plant Level of Service

Pumping Plant: San Juan	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	N
Power Supply	Y	N	Y	Y	Y
Motors	Y	Y	Y	Y	Y
Pumps	Y	Y	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	Y	Y
Outfall Pipes	Y	Y	Y	N	Y
Cathodic Protection System	Y	Y	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	N	NA	NA	Y	Y
Building	Y	NA	Y	NA	Y

Table 5-28 - San Juan Pumping Plant Level of Service Improvements

Pump Station Component	Sub-optimal Reason	Proposed Improvement
Intake Screens	Intake screens are manual bar screens	Install automatic bar screens
	No backup	None
Power Supply	No backup	Install backup generator
Outfall pipes	Closing the gates is difficult	Install concrete vault with positive closure gates
Access & Security	Fences are climbable	Install anti climb fencing
	Lack of security	Install security cameras and alarm

The intake screens are currently manually cleaned, so installation of automatic bar screens is considered to reduce the need for labor. However, given that the ditches that convey water to the pumping plant are dry during portions of the year, the vegetation load is considerably less than the exterior pumping plants, so automatic screens are not considered cost-effective mitigation.

There is an existing building that used to house a diesel generator, but the generator was removed due to air quality concerns. It is recommended that a new permanent or portable be considered in its place, using the existing infrastructure.

The fencing needs anti-climb fencing installed, and security cameras and alarms also recommended to be installed.

5.1.11. RIVERSIDE PUMPING PLANT

The Riverside Pumping Station is located near the San Juan Pumping Station. This plant is identical to San Juan Pumping Station, albeit smaller due to its comparatively reduced service area. The plant is in good condition, and there are not particular signs of aging or damage.

5.1.11.1. Riverside Pumping Plant Level of Service

Table 5-29 - Riverside Pumping Plant Level of Service

Pumping Plant: Riverside	Level of Service Indicators				
	Reliability	Redundancy	Capacity	Operational Flexibility	Maintain-ability
Pump Station Component	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)	Optimal? (Y/N)
Intake Screens	Y	N	Y	Y	N
Power Supply	Y	N	Y	Y	Y
Motors	Y	Y	Y	Y	Y
Pumps	Y	Y	Y	Y	Y
Instrumentation & Controls	Y	Y	Y	Y	Y
Outfall Pipes	Y	Y	Y	N	Y
Cathodic Protection System	Y	Y	Y	Y	Y
Pump & Motor Structural	Y	NA	Y	NA	Y
Access & Security	N	NA	NA	Y	Y
Building	Y	NA	Y	NA	Y

Table 5-30 - Riverside Pumping Plant Level of Service Improvements

Pump Station Component	Sub-optimal Reason	Proposed Improvement
Intake Screens	Intake screens are manual bar screens.	Install automatic bar screens.
Power Supply	Lack of backup generator.	Install natural gas backup generator
Outfall pipes	Lack of outfall structure	Install concrete vault with positive closure gates
Access & Security	New fencing is required	Install anti climb fencing
	Lack of security	Install security cameras and alarm

Riverside Pumping Plant is identical in layout to San Juan, so the same improvements are recommended, except the generator, which would only need to be present at San Juan. The building currently at San Juan is also setup to serve Riverside.

5.1.12. Life Cycle Replacement of Culverts and Drains

The District owns and maintains a significant number of culverts and drains across its territory. Assuming 50-year and 60-year useful lives for culverts and drains, respectively, this plan does not estimate the cost of individual replacements, instead it aggregates the overall number of assets by size and length and determines the annual replacement cost to and number culvert and drains necessary to keep pace with assets reaching the end of their useful life.

5.1.13. Interior Drainage SCADA System

The operation of the District's pumping system is dependent on the water level inside the District's drainage canals. It is proposed to install a SCADA system that can read the elevations of the water at different points in the interior drainage system to enhance the District's ability to respond quickly and efficiently. The intent is that eventually the data will also be available to interested public on a site similar to State Department of Water Resources websites. The project begins by installing water level sensors at 12 locations around the District and aggregating the data for District personnel to be able to view.

5.2 FUTURE STUDIES

In addition to the projects identified above, there are potential projects that would need to be explored in order to determine their feasibility and benefit to the District.

5.2.1. North to South Conveyance Capacity Improvements Feasibility Study

The District's interior drainage canals are interconnected, allowing each pumping plant to pull from the entire Natomas Basin. The largest plants in particular at the southern end of the District, Plants 1 and 8, are able to act as the District's major points of discharge on a regular basis.

The layout of the major canal conveyance makes flows from the north end heading south route easterly before beginning a clockwise-like route that convey water closer to Plants 8 and 1 before routing reaching the physically closer Plants 3 and 5. There is a significant amount of existing ditch infrastructure that is nearly contiguous from the East Drain to Plants 3 and 5 that could potentially be made contiguous with a limited number of culvert additions to connect these ditches, facilitating more efficient routing of flows between the southwest and northern portions of the District. The culverts would generally cross roads including California Route 70/99 so the individual culverts would be expected to have high unit costs if practical to implement.

Section 6

2020 CIP

This section provides the net major costs associated with the Capital Projects identified during the Condition Assessment, Level of Service, Life Cycle Culvert Replacement Program Life Cycle Regular Maintenance Costs, and Other Near-term Noncapital Expenditures.

This section also provides a prioritization of the capital projects and recommended schedule for implementation.

6.1 PRIORITIZATION

The objective of this section is to identify and implement projects that cost-effectively reduce the risk of flooding within the Natomas Basin. The methods for determining potential projects that should be considered for implementation was established in Sections 3 and 4 and potential projects based on the condition assessment, level of service, and asset life cycle were identified in Section 5. This section takes the potential projects identified in Section 5 and prioritizes them for implementation, with an implementation schedule that aims to balance District needs with financial resources.

As previously discussed, risk is a combination of the probability of failure and consequence of failure. To cost-effectively lower risk, assets or components with high risk would have an improvement or replacement implemented that reduces the risk. Given the District's location and geographical characteristics, the consequence of failure for the pumping plants cannot reasonably be lowered, so the focus is on projects that reduce the likelihood of failure. Table 6-1 below shows the net level of risk for each Pumping Plant. Recall that Risk Ranking adds the Net Criticality Rating and Condition Hazard Rating for each Plant to come up with the Risk Score. The Net Criticality Rating is the proxy for relative consequence of failure rating and the Condition Hazard Rating is the proxy for relative likelihood of failure ratings.

Table 6-1 - Risk Ranking for Pumping Plants

Risk Criteria						Risk Ranking
Pumping Plant	Capacity Ranking	Immediate Service Area Rating	Net Criticality Rating	Condition Hazard Rating	Level of Risk	
8	5	2	7	6	13	**1**
1A	-	2	2	9	11	**2**
1B	6	2	8	2	10	**3**
5	1	2	3	6	9	**4**
6	-	1	1	7	8	**5**
3	3	3	6	1	7	**6**
4	4	1	5	1	6	**7**
San Juan	-	2	2	4	6	**7**
Riverside	-	2	2	4	6	**7**
2	2	1	3	1	4	**10**

While a plant may rank high in the Risk Ranking Category, projects from plants with low criticality scores may not be as important as projects with high criticality scores. The following are generally considered when prioritizing projects:

- The most critical plants should have low Condition Hazard Ratings. The plants with the highest Net Criticality Ratings are 1B and 8, which have significantly more reliable capacity than other plants. Plant 1B has the low Condition Hazard Rating such a critical asset should have. Plant 1B is the type of asset where cost-effective measures that reduce risk should be implemented, maintenance should not be deferred, and key components should be replaced when they approach the end of their useful lives to keep the risk of failure low. However Plant 8 has a Condition Hazard Rating that is excessive for such a critical asset and should be prioritized for upgrades and replacements to restore it to good health.

- Plants with low Net Criticality Ratings may not be candidates for capital projects even with higher Condition Hazard Ratings than critical plants.

- Plants with uncertain futures are given lower priority. If development or recent construction may require relocation of a plant, or the plant may no longer be needed because of development, the District is better served deferring projects until the need can be firmly established. This includes Plants 6, Riverside, and San Juan.

- Because the District has limited resources and may not be able to meet the optimal level of service at all plants, alternative projects that cost-effectively reduce risk may be preferred. The level of service would be increased but still less than optimal. Where an alternative project is recommended, it is described in this section.

- When identified projects at a single site can be bundled together for more efficient implementation, that is the preferred approach. When a component is nearing the end of its life cycle when other projects are scheduled, the aging component may be replaced slightly earlier or later to facilitate bundling with other projects. Bundling could also be done programmatically, where if a single component is needed at multiple pumping plants, it may be cost-effective to replace all components under a single contract.

This section also projects the associated life cycle costs for a 30-year planning horizon. While the implementation schedule 20-30 years out will change significantly, it provides an order of magnitude cost required to maintain the safe and reliable function of the District's Pumping Plants.

6.2 RELATIVE IMPORTANCE RATING

Before assigning an absolute ranking of potential capital projects, a relative importance for each of the projects on the list is given. This rating was done by KSN and the District General Manager. The following relative level of importance were initially assigned to each potential project:

With a comprehensive list of projects from the condition assessment, Level of Service evaluation, and Life Cycle, a relative level of priority was assigned to each project based on how critical the plant, condition of the existing component, and expected life cycle. Priority scores of 1-4 were assigned with the following definitions in a meeting between KSN and the District:

1 = Highest priority project

2 = Priority project

3 = Medium priority project

4 = Low priority project

S = priority 1 for assets to be replaced per the schedule determined by the asset life cycle

The relative importance rating for each is shown by plant in Table 6-2. The timeframe was extended out 30 years using the replacement lifecycle to provide the District with a basis for long-term budgeting, although the accuracy of the actual conditions will decrease the further out the projection is. The "S" rating was used because it provides the year the project is implemented based on the component life cycle.

Table 6-2 - RD 1000 CIP Relative Priority of Projects

Priority	Project	Plant	Criticality	Condition Hazard Rating	Net Cost	Construction/ Implementation	Notes	Plant Total
1	Programmatic EIR				$ 440,000			
2	Canal SCADA Monitoring				$ 150,000			
2	Replace Chains on Existing Screens	1A	2	11	$ 21,000	2041		
2	Paint Exterior of Building	1A	2	11	$ 72,000			
2	Replace Existing Automatic Bar Screens	1A	2	11	$ 650,000			
2	Replace instrumentation and controls; Install PLC and SCADA	1A	2	11	$ 2,600,000			
3	Install Automatic Bar Screens (2)	1A	2	11	$ 650,000			
3	Lead & Asbestos Abatement	1A	2	11	$ 180,000			
4	Install Access Manholes on Outfall Pipes	1A	2	11	$ 45,000			
4	Replace Access walkway	1A	2	11	$ 125,000		30 Year Plant 1A Total	$ 4,400,000
4	Replace Cameras	1B	8	2	$ 19,000	2021		
S	Replace Chains on Screens	1B	8	2	$ 31,000	2021		
1	Replace Instrumentation and Controls	1B	8	2	$ 1,300,000	2023		
S	Replace Anode Beds	1B	8	2	$ 24,000	2028		
S	Replace Valves & Gates	1B	8	2	$ 412,500	2028		
4	Replace Cameras	1B	8	2	$ 19,000	2031		
S	Replace Chains on Screens	1B	8	2	$ 31,000	2031		
1	Replace Power, Cathodic & Ventilation	1B	8	2	$ 1,330,000	2032		
S	Replace Anode Beds	1B	8	2	$ 24,000	2038		
4	Replace Cameras	1B	8	2	$ 19,000	2041		
S	Major Plant Replacements	1B	8	2	$ 2,182,500	2043		
S	Replace Instrumentation and Controls	1B	8	2	$ 1,300,000	2043		
S	Replaced Automated Screen	1B	8	2	$ 1,950,000	2043		
S	Replace Anode Beds	1B	8	2	$ 24,000	2048		
1	Construct baffles to separate pumps (dewatering)	1B	8	2	$ 760,000			
1	Install Anti-Cavitation Plates	1B	8	2	$ 60,000			
2	Convert generator to natural gas	1B	8	2	$ 450,000			
2	Replace Roof & Paint Building	1B	8	2	$ 625,000		30 Year Plant 1B Total	$ 10,600,000
S	Replace Anode Beds	2	3	1	$ 15,000	2024		
S	Replace Chains on Screens	2	3	1	$ 16,000	2024		
4	Replace Cameras	2	3	1	$ 19,000	2034		
S	Replace Anode Beds	2	3	1	$ 15,000	2034		
S	Replace Chains on Screens	2	3	1	$ 16,000	2034		
S	Replace Power, I&C, Cathodic, & Ventilation	2	3	1	$ 2,180,000	2034		
3	Replace Valves & Gates	2	3	1	$ 220,000	2039		
3	Replace Cabinet Roof & Paint	2	3	1	$ 50,000	2044		
4	Replace Cameras	2	3	1	$ 19,000	2044		
S	Replace Anode Beds	2	3	1	$ 15,000	2044		
S	Replace Chains on Screens	2	3	1	$ 16,000	2044		
2	Install anti-climb fences	2	3	1	$ 70,000			
3	Install backup generator for Plants 2, 3 & 5	2	3	1	$ 705,000		30 Year Plant 2 Total	$ 3,400,000
4	Replace Cameras	3	6	1	$ 19,000	2032		
S	Replace Anode Beds	3	6	1	$ 24,000	2032		
S	Replace Chains on Screens	3	6	1	$ 21,000	2032		
4	Replace Cameras	3	6	1	$ 19,000	2042		
S	Replace Anode Beds	3	6	1	$ 24,000	2042		
S	Replace Chains on Screens	3	6	1	$ 21,000	2042		
S	Replace Power, I&C, Cathodic, & Ventilation	3	6	1	$ 2,190,000	2042		
3	Replace Cabinet Roof & Paint	3	6	1	$ 50,000	2047		
S	Replace Valves & Gates	3	6	1	$ 430,000	2047		
3	Install anti-climb fences	3	6	1	$ 83,000		30 Year Plant 3 Total	$ 2,900,000
4	Replace Cameras	4	5	1	$ 19,000	2032		
S	Replace Anode Beds	4	5	1	$ 12,000	2032		
S	Replace Chains on Screens	4	5	1	$ 16,000	2032		
4	Replace Cameras	4	5	1	$ 19,000	2042		
S	Replace Anode Beds	4	5	1	$ 12,000	2042		
S	Replace Chains on Screens	4	5	1	$ 16,000	2042		
S	Replace Power, I&C, Cathodic, & Ventilation	4	5	1	$ 2,180,000	2042		
3	Replace Cabinet Roof & Paint	4	5	1	$ 50,000	2047		
S	Replace Valves & Gates	4	5	1	$ 330,000	2047		
2	Install Anti-climb Fence	4	5	1	$ 141,000			
2	Install Diesel Generator (includes generator housing)	4	5	1	$ 1,400,000		30 Year Plant 4 Total	$ 4,200,000
2	Relocation	5	3	1	$ 8,900,000	2026		
4	Replace Cameras	5	3	1	$ 19,000	2036		
S	Replace Anode Beds	5	3	1	$ 12,000	2036		
S	Replace Chains on Screens	5	3	1	$ 16,000	2036		
4	Replace Cameras	5	3	1	$ 19,000	2046		
S	Replace Anode Beds	5	3	1	$ 12,000	2046		
S	Replace Chains on Screens	5	3	1	$ 16,000	2046		
S	Replace Power, I&C, Cathodic, & Ventilation	5	3	1	$ 2,190,000	2046	30 Year Plant 5 Total	$ 11,200,000
4	Replace Anode Beds	6	1	7	$ 12,000	2032		
4	Replace Anode Beds	6	1	7	$ 12,000	2042		
4	Replace Cameras	6	1	7	$ 19,000	2042		
4	Major Plant Replacement - Power, I&C, Ventilation	6	1	7	$ 3,300,000	2045		
4	Improve site security	6	1	7	$ 112,000			
4	Install Automatic Bar Screens	6	1	7	$ 1,300,000			
4	Install Diesel Backup Generator	6	1	7	$ 937,500			
4	Install SCADA system	6	1	7	$ 187,500			
4	Replace outfall pipes	6	1	7	$ 1,053,000		30 Year Plant 6 Total	$ 7,000,000
1	Major Plant replacements	8	7	6	$ 11,400,000	2022		
1	Pipeline Replacement	8	7	6	$ 4,220,000	2022		
3	Replace Cameras	8	7	6	$ 19,000	2032		
S	Replace Anode Beds	8	7	6	$ 24,000	2032		
S	Replace Chains on Screens	8	7	6	$ 47,000	2032		
S	Replace Automatic Screen	8	7	6	$ 2,925,000	2041		
3	Replace Cameras	8	7	6	$ 19,000	2042		
S	Replace Anode Beds	8	7	6	$ 24,000	2042		
S	Replace Power, I&C, Cathodic, & Ventilation	8	7	6	$ 2,200,000	2042		
2	Replace Roof & Paint Building	8	7	6	$ 500,000	2047		
S	Replace Valves and Gates	8	7	6	$ 970,000	2047	30 Year Plant 8 Total	$ 22,400,000
3	Install concrete vault with positive closure gates	Riverside	2	4	$ 94,000	2035		
4	Power, Instrumentation & Controls, Ventilation	Riverside	2	4	$ 250,000	2036		
4	Install Security cameras	Riverside	2	4	$ 19,000	2045	30 Year Riverside Plant Total	$ 370,000
3	Install concrete vault with positive closure gates	San Juan	2	4	$ 94,000	2035		
4	Power, Instrumentation & Controls, Ventilation	San Juan	2	4	$ 250,000	2036		
4	Install Security Cameras	San Juan	2	4	$ 19,000	2045	30 Year San Juan Plant Total	370,000
				30-year Total (unescalated)	$ 66,300,000			

Table 6-2 also list the unescalated cost to implement each project. Combining the costs for all projects over a 30-year timeframe, the capital costs totals $70M, for an average of $2.8M per year.

Table 6-3 shows the top 20 projects proposed for potential implementation. The projects were identified by either having an "S" rating for implementation by 2030 or having an importance rating of 2 or higher as shown in Table 6-2 without a life cycle year. The Programmatic Environmental Impact Report (EIR) is excluded because it does not have a construction component.

Table 6-3 - Project Prioritization

Absolute Ranking	Project	Plant	Criticality	Condition Hazard Rating	Net Cost
1	Major Plant Replacements	8	7	6	11,400,000
2	Pipeline Replacement	8	7	6	4,220,000
3	Anti-Cavitation Plates	1B	8	2	60,000
4	Construct Baffles to Separate Pumps	1B	8	2	760,000
5	Replace Instrumentation & Controls	1B	8	2	1,330,000
6	Replace Chains on Screens	1B	8	2	31,000
7	Replace Valves & Gates	1B	8	2	420,000
8	Replace Anode Beds	1B	8	2	19,000
9	Convert Generator to Natural Gas	1B	8	2	450,000
10	Replace Roof & Paint Building	1B	8	2	625,000
11	Relocation	5	3	1	8,900,000
12	Mobile Backup Generator for Plants 2, 3, & 5	2/3/5	3	1	705,000
13	Replace Chains on Screens	2	3	1	16,000
14	Replace Anode Beds	2	3	1	15,000
15	Canal SCADA Monitoring				150,000
16	Install Diesel Generator	4	5	1	1,400,000
17	Paint Exterior of Building	1A	2	9	72,000
18	Lead & Asbestos Abatement	1A	2	9	180,000
19	Replace I&C; Install PLC and SCADA	1A	2	9	2,600,000
20	Replace Power, I&C, Cathodic, and Ventilation	2	3	1	2,180,000

The projects with net costs estimated at $250,000 or greater or considered urgent are discussed below in the order they appear on the list; some projects are grouped with their respective plants.

6.2.1. Pumping Plant 8 Major Plant Replacements and Pipeline Replacement

Plant 8 is the highest priority to reduce risk, due to its location in a densely populated area, high capacity, and poor condition and thus its two (2) large projects are the highest-ranked for implementation. Were it to fail during a major storm event, the District would be challenged to prevent flooding within the basin. Major components necessitating priority projects include:

- Replacing the electrical and instrumentation system which is approaching the end of its useful life based on age as well as performance
- Replacing the discharge pipes which are out-of-round beyond manufacturer listed tolerance
- Eliminating Pumps 8 and 9 cavitation issues, which currently effectively preclude their use.

To implement the improvements recommended above, the following projects are recommended:

1. Major Plant Replacements
2. Pipeline Replacement

The Major Plant Replacements is a bundle of the projects identified under the condition assessment, level of service, and life cycle analysis, excluding the pipeline. The above are broken into two (2) projects because different contractors would likely be desired as the Major Plant Replacements are primarily electromechanical and the Pipeline Replacement is a civil project.

The Major Plant Replacements will include the following scope and assumptions:

- Electrical and instrumentation will be replaced. Electrical service will be changed to 2.4 kV service to match standardization at other plants
- Changing electrical to 2.4 kV will require replacement of motors, pumps, ventilation, and cathodic protection. The pumping capacity will match existing. The pumping arrangement will be evaluated and the cavitation issues will be eliminated during design. The pump deck will be evaluated for damage resulting from the cavitation but no rehabilitation is assumed
- As a critical facility, a backup generator will be installed. A pair of 2,500 kW generators will be installed in a new building on District property on the east side of Northgate Boulevard. To reduce the storage requirement, a generator that runs on a combination of diesel and natural gas is recommended. The cost is approximately half that of a natural gas generator while the diesel consumption is one-fourth that of a diesel-powered generator, making long runtimes possible while minimizing the effort to refill a large diesel tank. The existing line on Northgate Boulevard will be the source of natural gas.
- Decking to the motors needs to be extended to the stairway from the building so personnel can avoid walking through flooded areas when canal levels rise above the pump deck, which occurs regularly.

The Pipeline Replacement will include the pipe from the connection to the pumps to the pipe replaced at the outfall under the NLIP. It will begin with an evaluation of the pipelines and determine whether a rehabilitation method or replacement if preferred. Design should be performed concurrently with design for Major Plant Replacements to coordinate hydraulics.

6.2.2. PLANT 1B PROJECTS

The majority of the projects for Plant 1B are lifecycle replacement projects are high priorities to implement because 1B is a critical plant. The three (3) projects that are level of service upgrades are

1. Install Anti-Cavitation Plates on Pumps

2. Construct Baffles to Separate Pumps
3. Convert Generator to Natural Gas.

Each of these are discussed below.

Install Anti-Cavitation Plates: The reported cavitation issues are expected to decrease performance, increase maintenance requirements, and shorten the life of the pumps. Protection of the pumps is considered a priority for this critical asset. It is assumed that the plates will be installed when the motors and pumps are removed for clean and bake and regular inspection, respectively; these assets should be priority for program. The cost to install the anti-cavitation plates separate from the regular inspection will be approximately double.

Construct Baffles: While the District avoids operating both pumps in a bay when possible, this method cannot be relied upon to protect the pumps. In addition to the anti-cavitation plates, this project is recommended to further protect pumps. The project assumes concrete baffles will be installed between pumps in each of the 3 bays. If the anti-cavitation plates prove effective, the project priority can be lowered.

Generator Natural Gas Conversion: The current backup generator is diesel-powered and has a runtime of approximately 8 hours before the tank must be refilled. This is considered less than optimal reliability as 72 hours would be desired for such a critical facility. To increase the runtime, conversion to natural gas power via a connection to the existing line of Garden highway is preferred. However, conversion of the existing generator to natural gas would reduce the power input such that it could only run 4 of the 6 pumps. The proposed alternative is to modify the generator such that it can operate on a mix of diesel and natural gas that does not reduce the rated power but reduces the diesel consumption rate by a factor of four. Increasing the backup runtime from eight (8) to 32 hours cost-effectively increases the runtime for significantly less expense than replacing the existing generator and is therefore recommended.

The life cycle replacement projects include

1. Replace Instrumentation and Controls
2. Replace Valves & Gates
3. Replace Roof & Paint Building

The criticality of Plant 1B makes these projects important to implement when needed to maintain reliability and protect this high-value asset. The I&C is near the end of its useful life but does not have reported operational problems like Plant 8. Part of the life cycle major maintenance is an evaluation of the Power and I&C systems every 10 years to assess its performance and actual remaining life; it is recommended that this be performed and the I&C replacement, as well as the power systems (expected in the early 2030s) scheduled based on the evaluation. Replacement of the valves and gates is evaluated as part of the outfall pipeline; the same type of evaluation is recommended to schedule

replacement of these components. Replacement of the roof and painting (sealing) the building is recommended for replacement according to the life cycle replacement.

6.2.3. PLANT 5 RELOCATION

Plant 5's location within the levee toe and its relatively poor condition due to its age makes relocation further away from the levee preferred. The project, while included in the NLIP, currently is not funded by the USACE or another external source. The intent is begin design of the new plant immediately, modelling it after plants 2 and 4, which makes obtaining external funds more probable, but deferring construction as long as performance warrants unless external funding is secured

6.2.3.1. Backup Generator for Plants 2, 3, 4, and 5 and Plant 4

While a backup generator would optimally be desired for each plant, generators are expensive and are low-use items. The alternative approach below is proposed:

Plant 4 is the lone plant served by PG&E. It is also the most remote plant in the District and has the third largest capacity of the regularly-operated plants. Natural gas service is unavailable in this remote location. Therefore a dedicated diesel- or propane-powered generator is considered a priority for this location.

Plants 2, 3, and 5 are all relatively small and located on the western side of the District. Plants 2 and 3 have been designed and/or constructed with a hookup for a mobile generator; this option can also be implemented at Plant 5. A 1,000-kW generator is sufficient to power any of these plants and as concurrent power failure at all three (3) plants is highly unlikely, a trailer-mounted mobile generator with a 48-hour supply of diesel is recommended to serve as the backup for these plants.

Because the 1,000 kW capacity is sufficient to operate two (2) of the three (3) pumps at Plant 4, which will be constructed with a mobile generator hookup, the mobile generator is prioritized above the Plant 4 generator.

6.2.4. PLANT 1A PROJECTS

Plant 1A has the second-highest capacity of all plants in the District but is not a reliable plant. The pumps must be manually started and monitored full-time when in operation, and the inside of the plant does not facilitate safe access for maintenance activities. The age of the plant will make improvements more expensive than equivalent upgrades at other plants. While projects to restore the reliability would greatly increase the flexibility of the District, the District has other higher-priority plants with projects that are recommended for implementation beforehand. Once the major projects that provide reliability to Plants 8, 1B, replacement of 5, and the generators to provide backup power to Plants 2, 3, 4, and 5 are implemented, it is recommended that the District begin increasing the reliability of 1A. The first projects recommended for implementation at 1A are repainting the exterior of the building and abatement of potential lead and asbestos, which aim to prolong the life of the building and make upgrades safe to implement.

6.3 CULVERT AND DRAIN REPLACEMENTS

While no specific culverts or drains are specifically identified for cost estimating and replacement, the District needs to budget and plan for replacement of these assets. Evaluation of the condition of culverts and urgency for replacement is not part of the scope of this plan, so a life cycle cost and resulting average per year is the extent of the analysis for culverts and drains. This was done by compiling the total number of culverts, net linear footage, and types from available GIS data. After the raw data was compiled, the number of culverts and drains were totaled at 477 and 491, respectively. The respective linear feet for each pipe size and were totaled for culverts and drains. An average length for culverts and drains was calculated and used as the standard length for each requiring replacement. A cost per linear foot associated with the diameter was applied to estimate the average cost for a culvert or drain of a certain size, assuming no greater than 5 feet of cover. The net costs for culvert and drain replacement is the sum of the cost for each size and type times the number of each size and type.

The estimated total replacement cost for culverts is $38M and drains is $9.8M. Generally culverts sizes tend to be much larger, as the maximum size is 120 inches in diameter, while the maximum drain size is 36 inches.

The more remote location of drains means they are exposed to less wear and tear and are expected to have a useful life of 60 years, whereas culverts being located under travelled roads will have a slightly shorter useful life of 50 years. Table 6-4 below summarizes the replacement needs.

Table 6-4 - Culvert and Drain Replacement Summary

Item	Units	# Replaced per year	Net Life Cycle Cost	Useful Life, Years	Annual Replacement Cost	30-year Replacement Cost
Culverts	477	11	$36,000,000	50	$760,000	$21,600,000
Drains	491	8	$10,400,000	60	$160,000	$5,400,000

The replacement rate over the 30-year timeframe is assumed to be uniform. The net 30-year cost for culvert and drain replacement is estimated at $27M.

6.4 LIFE CYCLE REGULAR MAINTENANCE COSTS

In creating the life cycle for the major pumping plant components, important, cost-effective maintenance activities were identified that should be performed implemented during the summer season. These activities are described in Section 4.4. These activities include:

- Dive inspection of the screens
- Power supply and instrumentation evaluation
- Motor clean and bake plus pump inspection
- Outfall Pipe Inspection.

These activities have either been implemented ad-hoc or irregularly. These activities require outside expertise or would require procuring expensive equipment to self-perform. Other regular maintenance that is currently being performed are not included in this section. Costs for these items included 10% of the vendor cost to oversee and/or administer the contracts. Costs are budgeted on the long-term average; where specific conditions exist that might move an action forward or back several years, it is not accounted for in the budget. The annualized cost for each, rounded to the next $500, along with special considerations, are described below.

6.4.1. DIVE INSPECTION OF SCREENS

As maintenance personnel have noted, the screens are the single most vulnerable component amongst those that could cause a pump station to fail. The District has implemented a vegetation management program and regular replacement of the chains and screen unit is included in this 2020 CIP under the life cycle replacement. The dive inspection facilitates removal of excessive vegetation and debris such as rocks that occasionally accumulate. The dive inspection also allows inspection of the underwater components such as the screen frame, screen moving components, pump, and pump deck.

The critical Pumping Plants 1B and 8 will each have a dive inspection performed every other year. Each also has screens coming due for replacement, so the dive inspection is recommended to be scheduled concurrent with replacement. The inspection frequency for the less critical plants is four (4) years. As the District has 6 plants in this category, the District will do a dive inspection of 1.5 less critical plants per year along with one (1) critical plant.

Recent dive inspections for one (1) critical and one (1) less critical plant performed in a single mobilization totaled just under $10,000, including replacement of worn parts. To budget conservatively, an estimate of $5,000 per plant regardless of capacity is budgeted, meaning the cost will alternate between $10,000 and $15,000, averaging $12,500.

6.4.2. EVALUATION OF POWER AND INSTRUMENTATION AND CONTROLS

The power and I&C systems are critical infrastructure with a life that can vary significantly, and the systems are often relied upon well past when replacement parts are readily available. Plants 1B and 8 are examples, as 1B is at the end of its useful life by years but has no reported problems, while 8 is similar vintage and has several reported problems. To plan for replacement and ensure the systems do not wear out prematurely without replacement being planned, a major evaluation is scheduled every 10 years. While a life cycle of 20 years is anticipated, if systems are found to be performing well, a second inspection should be performed as the age approaches 20 years to determine if the life can be safely extended. A major inspection is scheduled for each plant every 10 years. With 8 plants, at an average cost of $5,500 each, the District can expect to spend $44,000 over a 10-year period. An average annual cost of $4,500 is budgeted.

As Plant 1B is approaching its useful life, it is recommended that its electrical systems be evaluated immediately so replacement can be more accurately planned.

6.4.3. MAINTENANCE OF MOTORS AND PUMPS

Because motors are typically paired with a pump for their entire life, major maintenance is performed concurrently. District personnel change the oil each year and the motors have a heating element to significantly reduce the effects of condensation, but a more proactive program is recommended to extend the useful lives of motors. High-use or high-risk motors and pumps are scheduled for evaluation at 8-year intervals, with low-use pumps every 12 years, for an average of 10 years between evaluations. With 35 pumps in the District, 3.5 motors and pumps will be serviced per year. The cost for clean and bake is and pump inspection just under $3,000 per unit, bringing the annual budget to $10,500.

Because many of the plants have been recently replaced and Plant 8 has major replacements upcoming that include replacement of pumps and motors, the actual timing needs to be determined based on actual operating conditions. The first pumps to be serviced under this program should be the 1B pumps, and they have cavitation problems reported; the recommendation is to remove a single pump from each bay the first year and the other from each bay the following year, in case problems that might prevent any from being put back in service are discovered.

6.4.4. INSPECTION OF OUTFALL SYSTEMS

The outfall inspection will focus on the state of the pipes and the associated outfall. The cost for this inspection is estimated at $11,000 per plant. With 8 plants and a frequency of 5 years, $18,000 per year is budgeted for this activity.

Because its pipes are known to be out-of-round beyond manufacturer tolerances, it is recommended that Plant 8 have an inspection performed immediately to determine if the pipes can be rehabilitated or should be replaced. Also, the Plant 1A outfall is being evaluated by the USACOE as part of the NLIP, so its inspection will be several years off.

6.4.5. NET LIFE CYCLE MAJOR MAINTENANCE BUDGET

Combining the annual cost of the dive inspection, evaluation of the power and I&C systems, maintenance of motors and pumps, and inspection of outfall systems, the net cost is estimated at $46,500. Adding 20% to account for unexpected contingencies, an annual budget of $55,000 is recommended. Over a 30-year timeframe, the net present value of the maintenance budget is $1,650,000.

6.5 NET PROGRAM COST

The net 30-year cost to implement the efforts in this section without escalation are shown in Table 6-5:

Table 6-5 - Program Cost Summary

Program Item	Net Cost
Pumping Plant Capital Projects	$67,300,000
Culvert and Drain Replacements	$27,000,000
Life Cycle Major Maintenance	$1,650,000
Total Expected 30-year Expenditure	$96,000,000

The unescalated net capital spend over the next 30 years is $96M, which equates to an average spend of $3.2M annually. The Pumping Plant Capital Projects and Culvert and Drain Replacement account for nearly all the projected costs.

6.6 SCHEDULE

This section presents a potential Pumping Plant Capital Improvement Program to be implemented over the 30-year planning horizon, with an emphasis on the first 10 years. The schedule of projects and cumulative spend by year are shown in Table 6-5. Project costs are not escalated so the District can adjust the schedule and appropriately escalate based on available sources of revenue.

The schedule roughly follows the project prioritization shown in Table 6-3 and the major projects are described in Section 6.2. Where lower-priority projects precede higher-priority projects, the higher priority project is not implemented until it comes due based on the component life cycle.

The spend is front-loaded because of the urgency to reduce the likelihood of failure at Pumping Plant 8, accounting for over 20% of the 30-year projected pumping plant spend in the first couple years. The expected need to replace the I&C at Plant 1B and relocation of Plant 5 also contribute to a spend of approximately $28M through 2026.

The projects recommended for implementation in the first 10 years (through end of 2030) total $31.4M in estimated cost; meaning the recommended projects for the four (4) years after 2026 total just over $3.4M; the recommended rate of spend decreases after the most critical projects as the urgency to implement the next wave of projects decreases. The major projects recommended for this timeframe are replacement of the 1B roof, conversion of the 1B generator to natural gas, replacement of the 1B valves, purchase of mobile backup generator for plants 2, 3, and 5, and installation of a backup generator at Plant 4.

The recommended projects for years 11-20 (2031-2040) have a net estimated implementation cost of $5.5M. The major recommended efforts during this timeframe are initial upgrades to make Plant 1A more reliable and safer to operate, life cycle replacement of Plant 1B power systems, and life cycle replacement of the Plant 2 power systems, I&C, cathodic protection, and ventilation.

The recommended projects for years 21-30 (2041-2050) have a net estimated implementation cost of $26.7M, which is nearly five (5) times the recommended rate for years 11-20. This increased rate in spend is due to the recent replacement of several plants under the NLIP, Plant 8, and Plant 5 requiring major life cycle replacement work. Accordingly, there is no reason to accelerate most work in the schedule, but the District should be aware of and budget for the increase in replacement costs. Some of the major costs included are major replacements of Pumping Plant 6, which is rarely used and depending upon the development pattern in its vicinity, may be abandoned or require major replacement. The Plant 6 projects are deferred until years 21-30 under this 2020 CIP due to it uncertain future.

Table 6-6 - RD 1000 CIP Project Implementation Schedule

Project	Plant	Criticality	Condition Hazard Rating	Net Cost	Construction/ Implementation	Cumulative Total by Year
Replace Cameras	1B	8	2	$ 19,000	2021	
Replace Chains on Screens	1B	8	2	$ 31,000	2021	
Programmatic EIR				$ 440,000	2021	
Install Anti-Cavitation Plates	1B	8	2	$ 60,000	2021	$ 550,000
Major Plant replacements	8	7	6	$ 11,400,000	2022	
Pipeline Replacement	8	7	6	$ 4,220,000	2022	
Paint Exterior of Building	1A	2	11	$ 72,000	2022	$ 16,250,000
Replace Instrumentation and Controls	1B	8	2	$ 1,300,000	2023	
Canal SCADA Monitoring				$ 150,000	2023	$ 17,700,000
Replace Chains on Screens	2	3	1	$ 16,000	2024	
Replace Anode Beds	2	3	1	$ 15,000	2024	
Install anti-climb fences	2	3	1	$ 70,000	2024	
Install backup generator for Plants 2, 3 & 5	2	3	1	$ 705,000	2024	
Construct baffles to separate pumps (dewatering)	1B	8	2	$ 760,000	2024	$ 19,300,000
Relocation	5	3	1	$ 8,900,000	2026	
Convert generator to natural gas	1B	8	2	$ 450,000	2026	$ 28,700,000
Install Anti-climb Fence	4	5	1	$ 141,000	2027	$ 28,800,000
Install Diesel Generator (includes generator housing)	4	5	1	$ 1,400,000	2028	
Replace Roof & Paint Building	1B	8	2	$ 625,000	2028	
Replace Valves & Gates	1B	8	2	$ 412,500	2028	
Replace Anode Beds	1B	8	2	$ 24,000	2028	$ 31,300,000
Lead & Asbestos Abatement	1A	2	11	$ 180,000	2029	$ 31,400,000
Replace instrumentation and controls; Install PLC and SCADA	1A	2	11	$ 2,600,000	2031	
Replace Cameras	1B	8	2	$ 19,000	2031	
Replace Chains on Screens	1B	8	2	$ 31,000	2031	$ 34,100,000
Replace Power, Cathodic & Ventilation	1B	8	2	$ 1,330,000	2032	
Replace Cameras	3	6	1	$ 19,000	2032	
Replace Chains on Screens	3	6	1	$ 21,000	2032	
Replace Anode Beds	3	6	1	$ 24,000	2032	
Replace Cameras	4	5	1	$ 19,000	2032	
Replace Chains on Screens	4	5	1	$ 16,000	2032	
Replace Anode Beds	4	5	1	$ 12,000	2032	
Replace Anode Beds	6	1	7	$ 12,000	2032	
Replace Cameras	8	7	6	$ 19,000	2032	
Replace Chains on Screens	8	7	6	$ 47,000	2032	
Replace Anode Beds	8	7	6	$ 24,000	2032	$ 35,600,000
Replace Cameras	2	3	1	$ 19,000	2034	
Replace Power, I&C, Cathodic, & Ventilation	2	3	1	$ 2,180,000	2034	
Replace Chains on Screens	2	3	1	$ 16,000	2034	
Replace Anode Beds	2	3	1	$ 15,000	2034	$ 37,820,000
Install anti-climb fences	3	6	1	$ 83,000	2035	
Install Automatic Bar Screens (2)	1A	2	11	$ 650,000	2035	
Install concrete vault with positive closure gates	Riverside	2	4	$ 94,000	2035	
Install concrete vault with positive closure gates	San Juan	2	4	$ 94,000	2035	$ 38,740,000
Replace Cameras	5	3	1	$ 19,000	2036	
Replace Chains on Screens	5	3	1	$ 16,000	2036	
Replace Anode Beds	5	3	1	$ 12,000	2036	
Power, Instrumentation & Controls, Ventilation	Riverside	2	4	$ 250,000	2036	
Power, Instrumentation & Controls, Ventilation	San Juan	2	4	$ 250,000	2036	$ 39,300,000
Replace Anode Beds	1B	8	2	$ 24,000	2038	$ 39,310,000
Replace Valves & Gates	2	3	1	$ 220,000	2039	$ 39,600,000
Replace Automatic Screen	8	7	6	$ 2,925,000	2041	
Replace Chains on Existing Screens	1A	2	11	$ 21,000	2041	
Replace Cameras	1B	8	2	$ 19,000	2041	$ 42,500,000
Replace Cameras	3	6	1	$ 19,000	2042	
Replace Power, I&C, Cathodic, & Ventilation	3	6	1	$ 2,190,000	2042	
Replace Chains on Screens	3	6	1	$ 21,000	2042	
Replace Anode Beds	3	6	1	$ 24,000	2042	
Replace Cameras	4	5	1	$ 19,000	2042	
Replace Power, I&C, Cathodic, & Ventilation	4	5	1	$ 2,180,000	2042	
Replace Chains on Screens	4	5	1	$ 16,000	2042	
Replace Anode Beds	4	5	1	$ 12,000	2042	
Replace Anode Beds	6	1	7	$ 12,000	2042	
Replace Cameras	6	1	7	$ 19,000	2042	
Replace Cameras	8	7	6	$ 19,000	2042	
Replace Anode Beds	8	7	6	$ 24,000	2042	
Replace Cameras	8	7	6	$ 19,000	2042	
Replace Anode Beds	8	7	6	$ 24,000	2042	
Replace Power, I&C, Cathodic, & Ventilation	8	7	6	$ 2,200,000	2042	$ 49,300,000
Major Plant Replacements	1B	8	2	$ 2,182,500	2043	
Replaced Automated Screen	1B	8	2	$ 1,950,000	2043	
Replace Instrumentation and Controls	1B	8	2	$ 1,300,000	2043	$ 54,700,000
Replace Cabinet Roof & Paint	2	3	1	$ 50,000	2044	
Replace Cameras	2	3	1	$ 19,000	2044	
Replace Chains on Screens	2	3	1	$ 16,000	2044	
Replace Anode Beds	2	3	1	$ 15,000	2044	$ 54,780,000
Major Plant Replacement - Power, I&C, Ventilation	6	1	7	$ 3,300,000	2045	
Install SCADA system	6	1	7	$ 187,500	2045	
Replace outfall pipes	6	1	7	$ 1,053,000	2045	
Improve site security	6	1	7	$ 112,000	2045	
Install Diesel Backup Generator	6	1	7	$ 937,500	2045	
Install Automatic Bar Screens	6	1	7	$ 1,300,000	2045	
Install Access Manholes on Outfall Pipes	1A	2	11	$ 45,000	2045	
Replace Access walkway	1A	2	11	$ 125,000	2045	
Install Security cameras	Riverside	2	4	$ 19,000	2045	
Install Security Cameras	San Juan	2	4	$ 19,000	2045	$ 61,880,000
Replace Cameras	5	3	1	$ 19,000	2046	
Replace Chains on Screens	5	3	1	$ 16,000	2046	
Replace Anode Beds	5	3	1	$ 12,000	2046	
Replace Power, I&C, Cathodic, & Ventilation	5	3	1	$ 2,190,000	2046	$ 64,200,000
Replace Cabinet Roof & Paint	3	6	1	$ 50,000	2047	
Replace Valves & Gates	3	6	1	$ 430,000	2047	
Replace Cabinet Roof & Paint	4	5	1	$ 50,000	2047	
Replace Valves & Gates	4	5	1	$ 330,000	2047	
Replace Roof & Paint Building	8	7	6	$ 500,000	2047	
Replace Valves and Gates	8	7	6	$ 970,000	2047	$ 66,300,000
Replace Anode Beds	1B	8	2	$ 24,000	2048	$ 66,300,000
			30-year Total (unescalated)	$ 66,300,000		

6.7 YEAR 1 CIP PROJECTS AND BUDGET

This section recommends projects to begin implementation immediately with the upfront spend, in most cases excluding the construction cost. While the CIP budget lists the entire spend for the year of implementation, recommendations in this section are only for major engineering efforts or high-impact small projects. While the majority of the spend is anticipated to occur in year 1, it is likely that large efforts will have significant expenditure in Year 2 as well. For major capital projects, one-half of the engineering and administrative costs is assumed to be required to complete design and permitting.

6.7.1. PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT

Once complete, the Programmatic EIR will allow the District to simplify the permitting process to implement projects included in this 2020 CIP. It will also increase the chances of obtaining grant funding for projects as it demonstrates the District's commitment to implementing covered projects. The Programmatic EIR is listed as the first item because it is desirable that it cover the other projects recommended for immediate implementation for maximum efficiency. The anticipated budget to complete is $440,000.

6.7.2. PUMPING PLANT 8 MAJOR PLANT REPLACEMENTS AND PIPELINE REPLACEMENT

Replacement of the poorly-performing components at Plant 8 is considered the District's top priority in this CIP. Design should begin to allow replacement as soon as the next possible dry season. The projects should be designed concurrently so the hydraulic considerations of pump and pipeline replacement have on each other can be coordinated. The Programmatic EIR is only listed before the Plant 8 projects so that the Programmatic EIR is completed in time to include the Plant 8 work. The anticipated budget to complete design and permitting is $1,550,000.

6.7.3. PUMPING PLANT 5 RELOCATION

It is anticipated that Plant 5 will be reconstructed in a new location. Significant progress or completion of design will increase the likelihood the District can secure external funding from USACE under the NLIP or other sources. If external funding is not secured, the design can be implemented when this aging plant requires replacement. The anticipated budget to complete design and permitting is $900,000.

6.7.4. PUMPING PLANT 1B ANTI-CAVITATION PLATES

While a small project, implementation can significantly the accelerated wear on the pumps, extending the life of high-value assets. Early implementation will also allow determination of how urgent construction of baffles to reduce cavitation on these pumps is, potentially allowing delay or elimination of the more significant Construct Baffles to Separate Pumps project. To minimize cost, this project is recommended to be implemented concurrent with the Motor Clean and Bake and Pump Inspection under the life cycle maintenance program. It is recommended that the 1B pumps be the first evaluated under this program, with three (3) motors and pumps be removed in consecutive summers and the anti-cavitation plates be welded to the bottom of the pump bowls. The anticipated budget to implement is $60,000.

6.7.5. Culvert and Drain Condition Assessment and Replacement Plan

A yearly budget for life cycle replacement of culverts and drains is included based on anticipated unit costs. However, no evaluation of the current condition of these assets including which might need urgent replacement has been performed; uniform replacement was assumed. It is recommended that each of these nearly 1,000 total assets be assessed to determine a replacement schedule and budget based on actual conditions and need. The anticipated budget to complete this plan is $150,000.

6.7.6. Pumping Plant 1A Environmental Survey

Plant 1A contains several substances that may contain lead, asbestos, or other contaminants that are hazards to personnel and the environment. If the plant remains inactive, the hazard to workers inside the building is minimal. Discussions with operations indicate the paint peeling off the intake pipes or building is unlikely to contain lead or other hazardous chemicals. However, if hazardous substances are contained in the peeling paint, the substances are potentially being released to the surrounding environment and waterways. The approximate cost to prepare an environmental survey, which includes sampling for lead, asbestos, and other substances, results, and an estimate of abatement costs, is estimated at $13,000; this amount is included in the $180,000 Lead and Asbestos Abatement project budget for 2029 but this portion is recommended for early implementation. The survey is recommended as a risk-mitigation measure which will also provide a more accurate estimate of abatement costs to make Plant 1A upgrades safe to implement.

6.7.7. Net Year 1 Recommended Cost

The total cost to implement the work recommended in Year 1 is shown in Table 6-7 below

Table 6-7 – Year 1 Cost Summary

Program Item	Year 1 Cost
Programmatic EIR	$440,000
Pumping Plant 8 Major Plant Replacements and Pipeline Replacement[1]	$1,550,000
Pumping Plant 5 Relocation	$900,000
Pumping Plant 1B Anti-Cavitation Plates	$60,000
Culvert and Drain Condition Assessment and Replacement Plan	$100,000
Plant 1B Environmental Survey	$13,000
Year 1 Cost[1]	$3,100,000

[1]Rounded to next $50,000

Section 7

Funding Plan

In May 2020, the District retained NBS to develop a comprehensive financial plan for the District. The proposed comprehensive financial plan will detail all District revenue sources, expenditures, reserves, capital improvement costs, repair and replacement costs and net revenue requirements. NBS will develop a 20-year financial projection model that will serve as a financial "roadmap" for the District. NBS will incorporate the plans for new facilities, infrastructure improvements, and asset replacement plans identified in this 2020 CIP Update into the comprehensive financial plan. NBS will evaluate the timing, costs, and available reserves needed to fund the proposed CIP and will develop approaches to funding CIP needs, which may include an appropriate balance between debt-funded and cash-funded projects.

Appendix A

CONDITION ASSESSMENT REPORT

KJELDSEN SINNOCK NEUDECK
CIVIL ENGINEERS & LAND SURVEYORS

Stephen K. Sinnock, P.E.
Christopher H. Neudeck, P.E.
Neal T. Colwell, P.E.
Barry O'Regan, P.E.

2433-0010

FILE MEMORANDUM

January 23, 2020

To: Kevin King, General Manager, Reclamation District 1000

Subject: Condition Assessment Report

Project: Reclamation District No. 1000 Capital Improvement Plan Update

From: Kristy Chang, PE
Bill Worrall, PE

Review: Barry O'Regan, PE

1.0 OVERVIEW AND PURPOSE

The purpose of this memorandum is to review the existing characteristics of key assets in the Reclamation District No. 1000 (District) inventory, and assess the general condition of each identified asset. Per District direction, electrical and SCADA assessments have been excluded. This report will form the basis of the capital improvement plans (CIP) for the District.

2.0 ASSESSMENT APPROACH

The condition assessment process comprised of three phases:
1. Initial Preparation and Discussion of Key Assets
2. Field Assessment
3. District Staff Interviews

An initial kickoff meeting was held on December 2, 2019. District staff, KSN staff, and District engineering staff were present to discuss the objectives of the new CIP project, including the District's key assets and concerns with the operation and maintenance. It was identified that there are numerous ongoing projects with modifying and improving District assets as part of the Natomas Levee Improvement Program (NLIP).

A field assessment meeting was then held on December 11, 2019, where two KSN staff members accompanied by a District staff member visited the District pumping plants, corporation yard, and various key sites in the District.

Interviews with District staff were also held to discuss important issues with key assets.

2.1 GENERAL EVALUATION CRITERIA

The general criteria that were evaluated for each District asset include the following:

1. Physical condition

2. Operational and maintenance deficiencies
3. Relative risk

Physical condition evaluates whether parts of the asset are damaged, the extent of the damage, age, and maintenance needs of the asset.

Operational and maintenance deficiencies evaluates the efficiency of the asset, as well as the wants and needs of operations staff for operating and maintaining the asset.

3.0 SUMMARY OF FINDINGS

The portions of the District system that were evaluated include all of the District's exterior and interior pumping plants, the District exterior and interior levees, and canals. Portions that are excluded from the scope of this report are the electrical and SCADA elements of District assets.

3.1 PUMPING PLANTS

There are eight pumping plants under the jurisdiction of the District that are used to relieve storm and floodwaters from within the District.

3.1.1 Plant 1A

Plant 1A is located near District headquarters, and is part of Pumping Plant 1. It was constructed in 1915 as the first pumping plant in the District. Currently, this plant is used only as a backup if all the other pumps in the District are not enough.

Physical Condition

There are four (4) pumps in Plant 1A housed inside a two-story building, alongside the necessary electrical components. The pumps are shown in **Figure *1***.

Figure 1 - Pumping Plant 1A Pumps

The pumps are generally believed to be in good shape, showing no visible abnormal wear. Piping, where visible, appears to be in good condition. However, the station has not been operated in at least 10 years, so its ability to serve as a backup system is not assured.

The intake leading to the pumps is preceded by both manual bar screens and an automatic chain screen. The four pumps lead to two concrete tunnels, that then transition into four arch tunnels where four (4) wooden flap gates and four (4) manual cast iron slide gates are placed. The discharge goes through the levee with minimal elevation difference.

The paint coating the pumps and several pipes and other appurtenances appear to be original or of vintage that likely contained lead-based paint. Some lines may also have insulation that contains asbestos. Because the plant has not been operated in several years, the potential hazard is considered low, but if the plant is to be brought up to standard, testing for lead and asbestos content and subsequent mitigation would be a high priority. In addition, the exterior paint on the building is in poor condition, peeling freely and exposing the paint or primer underneath. Evaluation of the potential hazard posed is considered a high priority because it may release lead to the environment.

The pumps are manual start, and have some difficulties with starting due to low head caused by the lack in elevation difference of the pump and the discharge. The plant must be staffed for startup and then continuously during all operational hours. The instrumentation and control system must be considered substandard given that the plant requires a crew for startup and operation. Additionally, we understand that the existing electrical system can only power a total of 8 pumps at the same time between Plants 1A and 1B.

Capacity, Operations, and Maintenance
The capacities of the Plant 1A pumps are shown in **Table *1*** below.

Table 1 - Plant 1A Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	600	2,400v	136	621
2	650	2,400v	181	
3	600	2,400v	152	
4	650	2,400v	152	

Security
Both plants 1A and 1B are surrounded by a single security fence. Access is adequately controlled to all portions of the plant including the intakes, electrical and instrumentation, and pumps.

Relative Risk
This pumping plant is considered a backup plant, and is not run on a regular basis. It is only run if all the other pumps in the District cannot keep up with draining the canals. While being a backup system reduces its criticality, its reliability is questionable, and the resources to operate the plant may not be available during emergency conditions if the plant is needed; upgrading of the electrical and instrumentation system should be considered.

3.1.2 Plant 1B

Plant 1B is the other part of Plant 1, and is the main plant that is run on a regular basis. Plant 1B is located just north of Plant 1A. It was first constructed in 1959, and then reconstructed in 2003.

Physical Condition
There are six (6) vertical turbine pumps located outside its electrical building, as shown in **Figure *2*** below.

Figure 2 - Pumping Plant 1B Pumps

These pumps and visible pipe are in good condition, and are regularly maintained by the District. The intakes to these pumps are screened with automatic bar screens shown in **Figure *3***.

Figure 3 - Pumping Plant 1B Intake Screens

The pumps discharge over the levee adjacent to Plant 1 into separate welded steel pipes to the Sacramento River through a concrete outfall structure fitted with flap gates. Siphon breaker valves are installed near the top on the water side. We understand that the US Army Corps of Engineers (USACE) is evaluating the existing tunnels as part of the Natomas Levee Improvement Project (NLIP) and will issue a report on their condition in upcoming months. Any improvements to the tunnels are assumed to be funded under the NLIP.

In 2012, a diesel generator was installed inside the plant building. The tank, shown in **Figure *4***, is limited in size due to the constraint of the building. With all the pumps running, the generator can support the plant for approximately 8 hours of runtime.

Figure 4 - Pumping Plant 1B Generator

The electrical and instrumentation components appear to be in good condition with no visible damage and are housed in a building protected from the elements.

Security
Both plants 1A and 1B are surrounded by a single security fence. Access is adequately controlled to all portions of the plant including the intakes, electrical and instrumentation, and pumps.

Capacity, Operations, and Maintenance The capacities of the Plant 1B pumps are shown in **Table *2*** below.

Table 2 - Plant 1B Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	400	2,400v	100	600
2	400	2,400v	100	
3	400	2,400v	100	
4	400	2,400v	100	
5	400	2,400v	100	
6	400	2,400v	100	

The intake screens are functioning well, but the chains that rotate the automatic cleaners are needing replacement approximately every 10 years due to wear and tear.

Relative Risk

Plant 1B is one of the most important plants in the District, due to its location at the end of the Main Drain. The plant appears to be in good operating condition. The risk of failure of this plant is considered low since all components are in good working order.

3.1.3 Plant #2

Plant 2 is located on the western side of the District at the end of the North Drain Canal. The plant was originally constructed in 1959, reconstructed in 1976, and then rebuilt and relocated in 2014.

Physical Condition

There are two (2) pumps and one (1) backup pump in Plant 2 located outdoors, with the electrical components housed in an adjacent building. The pumps are shown in **Figure *5*** below.

Figure 5 - Pumping Plant 2 Pumps

Like Plant 1, Plant 2 has the same automatic bar screens operating with chains. Plant 2 also has connections for a portable generator, should the need arise. With the latest reconstruction, cathodic protection was added for the pumps' discharge pipes. Due to the recent reconstruction, everything at Plant 2 is still in excellent condition.

The electrical and instrumentation is housed in a cabinet with an overhang and shows no visible signs of unusual wear.

Security
New fencing was installed with wire atop, limiting access to the site, but the fabric installed is not anti-climb.

Capacity, Operations, and Maintenance The capacities of the Plant 2 pumps are shown in **Table *3*** below.

Table 3 - Plant 2 Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	400	2,400v	80	120
2	250	2,400v	40	

Other than the chains on the automatic bar screens, there are no major operational or maintenance deficiencies at Plant 2.

Relative Risk
Plant 2 is in fairly new condition and has minimal risk of failing.

3.1.4 Plant #3

Plant 3 is located northwest of Plant 1, connecting the West Drain. It was originally constructed in 1939, and then modified with increased capacity in 2001.

Physical Condition
There are four (2) drainage pumps, two (2) small irrigation pumps, and one (1) bay for future pump installation in Plant 3 located outdoors, with the electrical components housed in a building adjacent. The pumps are shown in **Figure *6*** below.

Figure 6 - Pumping Plant 3 Pumps

The pumps discharge to a manifold structure to a single pipe leading across the levee to the Sacramento River.

This plant has no connection for a portable generator at present.

The plant is in fairly good condition, but is currently under plans to be upgraded by the USACE as part of the NLIP, replacing the pumps and the manifold with separate discharge pipes.

The electrical and instrumentation is housed in a separate building protected from the elements and appears capable of supporting the required service until the pump station is replaced.

Security
The building site is fenced but access to the pump platform is not limited.

Capacity, Operations, and Maintenance The capacities of the Plant 3 pumps are shown in **Table *4*** below.

Table 4 - Plant 3 Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	200	2,400v	38	196
2	200	2,400v	38	
3	300	2,400v	70	
4	200	2,400v	50	

The pump capacity is currently planned to be expanded by the USACE.

Relative Risk
This plant is one of the main drainage points for the Sacramento International Airport. It also serves a sizeable urban area nearby. Therefore, the criticality of this plant is relatively high. Without a generator hookup, the risk of failure exists, but the new upgrades will add a new connection for a portable generator.

3.1.5 Plant #4

Plant 4 is the northernmost plant in the District, at the end of the North Drain. This plant was originally constructed in 1964, and reconstructed in 1986.

Physical Condition
There are three (3) pumps in Plant 4 that discharge into the Natomas Cross Canal. This plant is relatively outdated, but due to impacts of the NLIP, it is planned to be entirely replaced. The plant will be removed in 2020 and setback from the new levee.

Of particular note is that the grating inside the pump station may have limited weight bearing capacity between sections of grating. It is recommended that no more than one person enter the pump station at a time for safety reasons unless the grating is upgraded.

The electrical and instrumentation is housed within the pump station building protected from the elements and appears capable of supporting the required service until the pump station is replaced.

Security
Access to the current plant which contains the pumps is currently within a locked building, so existing security is strong.

Capacity, Operations, and Maintenance The current capacities of the Plant 4 pumps are shown in **Table *5*** below.

Table 5 - Plant 4 Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	300	480v	76	306
2	400	480v	115	
3	400	480v	115	

The plant is to be removed and replaced with an entirely new plant with the same layout and capacity as Plant 2. Ultimately, the capacity will be dialed down, but the pumps will have enough power to pump over the new levee 200-year elevation.

Relative Risk
Plant 4 will be replaced in the near future, which puts this plant at a low risk of failure after construction. The plant appears fully capable of providing the necessary service until replaced.

3.1.6 Plant #5

Plant 5 is located at the end of the West Drain near the Sacramento Airport. This plant was originally constructed in 1965 to handle additional runoff from the airport, along with Plant 3.

Physical Condition
There are three (3) pumps in Plant 5 that discharge into the Sacramento River. The intake screens are manual bars. This plant is older, and shows sign of corrosion on the pipelines, but is slated to be removed and replaced at a setback location as part of the NLIP.

The electrical and instrumentation is housed in a separate building protected from the elements and appears capable of supporting the required service until the pump station is replaced.

Security
The plant is clearly visible from Garden Highway with access to the pump platform, while the are electrical and instrumentation is housed inside the existing building.

Operational and Maintenance
The current capacities of the Plant 5 pumps are shown in **Table *6*** below.

Table 6 - Plant 5 Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	100	480v	19	57
2	100	480v	19	
3	100	480v	19	

Like Plant 4, this plant will be replaced with plans modelled after Plant 2, due to the plant being located too close to the newly upgraded levee. The plan is to provide an empty space in the pump deck for an additional pump to allow additional capacity resulting from more rapid runoff from Sacramento Airport expansion activities. The airport has agreed to provide funding for the additional capacity when needed.

Relative Risk
Plant 5 is one of the main pumping plants serving the Sacramento Metro Airport. Plant 5 is a relatively critical facility due to serving major infrastructure. Currently, it appears fully capable of serving for several more years until replaced. Once replaced in the near future, the risk of failure will be considered minimal.

3.1.7 Plant #6

Plant 6 is located on the east side of the District approximately one mile north of Elkhorn Boulevard. It was constructed in 1974, and updated in 1997., Due to complaints of residents of the area across the Natomas East Main Drainage Canal (NEMDC) that use of this plant causes flooding, this plant is the last one called upon for drainage purposes, even though the restrictions at downstream Sacramento County Pump Station D15 are the actual cause of flooding. This plant has not been operated in at least 10 years.

Physical Condition
On the site visit, the lock on the pump building was rusted shut, and staff could not safely inspect the condition of the pumps except from a distance. The pumps appeared to show some wear. The electrical components, housed in a separate building, are checked monthly by District staff.

There are manual bar screens at the intake of the plant that appear to be in good condition.

Security
Fencing protects access to the plant electrical and instrumentation, but access restrictions do not prevent public from accessing the pump deck; at the time of the site visit, a person was fishing from the pump deck.

Capacity, Operations, and Maintenance There are four (4) pumps at Plant 6 that discharge to the NEMDC, and their capacities are shown in **Table *7*** below.

Table 7 - Plant 6 Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	125	480v	28	180
2	200	480v	42	
3	300	480v	60	
4	250	480v	50	

These pumps are unused and untested, so there is a possibility that the pumps would not run if needed.

Relative Risk
This plant is not used, as Plants 2, 4, and 8 are draining the canals in the area in place of Plant 6. Due to the lack of maintenance on the pumps and motors and no confirmation that the plant is operational for several years, the reliability of the plant is questionable.

3.1.8 Plant # 8

Plant 8 is located on the east side of the District, west of Northgate Boulevard. The plant was originally constructed in 1983, and modified in 2001 for increased capacity, a new electrical and instrumentation building, and automatic trash racks.

Physical Condition
There are nine (9) pumps, with two of them being redundant large pumps, located outdoors. These pumps are shown in **Figure *7*** below.

Figure 7 - Pumping Plant 8 Pumps

The pumps and pipes are in fairly good condition. The fair to poor condition of the pipe coatings was noted, however the pipes did not visually show signs of excessive corrosion. Tony Del Castillo noted there is an anode system and the valve boxes marking each location was found the top of the hill just inside the fence. He also noted that cathodic protection is monitored and tested at each location by a consultant.

Trash racks are installed in front of a small forebay before the pumps and appear to be in good condition.

The electrical and instrumentation components are protected inside an alarmed building and appear to be in good condition. The plant has capability for connecting a portable generator.

Security

Access from Northgate Boulevard is limited by fencing. The plant is normally accessed by driving past a locked gate several hundred yards to the west on an access road. The electrical and instrumentation is housed in a locked building with alarm. However, positive physical barriers to the pumps and outlet piping from the west does not exist.

Capacity, Operations, and Maintenance

The capacities of the Plant 2 pumps are shown in **Table *8*** below.

Table 8 - Plant 8 Pumping Capacity

Pump Unit No.	Horsepower	Service Voltage	Capacity (cfs)	Plant Capacity (cfs)
1	700	480v	105	779
2	700	480v	105	
3	300	480v	48	
4	200	480v	33	
5	300	480v	48	
6	700	480v	105	
7	700	480v	105	
8	500	480v	115	
9	500	480v	115	

This plant has the highest discharge of any plant in the system. In general, pump units 3, 4, and 5 are run the most often, and the larger pumps are only used in high water events, due to the high frequency of on and off cycling when the larger pumps run. There is a hookup for a portable generator in case of power outages; and the District is considering converting two of the large pumps to diesel or natural gas.

Relative Risk

Plant 8 is one of the most important facilities in the District due to its size and location in the urban area of Natomas. The North Natomas development was the trigger for the expansion of Plant 8, and serves one of the most densely populated areas in the District, so it must often handle rapid runoff.

Risk of failure appears to be low for this plant, but its criticality may make reliability/backup power upgrades desirable.

3.2 Interior Pumping Stations and Canals

The District operates and maintains two pumping stations in the interior of the District. These pumping plants pump water from urban and irrigation canals into the District's Main canals.

3.2.1 San Juan Pumping Station

The San Juan Pumping Station is located on the right bank of the West Drain Canal south of San Juan Road.

Physical Condition

There are two hydraulic (2) pumps housed inside the plant building alongside the electrical and instrumentation that pump water from the sub drain to the West Drain. The pumps, power supply, and electrical appear to be in good condition.

Security

The pumps, electrical, and instrumentation are housed inside a building, providing adequate protection. Locked gates prevent motorized travel along the top of the canal, but joggers can easily gain access to the site and it is clearly visible from San Juan Road. Despite its relatively accessible location, the security measures protect most critical components.

Capacity, Operations, and Maintenance The two hydraulic pumps cycle between each other, and during the summer months, there is a gate that allows water from the main canal back into the sub drain for irrigation purposes.

There are no operational or maintenance deficiencies identified by the District or inspection of this pump station.

Relative Risk
San Juan Pumping Station serves a relatively large area in the southwestern portion of the District, but has no particular deficiencies that cause a risk of failure. Failure would likely result in localized flooding at the intersection of San Juan and El Centro during rain events. The risk of failure appears low for this pumping station.

3.2.2 Riverside Pumping Station
The Riverside Pumping Station is located just north of the San Juan Pumping Station, and has identical setup.

Physical Condition
This plant is identical to San Juan Pumping Station, albeit smaller due to serving a smaller area. The condition of the plant is similarly good, and there are not particular signs of aging or damage.

The electrical and instrumentation is housed inside the pump station building protected from the elements and appears to be in good condition.

Security
The pumps, electrical, and instrumentation are housed inside a building, providing adequate protection. Locked gates prevent motorized travel along the top of the canal but joggers can easily gain access to the site. Despite its relatively accessible location, the security measures protect most critical components.

Operation and Maintenance
There are no operational or maintenance deficiencies identified by the District for this pump station.

Relative Risk
Riverside Pumping Station serves only a small development nearby, so the relative consequence of failure is low. The pump station appears to be in good condition with low probability of failure.

3.2.3 Interior Drainage Canals
The major interior canals in the District include the Main Drain, North Drain, West Drain, and East Drain.

Physical Condition
The drainage canals have steep vertical walls, which over time have eroded, particularly in the Main Drainage Canal. Access is also limited due to effectively complete development in the most critical areas of the basin.

Operation, Maintenance, and Capacity
One of the main concerns with the canals is vegetation growth, which results in clogging the pump intakes at the trash racks and insufficient flow to pumps. As a result, vegetation maintenance is considered a high priority.

Structurally, due to the erosion issues, the District must continuously mitigate using rock slope protection. The West Drainage Canal through Fisherman's Lake has conveyance issues due to heavy sedimentation and vegetation growth. A continual problem is that the canals are used for irrigation during summer months, and typically the water levels are higher during the irrigation season than the wet season, providing an inadequate window to drain the canals and perform complete repairs.

Relative Risk
The Main Drainage Canal is critical infrastructure, and limits what is conveyed to the pumps if there are issues. Similarly, the West Drainage Canal is the main drainage point for the Sacramento International Airport. Consequence of losing conveyance capacity in the canals and limiting pumping capacity makes canal maintenance a high priority.

3.3 EXTERIOR LEVEES

The Natomas basin is surrounded by project levees that have undergone recent improvements, or are planned to be improved by the NLIP, or the USACE.

Physical Condition
Most of the levee reaches along the Sacramento River have been improved as part of the NLIP. The other portions of the levee are to be improved by the USACE to be at least a 200-year standard. When the NLIP is complete, the levees are assumed to be in excellent condition and therefore no condition assessment is made except as noted below.

In addition to the surrounding levees, there are five (5) culverts that run under the Pleasant Grove Creek Canal (PGCC), which routes north into the Natomas Cross Canal. These culverts are known to have been constructed in a manner that does not meet current standards, in poor condition, and have difficult maintenance access. The culvert may not be replaced as part of the USACE's levee improvement program.

(Site Security
The levees are accessible to the public at all times and in places commercial and residential properties are located adjacent to or atop the levees. It is impractical to provide security for these exterior levees.)

Operations and Maintenance In the northeast portion of the Natomas Basin, there is a significant gap in the levee, named the Sankey Gap, shown in **Figure *8***. The gap is vulnerable to high waters in the PGCC, and should be considered for closure, either in emergency situations with material staging areas, or a permanent construction solution. Our understanding is that to be closed, capacity in the upper reaches of either the NEMDC or Natomas Cross Canal would have to be significantly augmented to prevent upstream flooding in the PGCC when the water would otherwise flow through the gap. The Sacramento Bypass and Fremont Weir widening may affect whether a permanent solution would be needed in the Sankey Gap.

Figure 8 - Sankey Gap

Relative Risk
The exterior levees are an important part of the District, protecting the Natomas Basin from floodwaters outside of the District. The Natomas area continues to develop, and the importance of flood protection in the District increases as a result. The current plans to improve the levees will reduce the relative risk of failure for these assets. Maintenance activities that allow effective monitoring should be considered a priority in District budgeting. Until the completion of the NLIP, however, capital improvements to the exterior levees funded by the District are not considered in this report.

3.4 CORPORATION YARD

The District's Corporation Yard is located on the east side of the Basin on Elkhorn Boulevard, holding the District's equipment and shop area. This yard is the intended home for the District's SCADA system.

Physical Condition
The Yard is in good condition, and the District has been making improvements by paving the area and expanding the Yard for the purpose of holding more equipment.

Security
Most of the facilities are located inside of existing structures with locks, and the entire area is secured with a fence and locking gates.

Operational and Maintenance
The Yard is to be expanded another three acres to provide storage space.

Relative Risk

The Corporation Yard is one of the District's centers of operation, but the yard is in good shape and is being improved upon at the moment. The main concern is that the yard or alternative locations be adequately stocked with levee maintenance and flood mitigation/fighting materials, or that the District's supply of these at other locations be adequate. The District's efforts should focus on maintaining an adequate supply of equipment and materials for operations at the site to minimize risks elsewhere in the District.

Appendix B

METHODOLOGY AND OPINION OF PROBABLE COSTS

Section 1

Cost Estimating Methodology

1.1 COST ESTIMATING METHODOLOGY

The cost estimates within the CIP report were derived from multiple sources and compiled with specific methodology. Typically, the same approach to producing cost estimates was applied to pumping plants 1A, 1B, 2, 3, 4, 5, 6, 8, San Juan, and Riverside. Cost estimates were produced to address both near term recommended improvements to achieve optimal levels of service, as well as recurring capital improvement costs over a roughly 30-year period.

1.1.1. COST ESTIMATE UNIT PRICE ITEMS

Two sources of information were heavily utilized in producing cost estimate unit price items to account for near term and recurring capital improvement costs at RD 1000 plants over a roughly 30- year period. The first of these sources is a collection of nine different construction bids from June of 2012 for work to be done at Plant 2. An average unit price from the collection of bids was used to produce each cost estimate item. Where certain individual bids were unreasonably higher or lower than the average unit price, that specific bid was not included in the cost estimate item. A CCI factor of 1.26 was applied to each bid item to project the unit price from June of 2012 to July of 2020 for the cost estimate item. All cost estimate items presented assume a CCI value of July 2020.

The second source of heavily utilized information in producing cost estimates was a 2019 bid sheet from the Army Corps of Engineers for construction work to be completed at pumping plant 4. In general, the unit price items in these bids were larger than other reference sources. In order to address this, pumping plant 2 unit bid price averages were escalated to the June 2019 index using a CCI factor of 1.21, and 12 like bid items were compared to pumping plant 4 unit bid price items. On average, the pumping plant 4 unit bid price items were 65% higher than the escalated pumping plant 2 unit bid price items. Pumping plant 4 unit bid price items that were used in producing cost estimate items were escalated to July 2020 CCI, and reduced by 65%.

Other sources of information for cost estimate items include recent bids from other projects, information gathered from online suppliers, or estimates requested specifically for the purpose of this CIP report.

1.1.1.1. Cost Estimate Presentation

Cost estimates provided to address near term and recurring capital improvement costs at pumping plants are presented in a simplified manner, with many different components grouped into certain cost estimate items and presented as a single unit cost. Although the same methodology is followed for all pumping plants, specific pumping plants may contain more or less items, depending on the recommendations presented to achieve optimal level of service. Table 1 explains the different

components grouped together for each cost estimate item. Cost estimate items not gathered from construction bids are applied an installation cost factor. Most items also include the application of an administrative cost factor. In general, all total costs presented are rounded up to reflect no more than three significant digits.

Table 1 - Cost Estimate Item Breakdowns

Cost Estimate Item	Component or Service Item
New outfall structure / New intake structure	Outfall / intake structure
	Cast in place foundation
	Class 2 AB
	3/4" drain rock
	Geotextile
	Railing
	Soil fill
New walkway for workers	Pump catwalk/steel decking
	Access stairway and handrails.
	Structural steel members
Replace instrumentation	Pedestals, panels and controllers
	Replacement of conduits and wires
	Installation of SCADA and PLC
	Replacement of electrical equipment and pads
New electrical building	New building costs
	Cast in place building slab
	Building plumbing
Discharge pipe	Discharge pipe
	Access manholes
	Gates and valves
	Pipe supports
	Pipe adapters
	Meters and vaults
	Soil fill
	Pipe bedding material

Recurring capital improvement costs are based off of initial construction/implementation dates for capital improvement items, and appropriate replacement schedules based on the life cycle of the item. The life cycle of specific items and the construction/implementation date for when life cycles begin was determined through condition assessment site visits conducted by KSN staff and conversations with RD 1000 district representatives. All life cycle costs are presented throughout an estimated 30- year time period from the beginning of the plant's life cycle. All life cycle costs are presented in terms of un-escalated July 2020 prices, with no CCI value applied to future costs.

Pumping Plant 1A Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Intake Screens									
Chain Replacement	1500	FT	$ 12	1	$ 18,255	1.15	$ 21,000	2041	10
Unit Replacement	2	EA	$ 260,000	1	$ 520,000	1.25	$ 650,000	2060	40
Install New Automatic Bar Screems	2	EA	$ 260,000	1	$ 520,000	1.25	$ 650,000	2035	40
Replace instrumentation and controls; Install PLC and SCADA	1	LS	$ 1,380,000	1.5	$ 2,070,000	1.25	$ 2,600,000	2031	20
Cathodic Protection Rectifier Unit	2	EA	$ 3,000	1.5	$ 9,000	1.25	$ 11,250	2031	20
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 5,000	2031	20
Backup Generator Replacement (See Plant 1B)									
Cathoid Protection Pipe Jumper Cables	1600	LF	$ 100	1	$ 160,000	1.25	$ 200,000	2097	75
Pumps and Pump Motors				1	$ -	1	$ -		
Replace Unit	4	EA	$ 650,790	1	$ 2,603,159	1.25	$ 3,260,000	2082	60
Outfalls									
Replace Valves and Gates	0	LS	$ 229,333	1.5	$ -	1.25	$ -	2047	25
Outfall Structure	1	LS	$ 293,186	1	$ 293,186	1.25	$ 370,000	2097	75
Pipes (48" WSP)	1600	LF	$ 1,400	1	$ 2,240,000	1.25	$ 2,800,000	2097	75
Install Access Maholes	4	EA	$ 9,000	1	$ 36,000	1.25	$ 45,000	2045	75
Access & Security									
Equip Fences with Anti-Climb	1000	LF	$ 46	1	$ 46,132	1.1	$ 51,000	2082	60
Cameras	0	LS	$ 10,000	1.5	$ -	1.25	$ -	2032	10
Building									
Paint exterior of building	1	LS	$ 60,000	1	$ 60,000	1.2	$ 72,000	2022	30
Lead and Asbestos abatement	1	LS	$ 150,000	1	$ 150,000	1.2	$ 180,000	2029	75
Pump Platform & Access	1	LS	$ 100,000	1	$ 100,000	1.25	$ 125,000	2045	75
Intake Structure	1	LS	$ 2,000,000	1	$ 2,000,000	1.25	$ 2,500,000	2097	75
Control Building Structure	1	LS	$ 216,000	1	$ 216,000	1.25	$ 270,000	2097	75
2025 TOTAL*							$ 80,000		
2030 TOTAL*							$ 260,000		
2040 TOTAL*							$ 3,520,000		
2050 TOTAL*							$ 3,710,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 1B Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Intake Screens									
Chain Replacement	2200	FT	$ 12	1	$ 26,774	1.15	$ 31,000	2021	10
Unit Replacement	6	EA	$ 260,000	1	$ 1,560,000	1.25	$ 1,950,000	2043	40
Replace Power, Cathodic & Ventilation					$ 1,047,750		$ 1,330,000	2022	30
Replacement of Power	1	LS	$ 690,000	1.5	$ 1,035,000	1.25	$ 1,300,000	2022	30
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2022	30
Cathodic Protection Rectifier Unit	2	EA	$ 3,000	1.5	$ 9,000	1.25	$ 20,000	2022	30
Replace Instrumentation and Controls	1	LS	$ 690,000	1.5	$ 1,035,000	1.25	$ 1,300,000	2023	20
Cathodic Protection Annode Beds	16	EA	$ 800	1.5	$ 19,200	1.25	$ 24,000.00	2028	10
Cathoid Protection Pipe Jumper Cables	700	LF	$ 100	1.5	$ 105,000	1.25	$ 131,250.00	2078	75
Convert Generator to Natural Gas	1	EA	$ 300,000	1.2	$ 360,000	1.25	$ 450,000.00	2026	30
Major Plant Replacements					$ 1,746,000		$ 2,182,500	2043	
Replace Pumps and Pump motors	6	EA	$ 91,000	1	$ 546,000	1.25	$ 682,500	2043	40
Replace Generator	1	EA	$ 1,000,000	1.2	$ 1,200,000	1.25	$ 1,500,000	2043	20
Outfalls									
Replace Valves and Gates	1	LS	$ 330,000	1	$ 330,000	1.25	$ 412,500	2028	25
Outfall Structure	1	LS	$ 518,000	1	$ 518,000	1.25	$ 647,500	2078	75
Pipes (48")	700	LF	$ 1,700	1	$ 1,190,000	1.25	$ 1,487,500	2078	75
Access & Security									
Equip Fence with Anti-Climb	1000	LF	$ 46	1.5	$ 70,000	1.25	$ 87,500	2053	50
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2021	10
Building									
Replace Roof and Paint Control Building	1	LS	$ 500,000	1	$ 500,000	1.25	$ 625,000	2028	25
Pump Platform & Access	1	LS	$ 200,000	1.5	$ 300,000	1.25	$ 375,000	2078	75
Intake Structure	1	LS	$ 3,000,000	1	$ 3,000,000	1.25	$ 3,750,000	2078	75
Construct Cast In Place Baffles (Plant Dewatering Included in Total)	3	EA	$ 52,000	1.5	$ 234,000	1.25	$ 760,000	2024	75
Install Anti-Cavitation Plates	6	EA	$ 5,000	1.5	$ 45,000	1.25	$ 60,000	2024	75
Control Building Structure	1	LS	$ 216,000	1	$ 216,000	1.25	$ 270,000	2078	75
2025 TOTAL*							$ 3,500,000		
2030 TOTAL*							$ 5,100,000		
2040 TOTAL*							$ 5,100,000		
2050 TOTAL*							$ 10,600,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 2 Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Intake Screens									
Chain Replacement	1100	FT	$ 12	1	$ 13,387	1.15	$ 16,000	2024	10
Unit Replacement	3	EA	$ 260,000	1	$ 780,000	1.25	$ 975,000	2054	40
Power, Instrumentation & Controls, Cathodic & Ventilation					$ 1,739,250		$ 2,180,000	2034	20
Replacement of Power, I&C	1	LS	$ 1,440,000	1.2	$ 1,728,000	1.25	$ 2,160,000	2034	20
Cathodic Protection Rectifier Unit	1	EA	$ 5,000	1.5	$ 7,500	1.25	$ 10,000	2034	20
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2034	20
Mobile Generator for Plants 2,3 & 5	1	EA	$ 125,000	1.5	$ 187,500	1.25	$ 235,000	2024	30
Cathoid Protection Annode Beds	8	EA	$ 1,000	1.5	$ 12,000	1.25	$ 15,000	2034	10
Cathoid Protection Pipe Jumper Cables	600	LF	$ 100	1	$ 60,000	1.25	$ 75,000	2089	75
Pumps and Pump Motors				1	$ -	1	$ -		
Replace Unit	3	EA	$ 228,807	1	$ 686,422	1.25	$ 859,000	2074	60
Outfalls									
Replace Valves and Gates	1	LS	$ 172,000	1	$ 172,000	1.25	$ 220,000	2039	25
Outfall Structure	1	LS	$ 518,000	1	$ 518,000	1.25	$ 647,500	2089	75
Pipes (48" HDPE)	696	LF	$ 1,000	1	$ 696,000	1.25	$ 870,000	2089	75
Pipes (34" HDPE)	440	LF	$ 800	1	$ 352,000	1.25	$ 440,000	2089	75
Pipes (42" WSP)	308	LF	$ 1,600	1	$ 492,800	1.25	$ 616,000	2089	75
Pipes (30" WSP)	296	LF	$ 1,400	1	$ 414,400	1.25	$ 518,000	2089	75
Access & Security									
Equip Fence with Anti-Climb	1000	LF	$ 46	1.2	$ 55,359	1.25	$ 70,000	2024	50
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2034	10
Building									
Replace and paint cabinet roof	1	LS	$ 50,000	1	$ 50,000	1	$ 50,000	2044	25
Pump Platform & Access	1	LS	$ 100,000	1	$ 100,000	1.25	$ 125,000	2089	75
Intake Structure	1	LS	$ 1,500,000	1.2	$ 1,800,000	1.25	$ 2,250,000	2089	75
Control Building Structure	1	LS	$ 216,000	1	$ 216,000	1.25	$ 270,000	2089	75
2025 TOTAL*							$ 330,000		
2030 TOTAL*							$ 330,000		
2040 TOTAL*							$ 2,780,000		
2050 TOTAL*							$ 2,880,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 3 Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Intake Screens									
Chain Replacement	1450	FT	$ 12	1	$ 17,647	1.15	$ 21,000	2032	10
Unit Replacement	4	EA	$ 260,000	1	$ 1,040,000	1.25	$ 1,300,000	2062	40
Power, Instrumentation & Controls, Cathodic & Ventilation					$ 1,746,750		$ 2,190,000	2042	20
Replacement of Power, I&C	1	LS	$ 1,440,000	1.2	$ 1,728,000	1.25	$ 2,160,000	2042	20
Cathodic Protection Rectifier Unit	2	EA	$ 5,000	1.5	$ 15,000	1.25	$ 20,000	2042	20
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2042	20
Mobile Generator for Plants 2,3 & 5	1	EA	$ 125,000	1.5	$ 187,500	1.25	$ 235,000	2024	30
Cathoid Protection Annode Beds	16	EA	$ 800	1.5	$ 19,200	1.25	$ 24,000	2032	10
Cathoid Protection Pipe Jumper Cables	2350	LF	$ 100	1	$ 235,000	1.25	$ 293,750	2097	75
Pumps and Pump Motors				1	$ -	1	$ -		
Replace Unit	4	EA	$ 232,953	1	$ 931,812	1.25	$ 1,165,000	2082	60
Outfalls									
Replace Valves and Gates	1	LS	$ 343,195	1	$ 343,195	1.25	$ 430,000	2047	25
Outfall Structure	1	LS	$ 518,000	1	$ 518,000	1.25	$ 647,500	2098	75
Pipes (42" WSP)	450	LF	$ 1,400	1	$ 630,000	1.25	$ 787,500	2098	75
Pipes (48" WSP)	450	LF	$ 1,550	1	$ 697,500	1.25	$ 871,875	2098	75
Pipes (24" WSP)	450	LF	$ 1,050	1	$ 472,500	1.25	$ 590,625	2098	75
Access & Security									
Install Anti-Climb Fences	1000	LF	$ 75	1	$ 75,000	1.1	$ 83,000	2035	50
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2032	10
Building									
Replace and Paint Cabinet Roof	1	LS	$ 50,000	1	$ 50,000	1	$ 50,000	2047	30
Replace Roof and Paint Control Building	0	LS	$ 500,000	1	$ -	1	$ -	2047	25
Pump Platform & Access	1	LS	$ 200,000	1.5	$ 300,000	1.25	$ 375,000	2098	75
Intake Structure	1	LS	$ 3,000,000	1	$ 3,000,000	1.25	$ 3,750,000	2098	75
Control Building Structure	1	LS	$ 1,500,000	1	$ 1,500,000	1.25	$ 1,875,000	2098	75
2025 TOTAL*							$ 240,000		
2030 TOTAL*							$ 240,000		
2040 TOTAL*							$ 390,000		
2050 TOTAL*							$ 3,120,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 4 Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Intake Screens									
Chain Replacement	1100	FT	$ 12	1	$ 13,387	1.15	$ 16,000	2032	10
Unit Replacement	3	EA	$ 260,000	1	$ 780,000	1.25	$ 975,000	2082	40
Power, Instrumentation & Controls, Cathodic & Ventilation					$ 1,739,250		$ 2,180,000	2042	20
Replacement of Power, I&C	1	LS	$ 1,440,000	1.2	$ 1,728,000	1.25	$ 2,160,000	2042	20
Cathodic Protection Rectifier Unit	1	EA	$ 5,000	1.5	$ 7,500	1.25	$ 10,000	2042	20
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2042	20
Install Diesel Generator	1	EA	$ 600,000	1.5	$ 900,000	1.25	$ 1,125,000	2028	30
Cathoid Protection Pipe Jumper Cables	1200	LF	$ 100	1	$ 120,000	1.25	$ 150,000	2097	75
Cathoid Protection Annode Beds	8	EA	$ 800	1.5	$ 9,600	1.25	$ 12,000	2032	10
Pumps and Pump Motors				1	$ -	1	$ -		
Replace Unit	3	EA	$ 428,262	1	$ 1,284,785	1.25	$ 1,606,000	2082	60
Outfalls									
Replace Valves and Gates	1	LS	$ 172,000	1.5	$ 258,000	1.25	$ 330,000	2047	25
Outfall Structure	1	LS	$ 630,000	1	$ 630,000	1.25	$ 787,500	2097	75
Pipes (48" WSP)	1200	LF	$ 1,600	1	$ 1,920,000	1.25	$ 2,400,000	2097	75
Access & Security									
Install Anti-Climb Fences	1000	LF	$ 75	1.5	$ 112,500	1.25	$ 141,000	2027	50
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2032	10
Building									
Replace and Paint Cabinet Roof	1	LS	$ 50,000	1	$ 50,000	1	$ 50,000	2047	25
Replace Roof and Paint Control Building	0	LS	$ 500,000	1	$ -	1	$ -	2047	25
Pump Platform & Access	1	LS	$ 100,000	1	$ 100,000	1.25	$ 125,000	2097	75
Intake Structure	1	LS	$ 1,500,000	1	$ 1,500,000	1.25	$ 1,875,000	2097	75
Generator Housing Structure	1	LS	$ 216,000	1	$ 216,000	1.25	$ 270,000	2028	75
2025 TOTAL*							$ -		
2030 TOTAL*							$ 1,540,000		
2040 TOTAL*							$ 1,590,000		
2050 TOTAL*							$ 4,190,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 6 Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Intake Screens									
Chain Replacement	1500	FT	$ 12	1	$ 19,000	1.15	$ 22,000	2055	10
Install New Automatic Bar Screens	4	EA	$ 260,000	1	$ 1,040,000	1.25	$ 1,300,000	2045	40
Power, Instrumentation & Controls, Cathodic, Ventilation, Valves & Gates, Pumps & Motors					$ 2,618,750		$ 3,300,000	2045	
Replacement of Power, I&C	1	LS	$ 1,280,000	1.2	$ 1,536,000	1.25	$ 1,920,000	2045	30
Cathodic Protection Rectifier Unit	2	EA	$ 3,000	1.5	$ 9,000	1.25	$ 20,000	2045	25
Cathoid Protection Pipe Jumper Cables	760	LF	$ 100	1	$ 76,000	1.25	$ 100,000	2045	75
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2045	20
Valves and Gates	1	LS	$ 230,000	1	$ 230,000	1.25	$ 290,000	2045	25
Pumps and Pump Motors	4	EA	$ 191,000	1	$ 764,000	1.25	$ 960,000	2045	60
Install SCADA	1	LS	$ 100,000	1.5	$ 150,000	1.25	$ 187,500	2045	20
Cathoid Protection Annode Beds	8	EA	$ 800	1.5	$ 9,600	1.25	$ 12,000	2032	10
Install Diesel Generator	1	EA	$ 500,000	1.5	$ 750,000	1.25	$ 937,500	2045	30
Outfalls									
Outfall Structure	1	LS	$ 1,000,000	1	$ 1,000,000	1.25	$ 1,250,000	2095	75
Pipes (42" WSP)	190	LF	$ 1,750	1	$ 332,500	1.25	$ 319,000	2045	75
Pipes (30" WSP)	190	LF	$ 1,500	1	$ 285,000	1.25	$ 260,000	2045	75
Pipes (36" WSP)	380	LF	$ 1,200	1	$ 456,000	1.25	$ 474,000	2045	75
Access & Security									
Install Anti-Climb Fences	1000	LF	$ 74	1.5	$ 111,273	1	$ 112,000	2045	50
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2042	10
Building									
Replace Roof and Paint Control Building	0	LS	$ 500,000	1	$ -	1	$ -	2045	25
Pump Platform & Access	1	LS	$ 100,000	1.5	$ 150,000	1.25	$ 187,500	2095	75
Intake Structure	1	LS	$ 2,000,000	1	$ 2,000,000	1.25	$ 2,500,000	2095	75
Control Building Structure	1	LS	$ 216,000	1	$ 216,000	1.25	$ 270,000	2095	75
2025 TOTAL*							$ -		
2030 TOTAL*							$ -		
2040 TOTAL*							$ 20,000		
2050 TOTAL*							$ 6,940,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 5 Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Plant Relocation									
All Plant Relocation Costs	1	LS	$ 8,900,000	1	$ 8,900,000	1	$ 8,900,000	2026	75
Intake Screens									
Chain Replacement	1100	FT	$ 12	1	$ 13,387	1.15	$ 16,000	2036	10
Unit Replacement	3	EA	$ 260,000	1	$ 780,000	1.25	$ 975,000	2064	40
Power, Instrumentation & Controls, Cathodic & Ventilation					$ 1,746,750		$ 2,190,000	2046	20
Replacement of Power, I&C	1	LS	$ 1,440,000	1.2	$ 1,728,000	1.25	$ 2,160,000	2046	20
Cathodic Protection Rectifier Unit	2	EA	$ 5,000	1.5	$ 15,000	1.25	$ 20,000	2046	20
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2046	20
Mobile Generator for Plants 2,3 & 5	1	EA	$ 125,000	1.5	$ 187,500	1.25	$ 240,000	2024	30
Cathoid Protection Annode Beds	8	EA	$ 800	1.5	$ 9,600	1.25	$ 12,000	2036	10
Outfalls									
Replace Valves and Gates	1	LS	$ 235,000	1	$ 235,000	1.25	$ 300,000	2051	25
Access & Security									
Fences	1000	LF	$ 73	1.5	$ 109,000	1	$ 109,000	2084	60
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2036	10
Building									
Replace Roof and Paint Control Building	0	LS	$ 500,000	1	$ -	1	$ -	2051	25
2025 TOTAL*							$ 240,000		
2030 TOTAL*							$ 9,200,000		
2040 TOTAL*							$ 9,200,000		
2050 TOTAL*							$ 11,500,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 5 Relocation Cost Estimate						
Item	Quantity	Unit	Cost/unit	Install factor	Administrative Factor	Total Cost
Mobilization and Demobilization @ 5%						$ 420,000
Traffic Control	1	LS	$ 32,000	1	1.25	$ 40,000
Storm Water Pollution Control	1	LS	$ 82,000	1	1.25	$ 102,500
Exclusionary Silt Fencing	2000	LF	$ 9	1	1.25	$ 22,500
Temporary Protective Fencing	500	LF	$ 10	1	1.25	$ 6,250
Site Clearing and Grubbing	1	AC	$ 30,000	1	1.25	$ 37,500
Demolition	1	LS	$ 170,000	1	1.25	$ 210,000
Dewatering	1	LS	$ 450,000	1	1.25	$ 562,500
Structure Excavation	3000	CY	$ 13	1	1.25	$ 50,000
New Intake Structure	1	LS	$ 1,840,000	1	1.25	$ 2,300,000
New Outfall Structure	1	LS	$ 224,000	1	1.25	$ 280,000
New walkway for Workers	1	LS	$ 70,000	1.5	1.25	$ 130,000
Pumps and Pump Motors	3	EA	$ 100,000	1	1.25	$ 340,000
Automatic Bar Screens	3	EA	$ 260,000	1	1.25	$ 975,000
Power, Instrumentation and Control	1	LS	$ 1,440,000	1	1.25	$ 1,800,000
New Electrical Control Building	1	LS	$ 216,000	1	1.25	$ 270,000
24" discharge pipe	1200	LF	$ 10,000	1	1.25	$ 1,100,000
Cathodic Protection	1200	LF	$ 121	1	1.25	$ 181,000
Mobile Generator for Plants 2,3 & 5	1	LS	$ 125,000	1.5	1.25	$ 240,000
Install Alarms and Cameras	1	LS	$ 10,000	1.5	1.25	$ 18,750
Install Anti-Climb Fences	800	LF	$ 73	1.5	1.25	$ 109,000
TOTAL						$ 8,900,000.00

Pumping Plant 8 Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Major Plant Replacements									
All Major Plant Replacement Costs	1	LS	$ 11,400,000	1	$ 11,400,000	1	$ 11,400,000	2022	75
Intake Screens									
Chain Replacement	3300	FT	$ 12	1	$ 40,161	1.15	$ 47,000	2032	10
Unit Replacement	9	EA	$ 260,000	1	$ 2,340,000	1.25	$ 2,925,000	2041	40
Power, Instrumentation & Controls, Cathodic & Ventilation					$ 1,754,250		$ 2,200,000	2042	20
Replacement of Power, I&C	1	LS	$ 1,440,000	1.2	$ 1,728,000	1.25	$ 2,160,000	2042	20
Cathodic Protection Rectifier Unit	3	EA	$ 5,000	1.5	$ 22,500	1.25	$ 30,000	2042	20
Ventilation	1	EA	$ 2,500	1.5	$ 3,750	1.25	$ 10,000	2042	20
Cathoid Protection Pipe Jumper Cables	2250	LF	$ 100	1.5	$ 337,500	1.25	$ 421,875	2097	75
Cathoid Protection Annode Beds	16	EA	$ 800	1.5	$ 19,200	1.25	$ 24,000	2032	10
Pumps and Pump Motors				1	$ -	1	$ -		
Replace Unit	9	EA	$ 370,000	1	$ 3,330,000	1.25	$ 4,170,000	2072	50
Outfalls									
Replace Valves and Gates	1	LS	$ 516,000	1.5	$ 774,000	1.25	$ 970,000	2047	25
Outfall Structure	1	LS	$ 1,000,000	1	$ 1,000,000	1.25	$ 1,250,000	2062	75
Pipes (54" WSP)	1250	LF	$ 1,500	1	$ 1,875,000	1.25	$ 2,343,750	2022	75
Pipes (60" WSP)	250	LF	$ 2,100	1	$ 525,000	1.25	$ 656,250	2022	75
Pipes (36" WSP)	750	LF	$ 1,300	1	$ 975,000	1.25	$ 1,218,750	2022	75
Access & Security									
Retrofit Fences for Anti-Climb	1000	LF	$ 46	1	$ 46,132	1.1	$ 51,000	2022	50
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2032	10
Building									
Replace Roof and Paint Control Building	1	LS	$ 500,000	1	$ 500,000	1	$ 500,000	2047	25
Pump Platform & Access	1	LS	$ 300,000	1.5	$ 450,000	1.25	$ 562,500	2097	75
Intake Structure	1	LS	$ 5,000,000	1	$ 5,000,000	1.25	$ 6,250,000	2097	75
Control Building Structure	1	LS	$ 350,000	1	$ 350,000	1.25	$ 437,500	2097	75
2025 TOTAL*							$ 15,700,000		
2030 TOTAL*							$ 15,700,000		
2040 TOTAL*							$ 15,800,000		
2050 TOTAL*							$ 22,400,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Pumping Plant 8 Major Plant Replacement and Pipeline Cost Estimate						
Item	Quantity	Unit	Cost/unit	Install factor	Administrative Factor	Total Cost
Mobilization and Demobilization @ 5%						$ 700,000
Traffic control	1	LS	$ 32,000	1	1.25	$ 40,000
Storm Water Pollution Control	1	LS	$ 82,000	1	1.25	$ 102,500
Exclusionary Silt Fencing	4000	LF	$ 9	1	1.25	$ 45,000
Temporary Protective Fencing	1000	LF	$ 10	1	1.25	$ 12,500
Demolition	1	LS	$ 50,000	1	1.25	$ 320,000
Site Clearing and Grubbing	1	AC	$ 30,000	1	1.25	$ 37,500
Structure Excavation (pipeline)	3889	CY	$ 13	1	1.25	$ 60,800
New Walkway for Workers	1	LS	$ 137,000	1.5	1.25	$ 238,000
New Pumps and Pump Motors	9	EA	$ 370,000	1	1.25	$ 4,157,000
Replace Instrumentation	1	EA	$ 1,440,000	1	1.25	$ 1,800,000
54" Discharge Pipe	1250	LF	$ 1,400	1	1.25	$ 2,100,000
60" Discharge Pipe	250	LF	$ 2,000	1	1.25	$ 600,000
36" Discharge Pipe	750	LF	$ 1,200	1	1.25	$ 1,100,000
Cathodic protection	2250	LF	$ 120	1	1.25	$ 334,000
Backup generator	2	LS	$ 1,000,000	1.5	1.25	$ 3,750,000
New Generator Housing	1	LS	$ 350,000	1	1.25	$ 437,500
Replace cameras and hookup to SCADA	1	LS	$ 10,000	1.5	1.25	$ 18,750
TOTAL						$ 15,600,000

San Juan Pumping Plant Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Power, Instrumentation & Controls, Ventilation	1	LS	$ 130,000	1.5	$ 195,000	1.25	$ 250,000	2036	40
Outfalls									
Concrete Vault with Positive Closure	1	LS	$ 50,000	1.5	$ 75,000	1.25	$ 94,000	2035	60
Access & Security									
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2045	10
2025 TOTAL*							$ -		
2030 TOTAL*							$ -		
2040 TOTAL*							$ 350,000		
2050 TOTAL*							$ 370,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Riverside Pumping Plant Capital Improvement and Replacement Cost Estimate									
Item	Quantity	Unit	Cost/unit	Install factor	Construction Subtotal	Administrative Factor	Total	Construction/ Implementation	Life Cycle (Years)
Power, Instrumentation & Controls, Ventilation	1	LS	$ 130,000	1.5	$ 195,000	1.25	$ 250,000	2036	40
Outfalls									
Concrete Vault with Positive Closure	1	LS	$ 50,000	1.5	$ 75,000	1.25	$ 94,000	2035	60
Access & Security									
Cameras	1	LS	$ 10,000	1.5	$ 15,000	1.25	$ 19,000	2045	10
2025 TOTAL*							$ -		
2030 TOTAL*							$ -		
2040 TOTAL*							$ 350,000		
2050 TOTAL*							$ 370,000		

*TOTAL Indicates a running total through specified year, with total costs recurring for individual items according to life cycle years specified and construction/implementation date

Drain Inventory Replacement Opinion of Probable Cost
Reclamation District 1000 2020 CIP

Raw Data		
Total Linear Feet of Drains	17276	
Total Number of Drains	491	
Average Length of Drains	35	
Net Length Drains up to 18"	11837	LF
# of Drains up to 18"	336	
Net Length Drains 20-24"	4629	LF
# of Drains 20-24"	132	
Net Length Drains 30-36"	810	LF
# of Drains 30-36"	23	
Assumptions		
Traffic Control	No	
Lost Productivity for Travel and Mobilization	2	hours per Drain
Base Cost of Pipe, $/in	$ 20	

Culvert Size	LF Price	Drain Length	Pipe Subtotal	Mobilization	Unit Cost	# of Drains	Extended Cost
Up to 18"	$ 360	35	$ 12,600	$1,646	$ 14,246	336	$ 4,786,543
20-24"	$ 480	35	$ 16,800	$1,646	$ 18,446	132	$ 2,434,828
30-36"	$ 720	35	$ 25,200	$1,646	$ 26,846	23	$ 617,450
						Drain Replacement Total	$ 7,838,822

Mobilization & Lost Productivity Equipment Cost	Rate	Hrs	Extended	
Cat 320 Track Excavator	$96.87	2	$194	Hourly rate per Caltrans Equipment Rates
Cat 446 backhoe loader	$60.13	2	$120	Hourly rate per Caltrans Equipment Rates
3-axle end dump	$71.55	2	$143	Hourly rate per Caltrans Equipment Rates
		Subtotal	$457	
	15% Surcharge per Caltrans Equipment Rates		$69	
		Equipment Total	$526	

Mobilization & Lost Productivity Labor Cost	Rate	Hrs	Extended
4-man crew & truck driver for 2 hours	$100.00	10	$1,000
		12% Surcharge	$120
		Labor Total	$1,120
	Net Mobilization and Lost Productivity Cost per Drain		$1,646

Culvert Inventory Opinion of Probable Cost
Reclamation District 2020 CIP

Culvert Inventory Replacement Estimate
Raw Data

Total Linear Feet of Culverts	20589	
Total Number of Culverts	477	
Average Length of Culverts	44	
Net Length Culverts up to 18"	1968	LF
# of Culverts up to 18"	45	
Net Length Culverts 20-24"	6053	
# of Culvertss 20-24"	138	
Net Length Culverts 30-36"	6571	
# of Culverts 30-36"	149	
Net Length Culverts 42-48"	3848	
# of Culverts 42-48"	87	
Net Length Culverts 54-60"	1103	
# of Culverts 54-60"	25	
Net Length Culverts 66-72"	360	
# of Culverts 66-72"	8	
Net Length Culverts 96"	299	
# of Culverts 96"	7	
Net Length Culverts 120"	150	
# of Culverts 120"	3	
Length of Culverts 2x4'x5'	115	
# Culverts 2x4'x5'	3	Equivalent to 96"

Base Cost of Pipe, $/in of diam	
Up to 24"	$ 20
Up to 36"	$ 30
48"	$ 35
60"	$ 50
72"	$ 60
96"	$ 75
120"	$ 100

Pipe Size	LF Price	Culvert Length	Pipe Subtotal	Mobilization	Unit Cost	# of Culverts	Extended Cost
Up to 18"	$ 360	44	$ 15,840	$3,140	$ 18,980	46	$ 873,103
20 & 24"	$ 480	44	$ 21,120	$3,140	$ 24,260	140	$ 3,396,470
30 & 36"	$ 1,080	44	$ 47,520	$3,140	$ 50,660	152	$ 7,700,396
42 & 48"	$ 1,680	44	$ 73,920	$3,140	$ 77,060	89	$ 6,858,384
54 & 60"	$ 3,000	44	$ 132,000	$4,958	$136,958	26	$ 3,560,915
66 & 72"	$ 4,320	44	$ 190,080	$4,958	$195,038	8	$ 1,560,306
96"	$ 7,200	44	$ 316,800	$9,456	$326,256	10	$ 3,262,565
120"	$ 12,000	44	$ 528,000	$9,456	$537,456	3	$ 1,612,369
					Culvert Replacement Total		$ 28,824,507
					Total with 25% Administrative Cost		$ 36,030,634

Mob, Traffic Control Equip Cost - up to 48"	Rate	Hrs	Extended	
Cat 320 Track Excavator	$96.87	3	$291	Hourly rate per Caltrans Equipment Rates
Cat 446 backhoe loader	$60.13	3	$180	Hourly rate per Caltrans Equipment Rates
3-axle end dump	$71.55	3	$215	Hourly rate per Caltrans Equipment Rates
		Subtotal	$686	
		15% Surcharge	$103	
		Equipment Total	$788	
Mobilization Labor Cost per Culvert	Rate	Hrs	Extended	
6-man crew + truck driver for 3 hours	$100.00	21	$2,100	
		12% Surcharge	$252	
		Labor Total	$2,352	
Net Mobilization and Traffic Control Cost per Culvert			$3,140	

Mobilization Equipment Cost - up to 72"	Rate	Hrs	Extended	
Cat 235 Track Excavator	$131.74	4	$527	Hourly rate per Caltrans Equipment Rates
Cat 950B loader	$95.46	4	$382	Hourly rate per Caltrans Equipment Rates
3-axle end dump	$71.55	4	$286	Hourly rate per Caltrans Equipment Rates
		Subtotal	$1,195	
		15% Surcharge	$179	
		Equipment Total	$1,374	
Mobilization Labor Cost per culvert	Rate	Hrs	Extended	
7-man crew & truck driver for 4 hours	$100.00	32	$3,200	
		12% Surcharge	$384	
		Labor Total	$3,584	
Net Mobilization and Traffic Control Cost per Culvert			$4,958	

Mobilization Equipment Cost - up to 120"	Rate	Hrs	Extended	
Grove RT990 Crane	$195.23	6	$1,171	Hourly rate per Caltrans Equipment Rates
Cat 235 Track Excavator	$131.74	6	$790	Hourly rate per Caltrans Equipment Rates

Culvert Inventory Opinion of Probable Cost
Reclamation District 2020 CIP

Cat 950B loader	$95.46	6	$573	Hourly rate per Caltrans Equipment Rates
3-axle end dump	$71.55	6	$429	Hourly rate per Caltrans Equipment Rates
		Subtotal	$2,964	
		15% Surcharge	$445	
		Equipment Total	$3,408	
Mobilization Labor Cost per culvert	Rate	Hrs	Extended	
8-man crew & truck driver for 6 hours	$100.00	54	$5,400	
		12% Surcharge	$648	
		Labor Total	$6,048	
	Net Mobilization and Traffic Control Cost per Culvert		$9,456	

Count of Drains
Compiled from GIS Data

Row Labels	Count of Pipe_Size
0	1
6	1
8	1
10	1
12	37
15	137
16	5
18	220
20	2
24	75
30	1
36	10
Grand Total	**491**

Count of Culverts
Compiled from GIS Data

Row Labels	Count of Pipe_Size
0	21
6	1
12	6
15	1
18	29
20	5
23	2
24	133
28	1
30	50
36	76
42	25
48	40
54	5
60	7
66	1
72	5
84	2
90	2
96	1
120	1
2-10'x10'	2
2-4'x5'	2
2-5'x10'	2
2-6'x10'	2
2-6'x8'	2
2-7'x7'	3
2-8'x10'	3
3-10'x10'	2
3-5'x8'	2
3'x4'	3
3'x5'	2
4-10'x10'	2
4'x5'	2
6'x10'	2
6'x6'	17
6'x8'	15
Grand Total	**477**

Drains Inventory
Compiled from GIS Data

Sum of Pipe_Lengt	Column Labels							
Row Labels		**CMP**	**HCP**	**HDPE**	**Other**	**RCP**	**WSP**	**Grand Total**
0	0							0
6					20			20
8		20						20
10			20					20
12		450	366		256	110	20	1202
15		144	3123			138		3405
16		45		78		45		168
18		1319	5244	86		337	16	7002
20			80	32				112
24		1987	2068			462		4517
30						50		50
36		380				380		760
Grand Total	**0**	**4345**	**10901**	**196**	**276**	**1522**	**36**	**17276**

RD 1000 Culvert Inventory
Compiled from GIS Data

Sum of Pipe_Lengt	Column Labels							
Pipe Size		CMP	HCP	HDPE	Other	RCP	WSP	Grand Total
0	103				385	0		488
6							50	50
12		67			76	57		200
15			40					40
18		474	340	0	160	126	90	1190
20					285	180		465
23							62	62
24		2192	1697	322	210	1045	60	5526
28					35			35
30		734	449	0	20	1649	60	2912
36	116	1750	855		350	488	65	3624
42		65	424			696		1185
48		868	144	90		1375		2477
54		110				0		110
60	18	125	60			0		203
66		40						40
72		320						320
84		0						0
90						0		0
96	0							0
120		50						50
2-10'x10'	0				0			0
2-4'x5'					115			115
2-5'x10'	0							0
2-6'x10'	100							100
2-6'x8'	0							0
2-7'x7'	0							0
2-8'x10'	0							0
3-10'x10'	0							0
3-5'x8'	0							0
3'x4'	56				30			86
3'x5'						186		186
4-10'x10'	0				0			0
4'x5'					790			790
6'x10'	0							0
6'x6'	0				36			36
6'x8'	259					40		299
Grand Total	**652**	**6795**	**4009**	**412**	**2492**	**5842**	**387**	**20589**

RD 1000 Culvert Inventory
Compiled from GIS Data

1968

6053

6571

3662

313

360

50

115 Equivalent to twin 60"

100 Equivalent to 120"

272 Equivalent to 48"

790 Equivalent to 60"

335 Equivalent to 96"

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 6.2**

TITLE: **Review and Consider Approval of Fiscal Year 2020/2021 Budget**

SUBJECT: **Review and Consider Adoption of Resolution No. 2020-06-01 Approving Fiscal Year 2020/2021 Budget**

EXECUTIVE SUMMARY:

The Board of Trustees of Reclamation District No. 1000 (RD 1000; District) annually adopts a budget. Staff has prepared a Budget for Fiscal Year 2020/2021 (Exhibit "A" in Resolution 2020-06-01).

RECOMMENDATION:

Staff recommends the Board review and consider adoption of Resolution No. 2020-06-01 approving Fiscal Year 2020/2021 Budget.

ATTACHMENTS:

1. Resolution No. 2020-06-01

STAFF RESPONSIBLE FOR REPORT:

Kevin L. King, General Manager

Date: 06/05/2020

RECLAMATION DISTRICT NO. 1000

RESOLUTION NO. 2020-06-01

A RESOLUTION OF THE BOARD OF TRUSTEES OF RECLAMATION DISTRICT NO. 1000 APPROVING FISCAL YEAR 2020/2021 BUDGET

At a regular meeting of the Board of Trustees of Reclamation District No. 1000 held at the District Office on the 12th day of June 2020, the following resolution was approved and adopted:

WHEREAS, the Reclamation District No. 1000's (District) mission is flood protection for the Natomas Basin providing for the public's health and safety by operating and maintaining the levees, and the District's canals and pump stations; and

WHEREAS, the Board of Trustees (Board) of the District recognizes the importance of providing flood protection in a safe, efficient and responsible manner; and

WHEREAS, it is appropriate and necessary to expend funds to pay wages, purchase materials and supplies, contract for services, repair, replace and construct facilities, acquire equipment and pay for other expenses; and

WHEREAS, the establishment of a budget for approved expenditures is an integral part of a strong financial management and internal control program, and the Board desires to continue to exercise its financial and fiduciary responsibility to its constituents; and

WHEREAS, the Board has been presented with, reviewed, and considered the Fiscal Year 2020/2021 Budget and considers the proposed budget level of expenditures necessary and appropriate to operate, maintain and improve the District operations and facilities in Fiscal Year 2020/2021.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The facts contained in the recitals above are true and correct, and the Board so finds and determines.
2. The Reclamation District No. 1000 Fiscal Year 2020/2021 Budget is hereby adopted as presented, and as attached hereto as Exhibit "A".
3. It is recognized that the budget is a guide and estimate for future events and that circumstances change over time. As a result, the General Manager is authorized to transfer funds between expense categories to meet operating needs while remaining within the authorized levels for total operating expense requirements.

BE IT FURTHER RESOLVED THAT: The General Manager and Administrative Services Manager are responsible for adherence to this resolution and regular reporting of the District's financial status. Board oversight will be accomplished through the regular reporting of budget-to-actual expenditures during the year.

ON A MOTION BY Trustee _____, seconded by Trustee _____, the foregoing resolution was passed and adopted by the Board of Trustees of Reclamation District No. 1000, this 12th day of June 2020, by the following vote, to wit:

AYES: Trustees:

NOES: Trustees:

ABSTAIN: Trustees:

RECUSE: Trustees:

ABSENT: Trustees:

_____

Jeff Smith

President, Board of Trustees

Reclamation District No. 1000

CERTIFICATION:

I, Joleen Gutierrez, Secretary of Reclamation District No. 1000, hereby certify that the foregoing Resolution 2020-06-01 was duly adopted by the Board of Trustees of Reclamation District No. 1000 at the regular meeting held on the 12th of June 2020 and made a part of the minutes thereof.

_____

Joleen Gutierrez, District Secretary

EXHIBIT "A"

RECLAMATION DISTRICT NO. 1000

FISCAL YEAR 2020/2021 BUDGET

JUNE 12, 2020

RD1000

Fiscal Year 2020/2021 Budget

Reclamation District No. 1000 – Budget (FY20/21)

TRUSTEES

JEFF SMITH – BOARD PRESIDENT
CHRIS BURNS – BOARD VICE PRESIDENT
NICK AVDIS – TRUSTEE
JAG BAINS – TRUSTEE
DAVID CHRISTOPHEL – TRUSTEE
THOMAS M. GILBERT – TRUSTEE
ELENA LEE REEDER – TRUSTEE

OFFICERS

KEVIN L. KING – GENERAL MANAGER
JOLEEN GUTIERREZ – BOARD SECRETARY/TREASURER
DOWNEY BRAND, LLP - ATTORNEYS

Table of Contents

Introduction

General

Reclamation District No. 1000 (RD1000; District) was organized on April 8, 1911, under the California Flood Control Act of 1911. The District's affairs are governed by a seven-member Board of Trustees. At the time of formation, the District embarked on the largest privately funded reclamation project in the United States. What was accomplished by the District in the twentieth century was truly remarkable. Today, the District's perimeter levee system consists of 42.6 miles of project levees encircling the District's 55,000 acres. The District also operates and maintains an interior drainage system consisting of 30 miles of main drainage canals, approximately 150 miles of drainage ditches and eight pumping stations. The drainage system collects agricultural tailwater, stormwater and drainage and delivers them to the pumping plants for disposal in the adjacent rivers and creeks.

RD 1000 perimeter levees are undergoing the largest rehabilitation since their original construction over a hundred years ago. The $1.7 billion Natomas Levee Improvement Project (NLIP) which began in 2007 and will continue through 2025, will provide the Natomas Basin with two hundred-year flood protection when complete.

As the District moves into its second century, its public safety mission remains its first commitment. The District's sole purpose and function is to monitor, operate, and maintain the levees and flood control infrastructure protecting the more than one hundred thousand people in the Natomas Basin, ensuring that the system is ready for the next one hundred years.

Mission Statement

Reclamation District No. 1000's mission is flood protection for the Natomas Basin providing for the public's health and safety by operating and maintaining the levees, and the District's canals and pump stations in a safe, efficient and responsible manner.

Responsibility Statement

On behalf of and in communication with the residents of the Natomas Basin, the District meets its flood protection Mission by operating and maintaining:

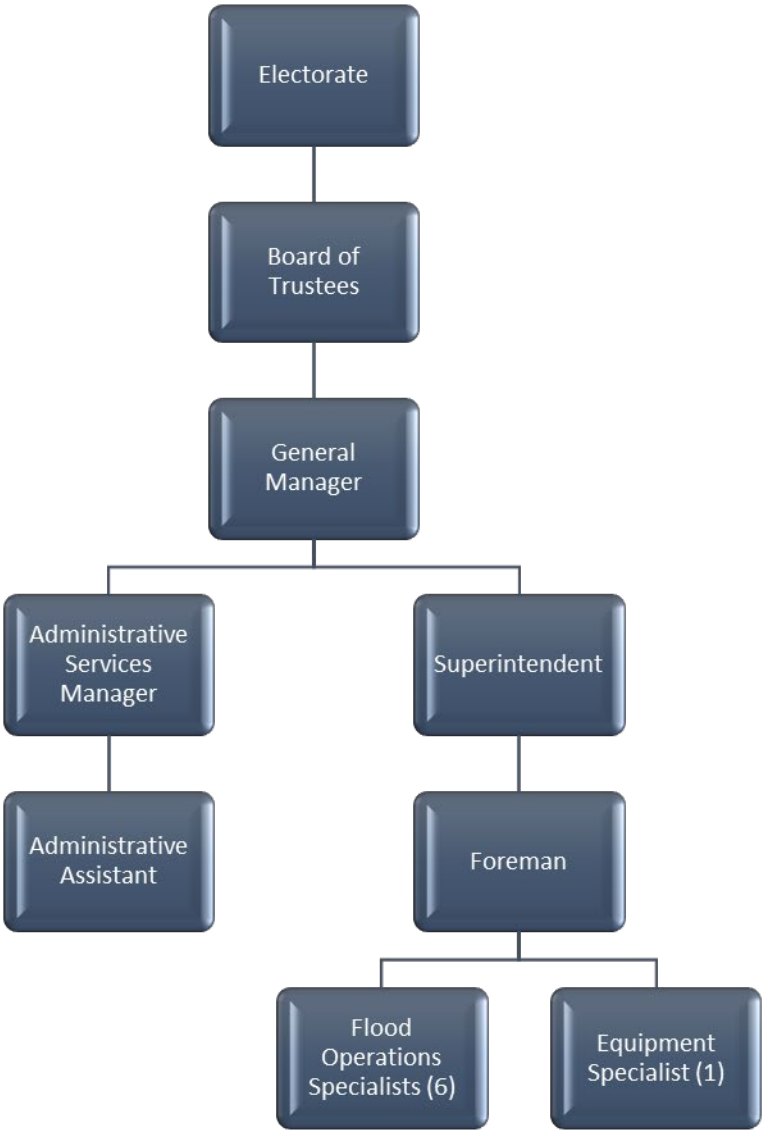
- The perimeter levee system to prevent exterior floodwaters from entering the Natomas Basin.
- The District's interior canal system to collect the stormwater runoff and agricultural drainage from within the Natomas Basin.
- The District's pump stations to safely discharge interior stormwater and agricultural drainage out of the Natomas Basin.

Vision Statement

In meeting its flood protection Mission, the District shall also:

- Carry out its responsibilities in a safe, professional, and accountable manner that adheres to the principles of good governance and transparency being sensitive to community interests and the environment.
- Continuously identify and implement operational, maintenance, structural and non-structural improvements that reduce flood risks in the Natomas Basin.
- Cooperate with private entities and public agencies (including the Corps of Engineers and the State Central Valley Flood Protection Board) with whom the District shares responsibilities, common goals, and objectives for flood protection in the Natomas Basin.
- Educate the public about the risks of flooding in the Natomas Basin and the District's efforts to minimize those risks.

RECLAMATION DISTRICT NO. 1000
ORGANIZATIONAL CHART



Budget Summary (FY 2020/2021)

Executive Summary

The Fiscal Year 2020/2021 Budget for Reclamation District No. 1000 was prepared by General Manager, Kevin L. King, and Administrative Services Manager, Joleen Gutierrez. The budget, while unbalanced, in terms of expenditures in excess of projected revenue, was prepared in order to accomplish the goals and objectives of the District. The Fiscal Year 2020/2021 Budget is reflective of the District's transitional position, planning and implementation of capital infrastructure improvements.

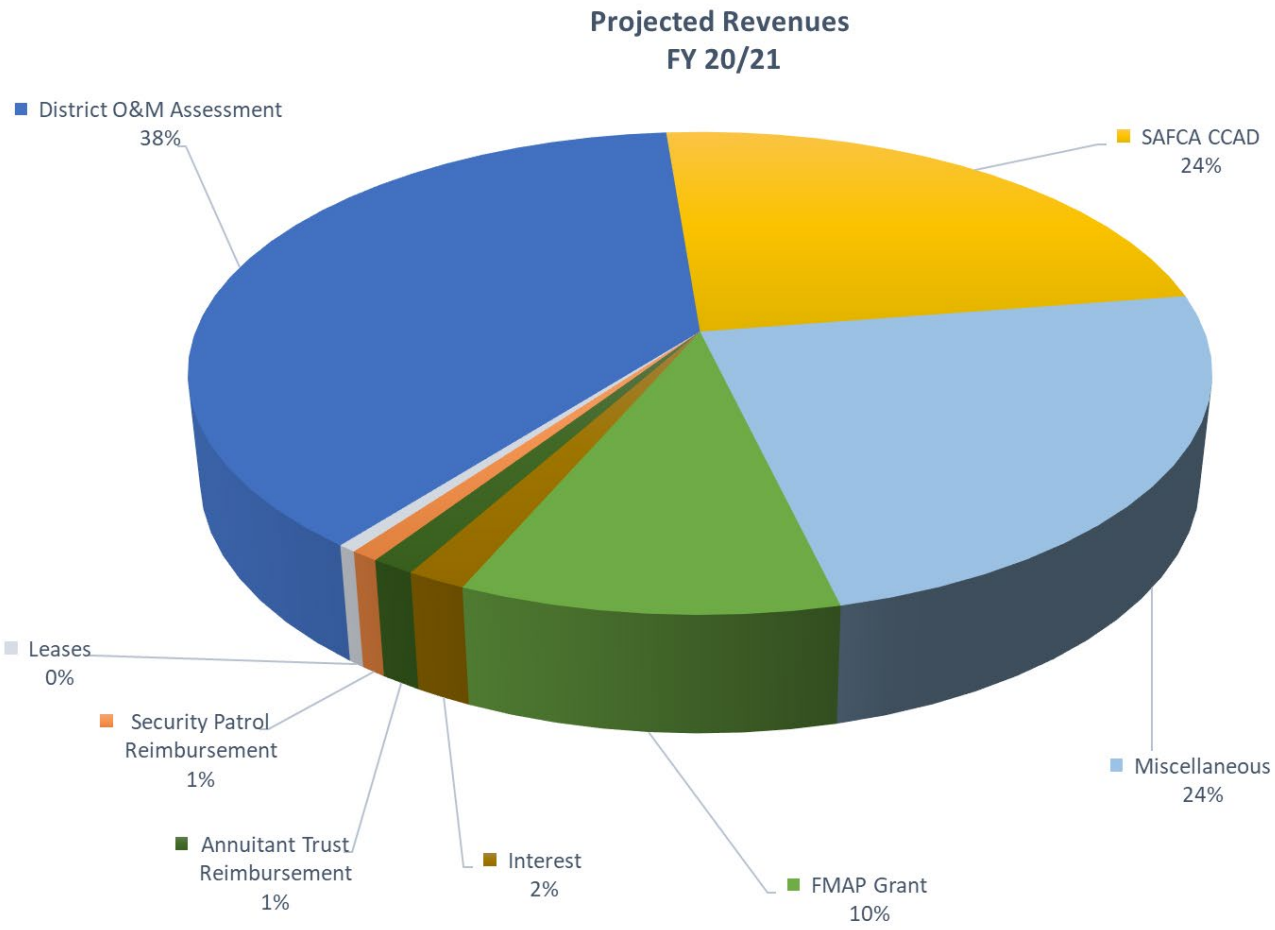
The Fiscal Year 2020/2021 Budget is highlighted by expenditures aimed at positioning the District for sustained financial stability, long-term infrastructure reliability and identification of projects/policies required for further evolution of the organization. Specifically, the District intends to analyze current and future operation and maintenance costs through development of a Comprehensive Financial Plan, implementation of the District's Capital Improvement Plan to replace infrastructure prior to failure, succession planning, and work to establish an administrative overhead rate to ensure the District is recovering indirect costs while performing reimbursable work.

BUDGET SUMMARY FY 2020/2021	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Total Revenues	4,432,000	4,551,284	5,916,337	(1,484,337)
Total All Expenditures	4,917,938	3,464,377	7,562,162	2,644,224
Net Expense to Revenue	(485,938)	1,086,906	(1,645,825)	1,159,887

Revenues

The District received approximately $370,000 more in revenues in Fiscal Year 2019/2020 than budgeted. The additional revenue received was from a FEMA reimbursement and Interest Income. The one-time money is not anticipated in Fiscal Year 2020/2021. Nevertheless, the District does anticipate revenues to be $1,484,337 greater in FY20/21 compared to FY19/20 Budget. The increased revenue is largely attributable to development impact fees ($1.4 m) from the Greenbriar Development.

REVENUES	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Revenues				
District O&M Assessment	2,250,000.00	2,250,000.00	2,250,000.00	-
SAFCA CCAD	1,400,000.00	1,400,000.00	1,400,000.00	-
Interest	65,000.00	110,166.91	95,000.00	(30,000)
Leases	20,000.00	26,629.30	30,000.00	(10,000)
Metro Airpark Pumping	22,000.00	23,000.00	25,000.00	(3,000)
FMAP Grant	574,000.00	570,145.04	601,337.00	(27,337.00)
FEMA/OES Disaster Reimbursement	0.00	133,011.57	0.00	-
Annuitant Trust Reimbursement	70,000.00	0.00	70,000.00	-
Security Patrol Reimbursement	31,000.00	36,125.00	45,000.00	(14,000)
Miscellaneous	0.00	2,205.80	1,400,000.00	(1,400,000.00)
Total Revenues	**4,432,000**	**4,802,916**	**5,916,337**	**(1,484,337.00)**


Projected Revenues
FY 20/21
District O&M Assessment
38%
SAFCA CCAD
24%
Leases
0%
Security Patrol
Reimbursement
1%
Annuitant Trust
Reimbursement
1%
Interest
2%
FMAP Grant
10%
Miscellaneous
24%

Operations & Maintenance Expenditures

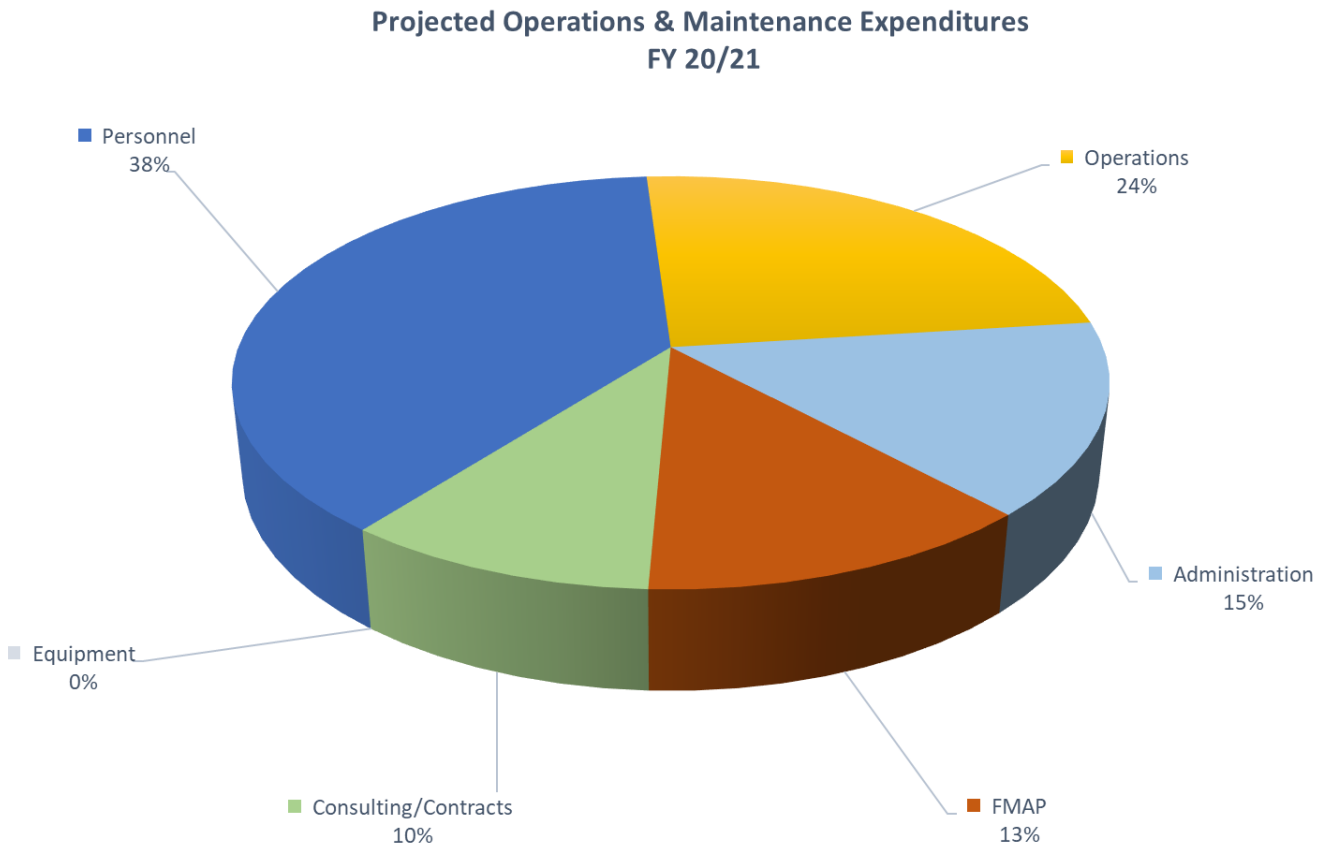
The District anticipates approximately $144K more in Operations and Maintenance expenditures in FY 20/21 compared to the FY 19/20 Budget.

OPERATIONS & MAINTENANCE EXPENDITURES	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
O&M Expenditures				
Personnel	1,611,838	1,572,326	1,828,725	(216,887)
Operations	1,311,600	798,805	1,144,600	167,000
Administration	728,500	417,347	717,500	11,000
FMAP	574,000	570,145	601,337	(27,337)
Consulting/Contracts	260,000	176,988	470,000	(210,000)
Equipment	132,000	276,598	0	132,000
Total O&M	**4,617,938**	**3,242,063**	**4,762,162**	**(144,224)**

Major expenditure variations include:

- Personnel ($217K):
  - Wages ($156K) – Includes a 2.3% Cost of Living Adjustment plus addition of Operations Manager position ($134K + benefits).
  - Pension ($22K) – The increase includes an increase in pension expense for the Operations Manager and the District moving to a 15-year amortization schedule for the unfunded liability.
- Operations (-$167K)
  - Facility Repairs (-$155K) – The decrease is due to facility repairs performed in FY19/20 and not anticipated in FY20/21.
  - Field Services (-$36K) – Field Services, specifically Tree Services, have been reduced (-$25K).
- Administration (-$11K):

    - Election ($39K) – Typically occurs every two (2) years, however Trustee terms were changed in FY19/20 to align with Statewide General Election and anticipation of an election in FY20/21.
- Flood Maintenance Assistance Program Grant ($601K) – offset by revenue.
- Consulting/Contracts ($210K) – Major difference associated to planned RD 1000 Hydraulic Model Update ($200K).
- Equipment (-$132K) – Reduction in equipment replacement.



Personnel Expenditures

Personnel Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Personnel/Labor				
Wages	1,058,262.00	975,708.05	1,214,657.53	(156,395.53)
General Manager	190,128.00		197,724.00	
Project Manager/Engineer	28,158.00		25,281.00	
Admin Services Manager	99,502.00		101,785.00	
Operations Manager	0.00		134,063.00	
Superintendent	119,180.00		121,875.00	
Foreman	92,405.00		94,508.00	
Flood Operations Specialist I/II	400,206.00		409,071.00	
Equipment Maintenance Specialist	72,997.00		74,665.00	
Administrative Assistant	55,686.00		55,686.00	
Trustee Compensation	40,000.00	32,625.00	40,000.00	0.00
Group Health Insurance	97,440.00	108,810.70	130,000.00	(32,560.00)
Annuitant Health Care	70,000.00	82,757.19	91,032.00	(21,032.00)
Dental/Vision/Life	22,328.00	21,724.66	25,887.00	(3,559.00)
Workers Compensation Insurance	39,544.00	24,908.75	30,000.00	9,544.00
OPEB - ARC	30,000.00	50,000.00	0.00	30,000.00
Continuing Education	5,000.00	3,702.90	5,000.00	0.00
Payroll Taxes	71,000.00	76,828.54	91,000.00	(20,000.00)
Pension	178,264.00	195,260.34	201,148.00	(22,884.00)
Employer Portion	72,980.00	82,260.34	86,148.00	
Unfunded Liability	105,284.00	106,000.00	115,000.00	
Personnel Subtotal	**1,611,838.00**	**1,572,326.13**	**1,828,724.53**	**(216,886.53)**

Operations Expenditures

Operations Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Operations				
Consultants - Field Operations	20,000.00	11,480.71	20,000.00	0.00
Equipment Parts/Supplies	60,000.00	30,000.00	60,000.00	0.00
Equipment Rental	5,000.00	755.66	5,000.00	0.00
Equipment Repairs/Service	16,000.00	3,343.94	16,000.00	0.00
Facility Repairs	366,000.00	77,753.02	211,000.00	155,000.00
Gates & Fences	10,000.00	1,390.35	5,000.00	5,000.00
Canal Erosion Program (RSP)	100,000.00	417.35	100,000.00	0.00
Access Road AB Program	50,000.00	0.00	50,000.00	0.00
Roof Repair Plant 1A	20,000.00	23,399.81	0.00	20,000.00
Plant 2 - Boil Repairs	80,000.00	0.00	0.00	80,000.00
Plant 8 Trash Rack Repairs	30,000.00	9,788.75	10,000.00	20,000.00
Plant 3 Trash Rack Repairs	30,000.00	5,413.53	10,000.00	20,000.00
Plant 5 Pump #1 Repair	10,000.00	1,343.23	0.00	10,000.00
V-Drain Repair	36,000.00	36,000.00	36,000.00	0.00
Field Equipment	10,100.00	10,100.00	14,000.00	(2,100.00)
Box Tarp for 10 Wheel Dump Truck 022	2,500.00	2,500.00	0.00	2,500.00
Air Compressor for Service Truck	2,600.00	2,600.00	0.00	2,600.00
Thumb Attachment for Excavator	5,000.00	5,000.00	5,000.00	0.00
Diesel Emission Fluid Storage Tank	0.00	0.00	6,000.00	(6,000)
Misc.	0.00	0.00	3,000.00	(3,000.00)
Field Services	100,000.00	50,777.70	63,100.00	36,900.00
Veg Management (Grazing, Farm Flying, Aquatic)	20,000.00		20,000.00	0.00
Tree Service	50,000.00		25,000.00	25,500.00
Pump Plant Meggar Testing	5,000.00		5,000.00	0.00
Sonitrol Security	6,000.00		6,000.00	0.00
Hazardous Waste Recycle	5,000.00		0.00	5,000.00
Tire Recycle	5,000.00		3,500.00	1,500.00
Backflow	500.00		500.00	0.00
Water Service	600.00		600.00	0.00
Misc.	7,900.00		2,500.00	5,400.00
Fuel	55,000.00	38,234.14	50,000.00	5,000.00
Herbicides	105,000.00	108,815.58	120,000.00	(15,000.00)
Power	500,000.00	405,000.00	500,000.00	0.00
Refuse Collection	25,000.00	15,362.05	30,000.00	(5,000.00)
Shop Equipment (Not Vehicles)	3,000.00	3,000.00	5,000.00	(2,000.00)
Supplies and Materials	22,000.00	25,335.09	25,000.00	(3,000.00)
Boot Allowance	3,000.00	1,500.00	3,000.00	0.00
Uniform Service	4,000.00	2,753.19	4,000.00	1,500.00
Misc.	15,000.00	21,081.90	18,000.00	(5,000.00)

Operations Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Utilities - Field	8,000.00	8,351.83	11,500.00	(3,500.00)
Sacramento County	3,500.00	710.63	3,500.00	0.00
City of Sacramento	3,500.00	1,872.45	2,000.00	1,500.00
Cell Phone Reimbursement	1,000.00	5,768.75	6,000.00	(5,000.00)
Misc./Other - Field	500.00	30.00	500.00	0.00
Govt Fees/Permits - Field	12,000.00	10,435.00	12,000.00	0.00
FEMA Permits	4,000.00	0.00	1,500.00	2,500.00
Operations Subtotal	**1,311,600.00**	**798,804.71**	**1,144,600.00**	**167,000.00**

Administration Expenditures

Administration Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Administration				
Accounting/Audit	46,050.00	34,000.00	47,050.00	(1,000.00)
Bartel Associates (GASB)	3,000.00	1,300.00	3,000.00	
Audit	15,000.00	12,900.00	16,000.00	
CPA (Rob Merritt)	24,000.00	16,050.00	24,000.00	
TCS Consulting (GASB)	3,000.00	2,700.00	3,000.00	
CalPERS (GASB)	1,050.00	1,050.00	1,050.00	
Administrative Consultants	130,000.00	19,362.53	128,000.00	2,000.00
Financial Plan/Study	60,000.00	0.00	58,000.00	
Total Compensation Survey	15,000.00	0.00	15,000.00	
SCI Consulting (Assessment)	20,000.00	19,362.53	20,000.00	
Overhead Rate Study	25,000.00	0.00	25,000.00	
Miscellaneous	10,000.00	0.00	10,000.00	
Admin - Misc./Other Expenses	8,250.00	3,3045.58	8,250.00	0.00
Bank Fees	250.00	275.00	250.00	
Business Expense	8,000.00	2,759.58	8,000.00	
Admin. Services	17,000.00	10,406.35	17,000.00	0.00
Alarm/Security Office (Sonitrol)	4,000.00	3,604.65	4,000.00	
Copy/Print Services	2,000.00	318.54	2,000.00	
DOT/Screening	2,500.00	1,888.16	2,500.00	
Postage/Shipping	1,000.00	344.49	1,000.00	
Records/Retention Management (ECS)	2,000.00	1,775.51	2,000.00	
Timekeeping (Replicon)	4,000.00	2,475.00	4,000.00	
Miscellaneous (Job Posting/CSDA)	1,500.00	0.00	1,500.00	
Computer Costs (Tech/Website/Software)	24,000.00	17,046.39	24,000.00	0.00
Software (Go Daddy, Misc.)	9,000.00	5,864.09	9,000.00	
Tech Support (Terrapin)	12,000.00	8,932.30	12,000.00	
Website (Streamline)	3,000.00	2,250.00	3,000.00	
Govt Fees/Permits	12,500.00	6,160.68	12,500.00	0.00
City of Sacramento (Investment Pool)	6,000.00	5,155.00	6,000.00	
LAIF (Investment Pool)	5,000.00	0.00	5,000.00	
Police Alarm	50.00	37.50	50.00	
Miscellaneous	1,450.00	968.18	1,450.00	
Legal	97,000.00	50,484.39	97,000.00	0.00
Human Resources/Employment (Boutin Jones)	7,000.00	2,000.00	7,000.00	
General Counsel (Downey Brand)	85,000.00	45,227.49	85,000.00	
Other Legal Services	5,000.00	3,256.90	5,000.00	
Liab/Auto/Business Insurance	150,000.00	88,069.00	150,000.00	0.00
Stratton	150,000.00		150,000.00	
Memberships	40,500.00	32,627.00	40,800.00	(300.00)
ACWA	15,000.00		15,000.00	

Administration Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
CCVFCA	16,300.00		16,300.00	
Chamber of Commerce	0.00		300.00	
Costco	200.00		200.00	
CSDA	8,350.00		8,350.00	
Sacramento LAFCO	650.00		650.00	
Mitigation Land Expenses	3,000.00	2,592.20	6,200.00	(3,200.00)
Yolo County Treasurer	3,000.00		6,200.00	
Office Maintenance & Repair	27,000.00	16,735.66	27,000.00	0.00
Custodial Service (Neat Freak)	10,000.00	3,293.75	10,000.00	
HVAC (Barnett)	3,000.00	292.50	3,000.00	
Landscaping (Carson)	13,000.00	9,206.25	13,000.00	
Pest Control (Greenlight)	1,000.00	375.00	1,000.00	
Misc.		3,568.16	1,000.00	
Office Supplies	5,500.00	4,162.89	5,500.00	0.00
Payroll Services	3,500.00	3,727.14	6,000.00	(2,500.00)
Payroll Services (Wells Fargo)	3,500.00		6,000.00	
Public Relations	45,000.00	5,532.94	45,000.00	0.00
Direct Outreach (Community Engagement)	18,000.00	5,070.61	18,000.00	
Consulting	25,000.00	0.00	25,000.00	
Subscriptions/Publications	2,000.00	462.33	2,000.00	
Small Office & Computer Equipment	12,000.00	4,838.17	12,000.00	0.00
Computer Equipment	2,000.00	2,515.56	2,000.00	
Miscellaneous Equipment	10,000.00	2,322.61	10,000.00	
Utilities (Phone/Water/Sewer/Internet)	23,700.00	17,456.16	23,700.00	0.00
Telephone (ATT)	3,500.00	3,231.95	3,500.00	
Water (City of Sacramento)	2,800.00	626.64	2,800.00	
Internet (Comcast)	2,000.00	1,985.86	2,000.00	
Sewer (County of Sacramento)	2,800.00	710.63	2,800.00	
Phone System (Great American Fin Svcs)	5,200.00	4,085.03	5,200.00	
Copier/Printer (Smile Business Systems)	3,000.00	3,482.11	3,000.00	
Cellular Service (Verizon)	4,200.00	3,313.20	4,200.00	
Miscellaneous	200.00	20.75	200.00	
Election	55,000.00	32,452.19	39,000.00	16,000.00
Legal	49,400.00	27,360.00	35,000.00	
Publications/Notices	1,500.00	2,683.80	1,500.00	
Facility Rental	1,000.00	0.00	0.00	
Printing Services	500.00	551.31	500.00	
Temporary Staff	2,100.00	1,500.00	1,500.00	
Miscellaneous	500.00	357.08	500.00	
Assessment/Property Taxes (SAFCA - CAD)	8,000.00	7,927.68	8,000.00	0.00
Conference/Travel/Professional Develop.	20,500.00	799.64	20,500.00	0.00
Conference (Exec Staff & Trustees)	8,500.00	0.00	8,500.00	
Travel (Exec Staff & Trustees)	12,000.00	799.64	12,000.00	
Admin Subtotal	**728,500.00**	**417,346.57**	**717,500.00**	**11,000.00**

Flood Maintenance Assistance Program

FMAP Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
FMAP Grant				
LOI/SWIF	20,000.00	19,683.96	0.00	20,000.00
Equipment	305,100.00	296,579.99	381,337.00	(76,237.00)
(2) Pull Tractors JD 5090M Mower	124,000.00		0.00	
(1) Tiger Boom Mower, JD 5115M Tractor	181,100.00		0.00	
(1) Kenworth T270 Dump Truck	0.00		84,400.00	
(1) Kenworth T270 Water Truck	0.00		87,650.00	
(1) Kenworth T800 Transport Truck	0.00		178,605.00	
Operations & Maintenance	236,500.00	253,881.09	220,000.00	16,500.00
Vegetation Management (Tree Removal - High Priority Areas)	186,500.00		220,000.00	
Encroachment Enforcement (Waterside Encroachments)	50,000.00		0.00	
Administrative	12,400.00	0.00	0.00	12,400.00
Administrative (5% of O&M Activities)	12,400.00		0.00	
FMAP Subtotal	**574,000.00**	**570,145.04**	**601,337.00**	**(27,337.00)**

Consulting /Contracts Expenditures

Consulting/ Contracts Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Consulting/Contracts				
Technical Consultants	180,000.00	85,363.14	375,000.00	(195,000.00)
DPLand (Land, Right of Way and Title Expert)	5,000.00	1,784.44	5,000.00	
Kleinfelder (Geo Tech)	60,000.00	0.00	60,000.00	
MBK Engineering (Gen Engineering)	20,000.00	25,000.00	20,000.00	
Mead & Hunt (Gen Engineering)	60,000.00	19,982.45	60,000.00	
Project Management (Yeager, Devereux)	30,000.00	38,596.25	30,000.00	
Hydraulic Modeling (TBD)	5,000.00	0.00	200,000.00	
Security Patrol	65,000.00	77,625.00	80,000.00	(15,000.00)
Temporary Admin	15,000.00	14,000.00	15,000.00	0.00
Christo Rey - Work Study Program (2 Students)	15,000.00	14,000.00	15,000.00	
Consulting/Contracts Subtotal	**260,000.00**	**176,988.14**	**470,000.00**	**(210,000.00)**

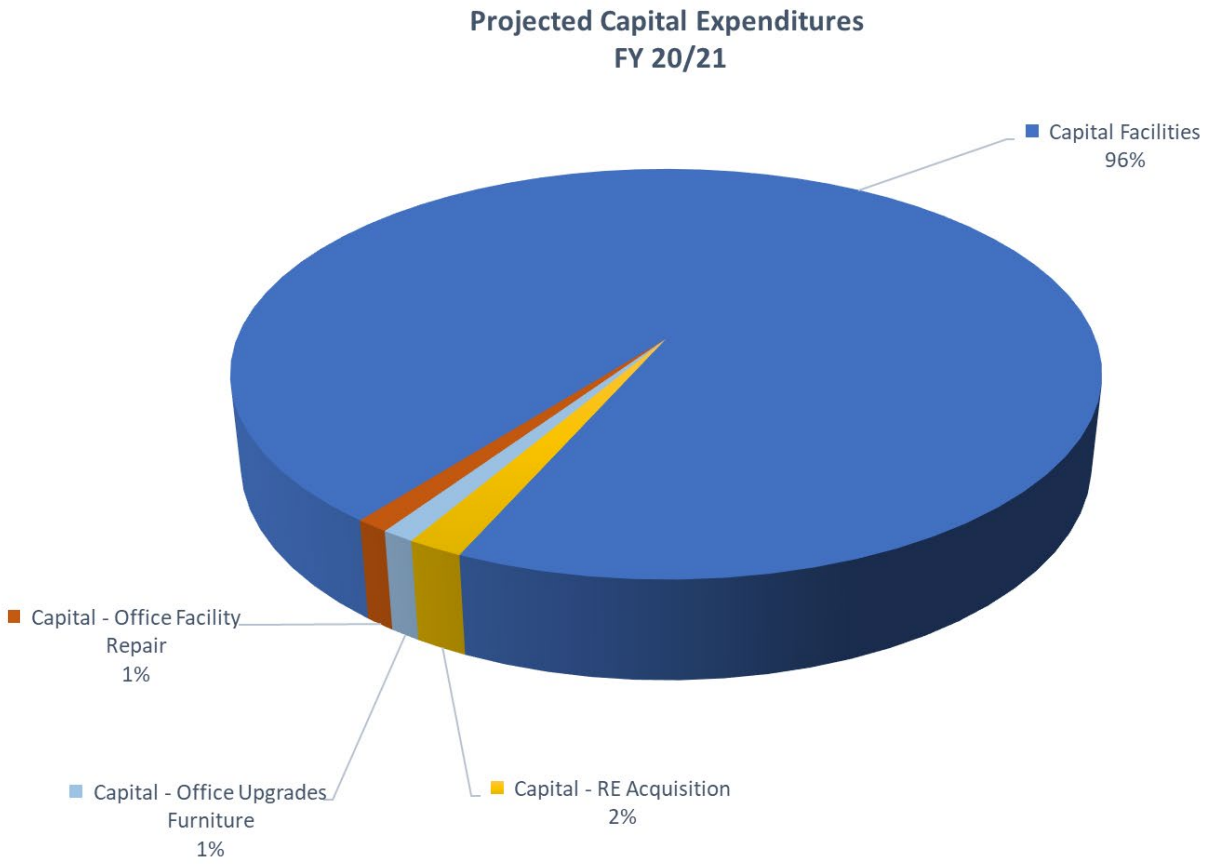
Equipment Expenditures

Equipment Expenditures	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Equipment				
Equipment	132,000.00	276,598.00	0.00	132,000.00
(6) 3/4 Ton 4x4 Pickups (Replacement)	132,000.00	276,598.00	0.00	132,000.00
Equipment Subtotal	**132,000.00**	**276,597.91**	**0.00**	**132,000.00**

Capital Expenditures

The District anticipates approximately $2.5M more in Capital expenditures in FY 20/21 compared to the FY 19/20 Budget. The major difference is implementation of the District's Capital Improvement Plan Update, inclusive of identified capital improvements, a Programmatic Environmental Impact Report, Project Design and Supervisory Control and Data Acquisition (SCADA) improvements.

CAPITAL EXPENDITURES	Adopted Budget FY 19/20	Estimate YE FY 19/20	Budget FY 20/21	Variance Budget FY 20/21 v. Budget FY 19/20 (over)/under
Capital Expenditures				
Capital Facilities	180,000.00	189,652.00	2,700,000.00	(2,520,000.00)
Condition Assessment & Inspection Electrical	50,000.00	59,552.00	0.00	
Plant 1B Spare Transformer	100,000.00	0.00	200,000.00	
CIP Update	30,000.00	130,100.00	0.00	
2020/2021 Capital Projects (Programmatic EIR/Project Design/SCADA)	0.00	0.00	2,500,000.00	
Capital - Office Upgrades Furniture	30,000.00	18,043.74	20,000.00	10,000.00
Board Room & Kitchenette	30,000.00	18,043.74	20,000.00	
Capital - RE Acquisition	50,000.00	3,437.50	50,000.00	0.00
Natomas Cross Canal	20,000.00	3,437.50	20,000.00	
NEMDC Parcels	30,000.00	0.00	30,000.00	
Capital - Office Facility Repair	30,000.00	0.00	30,000.00	0.00
Window Replacement, Paint, AV Equipment	30,000.00	0.00	30,000.00	
Document Management	0.00	0.00	0.00	10,000.00
Capital - District Server	10,000.00	11,180.79	0.00	(10,000.00)
Total Capital Expenditures	**300,000.00**	**222,314.03**	**2,800,000.00**	**(2,500,000.00)**


Projected Capital Expenditures
FY 20/21
Capital Facilities
96%
Capital - Office Facility Repair
1%
Capital - Office Upgrades Furniture
1%
Capital - RE Acquisition
2%

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 6.3**

TITLE: **Review and Consider Adoption of Official Pay Rate Schedule for Fiscal Year 2020/2021**

SUBJECT: **Review and Consider Adoption of Resolution No. 2020-06-02 Adopting Official Pay Rate Schedule for Fiscal Year 2020/2021.**

EXECUTIVE SUMMARY:

The Board of Trustees of Reclamation District No. 1000 (RD 1000; District) annually adopt an official pay rate schedule. Staff has prepared an Official Pay Rate Schedule for Fiscal Year 2020/2021 (Exhibit "A" in Resolution 2020-06-02).

RECOMMENDATION:

Staff recommends the Board review and consider adoption of Resolution No. 2020-06-02 adopting an official pay rate schedule for Fiscal Year 2020/2021.

ATTACHMENTS:

1. Resolution No. 2020-06-02

STAFF RESPONSIBLE FOR REPORT:

_____ Date: 06/05/2020

Kevin L. King, General Manager

RECLAMATION DISTRICT NO. 1000

RESOLUTION NO. 2020-06-02

A RESOLUTION OF THE BOARD OF TRUSTEES OF RECLAMATION DISTRICT NO. 1000 ADOPTING THE OFFICIAL PAY RATE SCHEDULE FOR FISCAL YEAR 2020/2021

At a regular meeting of the Board of Trustees of Reclamation District No. 1000 held at the District Office on the 12th day of June 2020, the following resolution was approved and adopted:

WHEREAS, the Reclamation District No. 1000's (District) mission is flood protection for the Natomas Basin providing for the public's health and safety by operating and maintaining the levees, and the District's canals and pump stations; and

WHEREAS, the Board of Trustees (Board) of the District recognizes the importance of providing flood protection in a safe, efficient and responsible manner; and

WHEREAS, it is appropriate and necessary to employ staff to achieve the goals and objectives of the District; and

WHEREAS, the establishment and adoption of an official pay rate schedule is necessary; and

WHEREAS, the Board has been presented with, reviewed, and considered the official pay rate schedule for Fiscal Year 2020/2021 and considers the proposed schedule as necessary and appropriate for Fiscal Year 2020/2021.

NOW, THEREFORE BE IT RESOLVED THAT:

1. The facts contained in the recitals above are true and correct, and the Board so finds and determines.
2. The Reclamation District No. 1000 Official Pay Rate Schedule for Fiscal Year 2020/2021 is hereby adopted as presented, and as attached hereto as Exhibit "A".
3. The Official Pay Rate Schedule will become effective on July 1, 2020.

BE IT FURTHER RESOLVED THAT: The General Manager and Administrative Services Manager are responsible for adherence to this resolution.

ON A MOTION BY Trustee _____, seconded by Trustee _____, the foregoing resolution was passed and adopted by the Board of Trustees of Reclamation District No. 1000, this 12th day of June 2020, by the following vote, to wit:

AYES: Trustees:

NOES: Trustees:

ABSTAIN: Trustees:

RECUSE: Trustees:

ABSENT: Trustees:

_____

Jeff Smith

President, Board of Trustees

Reclamation District No. 1000

CERTIFICATION:

I, Joleen Gutierrez, Secretary of Reclamation District No. 1000, hereby certify that the foregoing Resolution 2020-06-02 was duly adopted by the Board of Trustees of Reclamation District No. 1000 at the regular meeting held on the 12th of June 2020 and made a part of the minutes thereof.

_____

Joleen Gutierrez, District Secretary

EXHIBIT "A"

RECLAMATION DISTRICT NO. 1000

OFFICAL PAY RATE SCHEDULE

2020-2021

(Adopted 6/12/2020)

(Effective 7/1/2020)

Position	Minimum	Maximum
General Manager	$11,572/Mo.	$16,216.20/Mo.
Project Manager/Engineer (Temporary)	$10,571/Mo.	$14,595/Mo.
Superintendent	$7,235/Mo.	$9,990/Mo.
Administrative Services Manager	$6,128/Mo.	$8,461/Mo.
Foreman	$31.91/Hr.	$44.06/Hr.
Equipment Maintenance Specialist	$25.88/Hr.	$35.72/Hr.
Flood Operations Specialist II	$25.88/Hr.	$35.72/Hr.
Flood Operations Specialist I	$21.50/Hr.	$29.69/Hr.
Administrative Assistant	$18.21/Hr.	$25.14/Hr.

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 6.4**

TITLE: **Annual Banking Authorization (Sacramento County)**

SUBJECT: **Review and Consider Adoption of Resolution No. 2020-06-03 Authorizing Officers and Trustees as Signatories to the Operations and Maintenance Funds held by Sacramento County Treasurer.**

EXECUTIVE SUMMARY:

Reclamation District No. 1000 is required to adopt and file a new Banking Resolution with the Sacramento County Treasurer annually authorizing Officers and Trustees as Signatories to the Operations and Maintenance Fund, a revolving Fund held by the Sacramento County Treasurer. Resolution No. 2020-06-03 (Attachment 1) has been prepared to fulfill this requirement.

BACKGROUND:

The California Water Code allows the Board to create a revolving fund for paying expenses. The District maintains an O/M Revolving Fund with the County of Sacramento. Annually, the Board is required to adopt and file a new Banking Resolution with the Sacramento County Treasurer. The attached Resolution 2020-06-03 sets forth account terms as well as use parameters.

RECOMMENDATION:

Staff recommends the Board of Trustees adopt Resolution 2020-06-03 Authorizing Officers and Trustees as Signatories to the Operations and Maintenance Funds held by Sacramento County Treasurer.

FINANCIAL IMPACT:

None.

ATTACHMENTS:

1. Resolution No. 2020-06-03 Authorizing Officers and Trustees as Signatories to the Operations and Maintenance Funds held by Sacramento County Treasurer.

STAFF RESPONSIBLE FOR REPORT:

_____ Date: 06/04/2020
Joleen Gutierrez, Administrative Services Manager

_____ Date: 06/05/2020
Kevin L. King, General Manager

RECLAMATION DISTRICT NO. 1000

RESOLUTION NO. 2020-06-03

A RESOLUTION OF THE BOARD OF TRUSTEES OF RECLAMATION DISTRICT NO. 1000 AUTHORIZING OFFICERS AND TRUSTEES AS SIGNATORIES TO THE OPERATIONS AND MAINTENANCE FUNDS HELD BY SACRAMENTO COUNTY TREASURER.

At a regular meeting of the Board of Trustees of Reclamation District No. 1000 held at the District Office on the 12th day of June 2020, the following resolution was approved and adopted:

WHEREAS, Reclamation District No. 1000 maintains an Operation and Maintenance Fund held by the Sacramento County Treasurer; and

WHEREAS, Reclamation District No. 1000 also maintains a Revolving Fund pursuant to Water Code Section 50657; and Reclamation District No. 1000 assumes responsibility for disbursement of such Revolving Fund and agrees to hold and save the Sacramento County Treasurer harmless from any improper disbursement of such Revolving Fund as required by Water Code Section 50658; and

WHEREAS, the Board of Trustees by this Resolution desires to set forth the names and specimen signatures of the Officers and Trustees of Reclamation District No. 1000 and set forth the names and required signatures for withdrawal or payment of funds from such accounts;

NOW THEREFORE BE IT RESOLVED THAT: The Board of Trustees of Reclamation District No. 1000 affirm the names and specimen signatures of the Trustees of Reclamation District No. 1000, as provided herein:

Nicholas Avdis _____

Jag Bains _____

Christopher Burns _____

David Christophel _____

Thomas Gilbert _____

Elena Lee Reeder _____

Jerome Smith _____

BE IT FURTHER RESOLVED THAT: The Board of Trustees of Reclamation District No. 1000 affirm the names and specimen signatures of the Officers of Reclamation District No. 1000, as provided herein:

Kevin L. King
General Manager _____

Joleen Gutierrez
District Secretary _____

BE IT FURTHER RESOLVED THAT: Funds held in the Reclamation District No. 1000 Operation and Maintenance Fund held by the Sacramento County Treasurer may be withdrawn or paid solely by warrant signed by any four or more of the Trustees of the District as identified in this resolution and attested to by the Secretary of the Board of Trustees or General Manager as identified in this resolution.

BE IT FURTHER RESOLVED THAT: Funds on deposit in the District's revolving fund may be withdrawn or paid by check signed by any one of the Trustees identified in this resolution or the District Manager or District Secretary as identified in this resolution, for amounts less than $20,000.00 and any two of the Trustees as identified in this resolution or the General Manager as identified and a Trustee as identified of this resolution for amounts exceeding $20,000.00.

BE IT FURTHER RESOLVED THAT: Funds on deposit in the District's revolving fund may be withdrawn or paid via electronic fund transfer (ACH) to specific vendors as provided in Exhibit A of this resolution. Electronic fund transfers paid to vendors specified in Exhibit A shall not exceed $20,000.00. If an amount to be paid via electronic transfer exceeds $20,000.00, a written authorization must be received from a Trustee as identified in this Resolution in addition to authorization by the General Manager, an email authorization is considered a written authorization. Amounts of $20,000.00 or less may be authorized by any of the Trustees identified in this resolution or the District Manager or District Secretary as identified in this resolution.

ON A MOTION BY Trustee _____, seconded by Trustee _____, the foregoing resolution was passed and adopted by the Board of Trustees of Reclamation District No. 1000, this 12th day of June 2020, by the following vote, to wit:

AYES: Trustees:

NOES: Trustees:

ABSTAIN: Trustees:

RECUSE: Trustees:

ABSENT: Trustees:

_____

Jeff Smith

President, Board of Trustees

Reclamation District No. 1000

CERTIFICATION:

I, Joleen Gutierrez, Secretary of Reclamation District No. 1000, hereby certify that the foregoing Resolution 2019-06-03 was duly adopted by the Board of Trustees of Reclamation District No. 1000 at the regular meeting held on the 12th of June 2020 and made a part of the minutes thereof.

_____

Joleen Gutierrez, District Secretary

EXHIBIT A

List of vendors approved by the Board to be paid electronically:

Vendor	Item(s) Paid
CalPERS	Pension/Health/Deferred Comp
PG&E	Utilities
City of Sacramento	Utilities
Verizon	Wireless Phone Service
Comcast	Internet Service
Smile Business	Office Equipment Maintenance
Alhambra	Water Service
Airgas	Shop Service
Berkshire Hathaway	Worker's Comp
Home Depot Credit	Shop Supplies
Napa Auto Parts	Equipment Supplies/Parts
Tractor Supply	Equipment Parts
Waste Management	Garbage/Recycling
Streamline	Website
ACWA JPIA	Dental/Vision/Life Insurance
US Healthworks	DOT Screening
Sacramento County Utilities	Utilities

RECLAMATION DISTRICT 1000

DATE: JUNE 12, 2020 **AGENDA ITEM NO. 7.1.1**

TITLE: **Committee Meeting/Special Board Meeting Minutes**

SUBJECT: **Meeting Minutes from Committee Meetings Since the May Board Meeting**

EXECUTIVE SUMMARY:

Urbanization Committee Meeting – June 2, 2020

A meeting of the Reclamation District No. 1000 Urbanization Committee was held on Tuesday, June 2, 2020 at 7:30 a.m. via GoToMeeting and Conference Call. In attendance were Trustees Lee Reeder, Burns, and Gilbert. Staff in attendance were General Manager King, and Administrative Services Manager Gutierrez. No members of the public were present and therefore no public comments were made.

GM King and ASM Gutierrez updated the Urbanization Committee on the benchmarks established for the 2nd Quarter of 2020, including Social Media, Community Outreach Opportunities and Outreach Materials. The Committee provided comments on the documents and materials that were provided for review. Staff will work on making the requested revisions to the Draft District Informational Pamphlet and Draft Activity Book.

GM King provided the Committee with the benchmarks for the 3rd Quarter of 2020. The next Urbanization Committee meeting will be scheduled for the second week of September. With no further business on the Operations Committee Agenda, the meeting adjourned at 8:35 a.m.

Executive Committee Meeting – June 3, 2020

A meeting of the Reclamation District No. 1000 Executive Committee was held on Wednesday, June 3, 2020 at 8:00 a.m. via GoToMeeting and Conference Call. In attendance were Trustees Smith, and Burns. Trustee Gilbert also participated in the meeting. Staff in attendance were General Manager King and District Counsel Smith. No members of the public were present and therefore no public comments were made.

General Manager King presented the proposed agenda for the June 12, 2020 Board of Trustees meeting. The Committee reviewed the agenda and approved.

With no further business on the Executive Committee Agenda, meeting adjourned at 8:20 a.m.

STAFF RESPONSIBLE FOR REPORT:

Date: 06/05/2020

Kevin L. King, General Manager