

**DURHAM IRRIGATION DISTRICT
SPECIAL BOARD MEETING
CAPITAL IMPROVEMENT PLAN WORKSHOP
December 9, 2022 from 9:00 AM – 12:00 PM
Durham Recreation & Park District – Memorial Hall Meeting Room
9319 Midway, Durham CA**

COPIES OF THIS AGENDA AVAILABLE FROM:
Durham Irrigation District Office or Online at www.didwater.org

- *The Board of Directors is committed to making its meetings accessible to all citizens. Any person requiring special accommodation to participate is requested to contact the District Office at 530-343-1594 at least 48 hours in advance of the meeting.*
- *The Board of Directors or its Chair, pursuant to Government Code section 54954.3, reserve the right to impose reasonable regulations governing public participation on agenda and non-agenda items, including limiting the total amount of time allocated to public testimony on particular issues and for each individual speaker.*

Posted: 1:00 PM, December 5, 2022 at 9418-C Midway, Durham, CA 95938 and www.didwater.org.

Board of Directors:

Matt Doyle, Chair
Raymond Cooper, Director
Kevin Phillips, Director

District Staff and Consultants:

Mark Adams, District Engineer
Mike Butler, Water Operator
Dustin Cooper, District Counsel
Eddy Teasdale, Luhdorff & Scalamanini, Consulting Engineers (LSCE)
Jacques DeBra, LSCE
Jeannie Trizzino, Administrative Assistant

AGENDA ITEMS:

1 CALL TO ORDER

- 1.1 Roll Call/Establishment of Quorum
- 1.2 Introduction of Guests

**2 CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
9:00 am – 10:00 am**

This session will precede CIP Workshop presentation and discussion.

- 2.1 Significant exposure to litigation pursuant to Government Code §54956.9(d)(2) or (d)(3).
One case.

3 PUBLIC COMMENT

Members of the public wishing to address the Board on items not listed on the Agenda:

The Durham Irrigation District Board of Directors may take official action only on items included in the posted agenda for a specific scheduled meeting. Items addressed during the Public Comment section are generally matters not included on the agenda and therefore, the Board will not take action at this scheduled meeting. However, such items may be put on the agenda for a future meeting. The public shall have the opportunity to address items that are on the posted agenda. Speakers shall be limited to three minutes each.

4 POLICY AND PROCEDURE MANUAL UPDATES

4.1 Procurement Policy

Action Requested: Approve and adopt Procurement Policy.

4.2 Water rate, operating fees, and billing procedures

Action Requested: Approve and adopt Water rate, operating fees, and billing procedures.

5 PRESENTATIONS

5.1 Capital Improvement Plan Workshop to review and discuss past, current and future infrastructure and budgetary needs.

6 ADJOURNMENT

Adjourn to the next Regular Board Meeting, December 20, 2022.

Attachments



CIP Planning And Implementation Presentation

*Durham Irrigation District
Board Meeting*

December 09, 2022

Meeting #1

Eddy Teasdale/Jacques DeBra



DID Board Meeting – CIP Planning Item

- 1. AWWA Industry Challenges**
- 2. Asset Management Principles**
- 3. DID CIP Plan – Updated Oct. 2022**
- 4. Discuss Water Loss Control Policy**
- 5. Discuss Water Rate Policy**
- 6. Implementation Plan – funding options**
- 7. Next Steps**



AWWA 2022 State Of The Industry Report Recap

Infrastructure & financing top challenges

Water availability, workforce also concerns

Survey participants ranked the water sector's three most pressing challenges as:

No. 1 Renewal and replacement of aging water and wastewater infrastructure

No. 2 Financing for capital improvements

No. 3 Long-term drinking water supply availability



- 1 Renewal and replacement of aging water infrastructure
- 2 Financing for capital improvements
- 3 Long-term drinking water supply availability
- 4 Aging workforce/anticipated retirements
- 5 Public understanding of the value of water systems/services
- 6 Emergency preparedness
- 7 Watershed/source water protection

AWWA 2022 State Of The Industry Report Recap

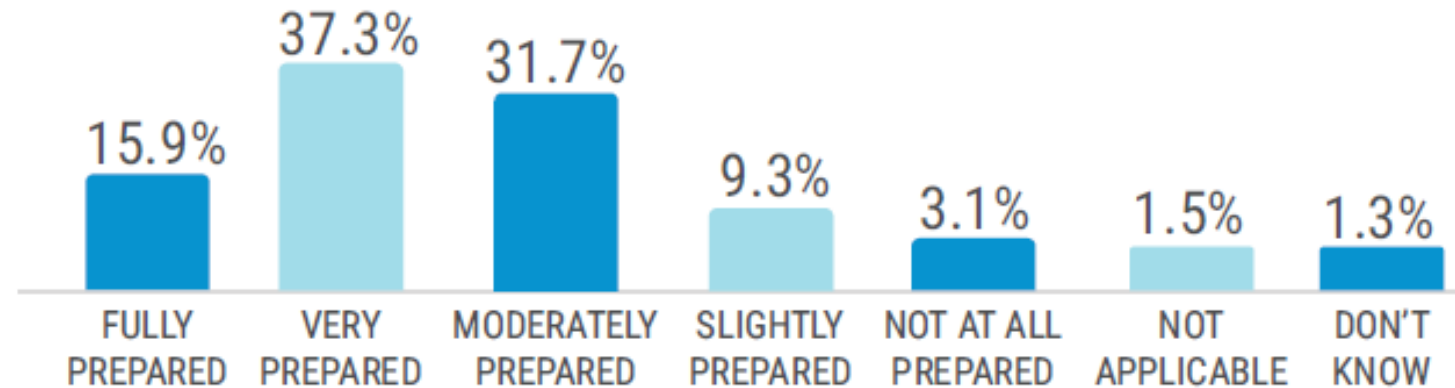
Renewal and Replacement (R&R) Challenges

- 1 Infrastructure reliability
- 2 Financing renewal and replacements
- 3 Access to funding
- 4 Maintaining levels of service
- 5 Justifying R&R programs to oversight bodies
- 6 Justifying R&R programs to ratepayers
- 7 Prioritizing R&R needs
- 8 Coordinating with other R&R activities
- 9 Regulatory constraints
- 10 Customer expectations



Tailoring an overall funding strategy to cover future infrastructure costs will help keep utility rates as low as possible while meeting system standards and requirements.

How prepared do you think your utility will be to meet its long-term water supply needs?



DID – CIP Update Process

Asset Management Principles

OVERVIEW OF ASSET MANAGEMENT PLANNING



The goal of Water System Asset Management Planning is to plan-ahead for upcoming infrastructure repair, rehab, and replacement activities to avoid performance failures and service interruptions to customers.

Pay Attention To Asset Useful Life

Pipelines	= 50 to 75 years
Wells	= 30 to 40 years
Tanks	= 30-50 years
Hydrants	= 30 years
Valves	= 40 years
Meters	= 20 years



DID 2022 CIP Plan

Should be updated at least every five years with flexible implementation approach to take advantage of best available funding sources.

CIP = Capital Improvement Project (typically > \$1M)



Today's Tricky CIP Implementation Environment

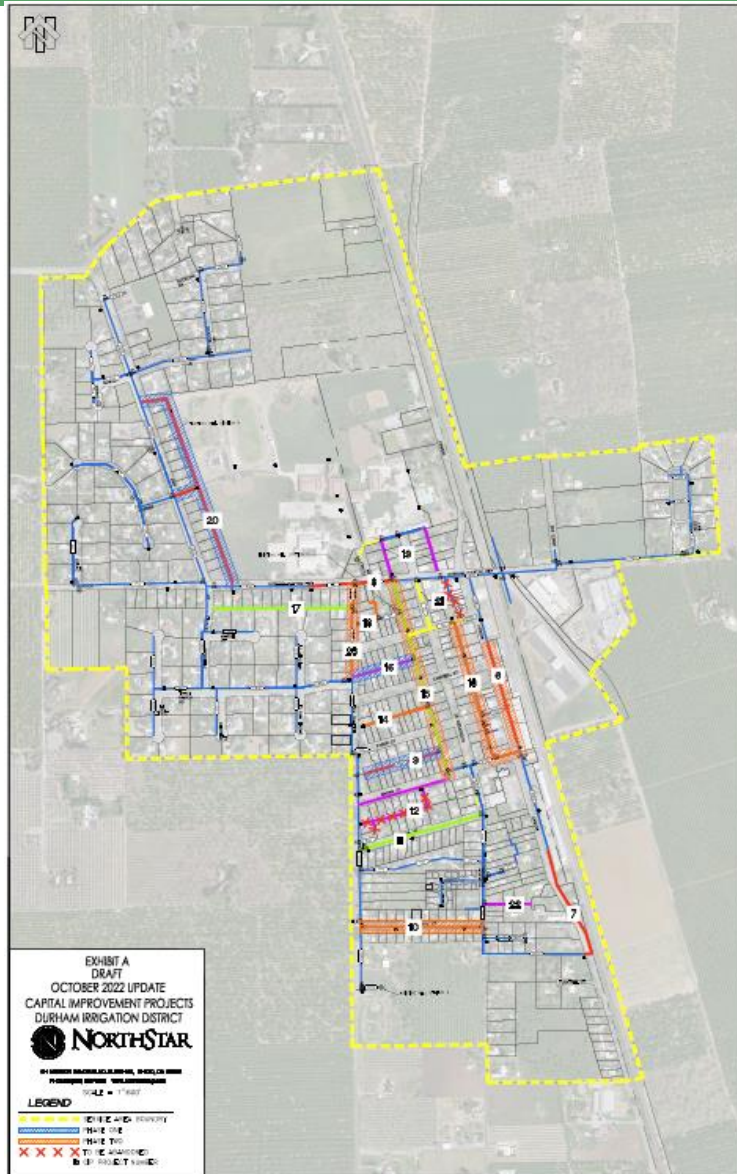
- 1. Supply chain and labor inflationary pressures**
- 2. More expensive capital costs – increasing interest rates**
- 3. Tight construction market – long wait times for some projects (e.g. wells)**
- 4. Risk management exercise – failures cost 3 times more than R&R projects**
- 5. Account for life cycle costs**
- 6. Look for operational efficiencies – SCADA/well control, Smart meters, other**
- 7. Position for future funding opportunities**



DID – October 2022 CIP Plan Update



CAPITAL IMPROVEMENT PROGRAM PROJECT LIST and PROJECT COSTS DRAFT - October 2022 Update



Project #	Project Description	Project Cost
Infrastructure Improvements		
1	Lead Service Pipe Study - PROJECT COMPLETED UNDER USBR GRANT	\$
2	Wharf Hydrant Replacement - 14 Locations District Wide	\$ 153,615.00
3	PHASE ONE Isolation Valve Replacement/Installation - District Wide (Completed Separate of Projects Below)(20 Valves)	\$ 114,380.00
4	Metering of Flat Rate Services (Approximately 121 Services)	\$ 277,695.00
5	Automatic Meter Reading Conversion	\$ 155,000.00
6	New 8" Main on Midway - Durham St. to Brown St. (Complete Loop)	\$ 318,393.00
7	New 8" Main on Midway - South Loop Connection	\$ 247,860.00
8	Durham Dayton Hwy. - Replace 6" Main with 8" Main	\$ 242,964.00
9	Alley Between Brown & Faber - Replace 4" Main with 8" Main	\$ 213,894.00
10	Serviss St. - Replace 4" Main with 8" Main	\$ 375,538.50
11	Florida Ln. - Replace 4" Main with 8" Main	\$ 367,506.00
12	Brown St. - Replace 4" Main with 8" Main - Abandon Alley	\$ 347,157.00
13	Alley Between Midway & Goodspeed - Replace 4" Main with 8" Main	\$ 435,897.00
14	Alley Between Campbell & Faber - Replace 4" Main with 8" Main	\$ 236,155.50
15	Alley Between Holland & Goodspeed - Replace 6" Main with 8" Main	\$ 552,330.00
16	Alley Between Campbell & Durham - Replace 4" Main with 8" Main	\$ 176,026.50
17	Abandon Ex. Main in Backyards of Houses South of Durham Dayton - Connect Existing Services to 8" Main in Durham Dayton	\$ 53,550.00
18	Alley West of Well #3 & South of Durham Dayton Hwy. - Replace 2" Main with 8" Main	\$ 178,474.50
19	Alley Loop North of Durham Dayton & South DUSD/DPRD - Replace 6" Main with 8" Main (Partially completed by DUSD and DRPD)	\$ 246,636.00
20	6" Main on West PL of Durham High School - Replace 6" with 8" in PUSD Easement	\$ 519,358.50
21	Goodspeed St. - Durham Dayton to Durham St, Durham St - Alley to Midway - New 8" Main - Abandon Alley between Durham Dayton and Durham	\$ 308,448.00
22	Sakeley Lane - Replace 2" Main with 6" Main	\$ 120,487.50
23	Holland Avenue - Replace 2" Main with 8" Main	\$ 264,384.00
24	Solar at Holland Well Site	\$ 120,000.00
Infrastructure Improvements Total		\$ 6,025,750.00
Well Improvements		
25	Well Station 3 Upgrades (Building, Filter & Generator)	\$ 399,000.00
26	XIO - Cloud Based SCADA Controls & Metering	\$ 50,050.00
27	Well Station #5 Upgrades	\$ 120,000.00
28	Well Sonic Water Level Monitoring (2 locations)	\$ 10,000.00
29	Groundwater Well Assessment (3 locations)	\$ 15,000.00
30	Well Station #5 - 1.0 MG Steel Reservoir with Booster Pump	\$ 2,677,500.00
Well Improvements Total		\$ 3,271,550.00

PHASE ONE CAPITAL BUDGET \$ 2,015,404.00

PHASE TWO CAPITAL BUDGET \$ 1,946,542.50

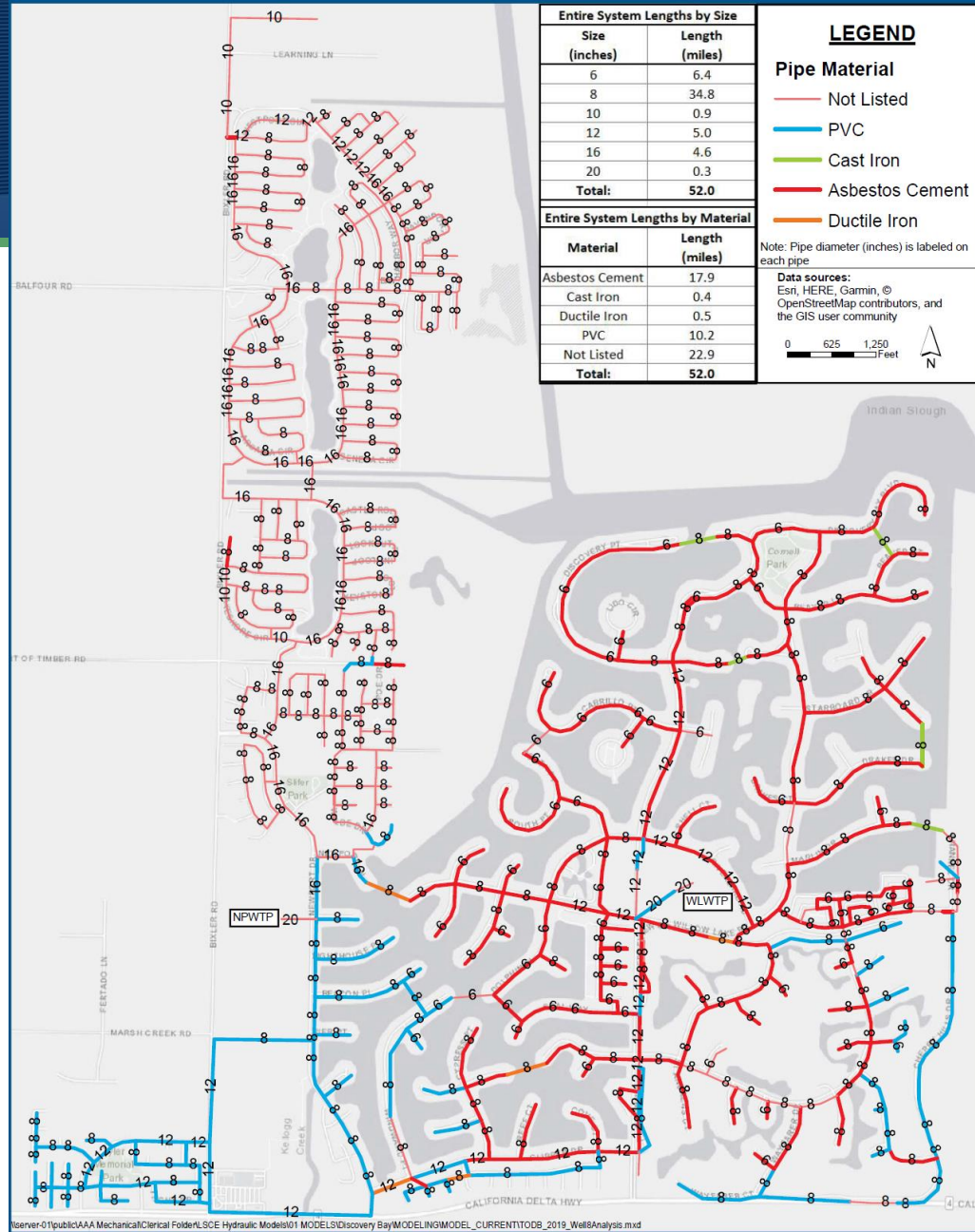
ADDITIONAL NOT INCLUDED IN PHASE ONE AND PHASE TWO \$ 5,335,353.50

TOTAL OF ALL CAPITAL IMPROVEMENT PROJECTS \$ 9,297,300.00

DID – October 2022 CIP Plan Update Risk Management Example



AC Pipe R&R Project



AC Pipe Replacement Project

- Largest water CIP Project
- Largest water system liability

AC Pipe In Red

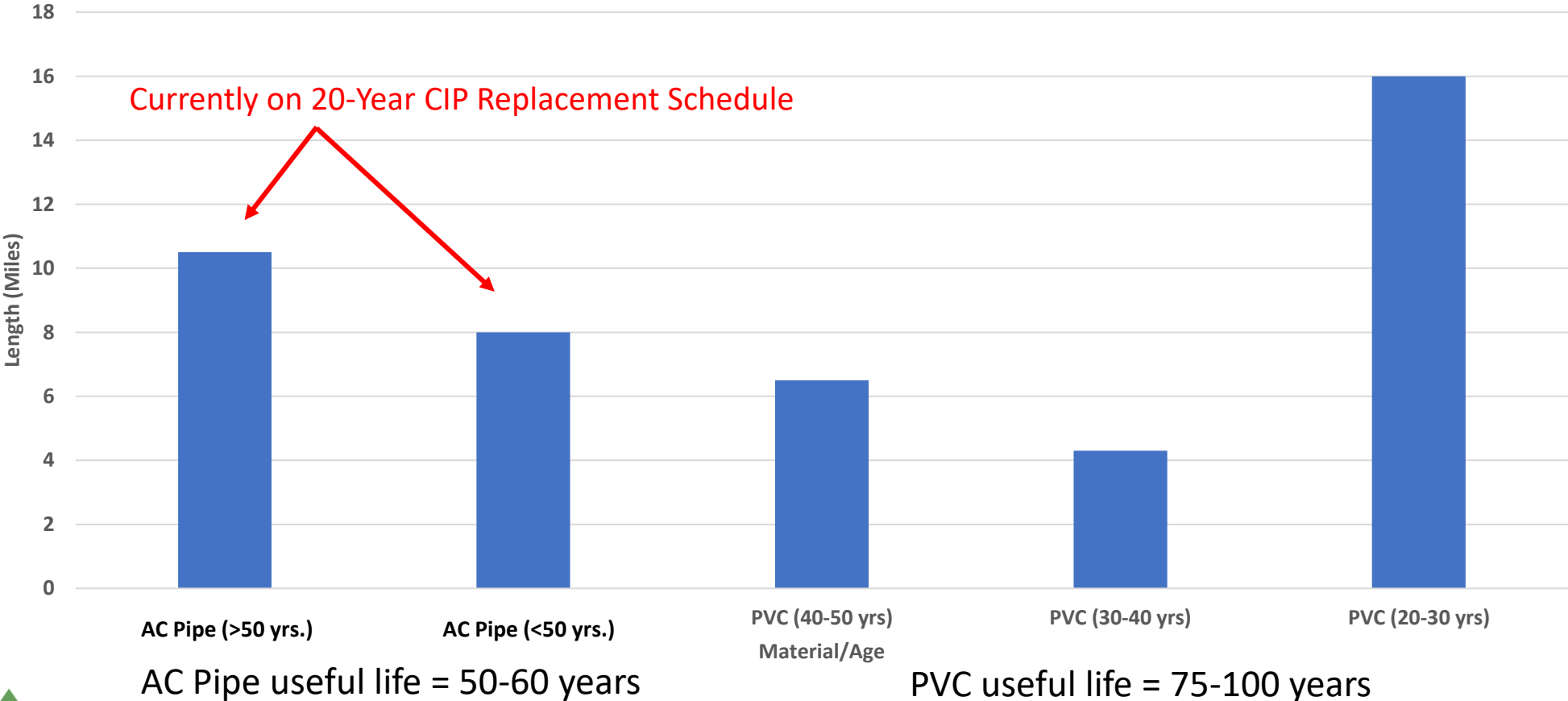
17.9 miles to be replaced through DWSRF funding approach. AC Pipe Useful Life = 50-60 years; subject to high leak losses and failures as it ages.

AC Pipe Corrosion Study Conclusions

For AC pipe, the main concern is that the soil is predominantly alluvial soils that can have high swelling and shrinkage characteristics. There is also a very high-water table in the TODB that can leach the calcium out of the pipe.

TODB FY21-22 Budget – 20 Year Water CIP Plan

TODB Water System - 2025 Pipe Age, Material Type & Length



DID 2022 CIP Plan Priorities

CIP Project Priority	Target	Useful Life	Actual Life
Lead Service Line Study	Field Surveys – SDWA Compliance	40 years	If found, replace with C-900
Hydrant Replacements	24	30 years	50-75 years
Valve Replacements	70	40 years	50-75 years
Meter Installations	141 unmetered flat rate customers	20 years	New meters to be installed
SCADA System	Install XiO System For 3 Wells	20 years	Operational savings
Pipelines	1 mile (5,280 ft.) - failing	50-75 years	50-75 years
Well Rehabs (#3, #4, #5)	Various items (R&R)	30-40 years	> 30 years



DID 2022 CIP Plan Priorities

CIP Project Priority	Phase One Capital Budget	Phase Two Capital Budget	Phase 3 Capital Budget
Valve Replacements	\$114,380	\$0	TBD
Hydrant Replacements	\$0	\$0	TBD
Main Replacements	\$909,279	\$1,946,541.50	TBD
Meter Installations (121)	\$277,695	\$0	TBD
Well Rehabs/SCADA	\$714,050	\$0	TBD
Total	\$2,015,404	\$1,946,0	\$5,335,300

Total capital budget phases 1-3 = \$9.3M over next ten years!



WATER LOSS CONTROL

An important long-term best utility management practice in California and the U.S.



AWWA Water Loss Control Policy Statement

Water loss control represents the efforts of water utilities to provide accountability in their operation by reliably auditing their water supplies and implementing controls to minimize system losses. Utilities incur real losses from pipeline leakage and apparent losses when customer water consumption is not properly measured or billed. AWWA advocates the water audit method developed jointly by the International Water Association and AWWA. The IWA/AWWA Water Audit Method provides the best management practice tools and guidance water utilities need to efficiently manage their supplies.

SB555 legislation was passed by the California Legislature in 2015 which requires urban water suppliers to meet water loss control standards including conducting annual water audits, validating audits, and meeting water loss performance standards established by the SWRCB.

DID could meet water loss control program objectives once its all its water supply sources and customer meters are installed and read on a regular basis.



WATER LOSS CONTROL – Leaks Happen!

Estimated Indoor Residential CA Water Uses (2000)

(Source: Pacific Institute, 2003)



WATER LOSS CONTROL – TACKLING SUPPLY SIDE ISSUES

- Water Loss: water produced but not sold
- Reducing system losses can be as effective as multiple conservation programs
- Reducing water losses will result in operational savings to the utility
- Types of Water Losses
 - Real – leakage, theft
 - Apparent – Metering inaccuracies, billing data errors



Leak Perspective

Why do leaks occur?

- Poor workmanship or construction methods
- Corrosion
- Water hammer causing pressure transients/fluctuations
- Deferred maintenance
- Aging infrastructure

Where do leaks occur?

- Transmission/Distribution water mains (about 880,000 miles of water mains in the US)
- Water service lines (70% to 80% before the meter)
- Meters/valves/hydrants
- Can also occur at water storage and treatment facilities

WATER LOSS CONTROL – UTILITY STARTING POINT

Water Loss Range % Water Production	Water Conservation Program Priority
0-5%	LOW
5-10%	MEDIUM
>10%	HIGH



Supply and demand meters must be installed and read on regular basis to know where DID stands with water loss control.

WATER LOSS CONTROL – AWWA M36

Water Balance Method

AWWA WLCC Free Water Audit Software: <u>Water Balance</u>			Water Audit Report For:	Report Yr:
	Water Exported	Billed Water Exported		
	0.000			
-	-		Billed Authorized Consumption	Billed Metered Consumption (inc. water exported)
-	-			0.000
Own Sources	-	Authorized Consumption	0.000	Revenue Water
(Adjusted for known errors)	-			0.000
-	-	0.000		
0.000	-		Unbilled Authorized Consumption	Unbilled Metered Consumption
-	-			0.000
-	-			Unbilled Unmetered Consumption
-	-			0.000
-	-			Unbilled Unmetered Consumption
-	-			0.000
-	-			Unauthorized Consumption
-	-		Apparent Losses	0.000
-	-			Customer Metering Inaccuracies
-	-			0.000
-	-	Water Losses		Systematic Data Handling Errors
-	-			0.000
Water Imported	-	0.000		Leakage on Transmission and/or Distribution Mains
-	-		Real Losses	Not broken down
0.000	-			Leakage and Overflows at Utility's Storage Tanks
-	-			Not broken down
-	-			Leakage on Service Connections
-	-			Not broken down



WATER LOSS CONTROL – AWWA M36

Water Balance Method

AWWA Free Water Audit Software: Reporting Worksheet WAS v5.0
American Water Works Association
Copyright © 2014, All Rights Reserved

Water Audit Report for: AGENCY NAME (System #)
Reporting Year: 2019 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades.

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

Enter grading in column 'E' and 'J' ----->

-----> Pcnt: Value:

WATER SUPPLIED

Volume from own sources:	+ ? 5	1,180,967	MG/Yr	+ ? 2	• 0	MG/Yr
Water imported:	+ ? n/a	0.000	MG/Yr	+ ? 2	• 0	MG/Yr
Water exported:	+ ? n/a	0.000	MG/Yr	+ ? 2	• 0	MG/Yr
WATER SUPPLIED:		1,180,967	MG/Yr			

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Billed metered:	+ ? 4	963,000	MG/Yr			
Billed unmetered:	+ ? n/a		MG/Yr			
Unbilled metered:	+ ? n/a		MG/Yr			
Unbilled unmetered:	+ ? 5	14,762	MG/Yr			
AUTHORIZED CONSUMPTION:		977,762	MG/Yr			

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

WATER LOSSES (Water Supplied - Authorized Consumption)

203,204 MG/Yr

Apparent Losses

Unauthorized consumption:	+ ? 3	2,952	MG/Yr			
Customer metering inaccuracies:	+ ? 3	4,839	MG/Yr			
Systematic data handling errors:	+ ? 5	2,408	MG/Yr			
Apparent Losses:		10,199	MG/Yr			

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:		193,005	MG/Yr			
WATER LOSSES:		203,204	MG/Yr			

NON-REVENUE WATER

NON-REVENUE WATER:		217,967	MG/Yr			
---------------------------	--	----------------	-------	--	--	--

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ? 8	53.9	miles
Number of active AND inactive service connections:	+ ? 8	6,588	
Service connection density:	+ ? 7	122	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes No (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 6 63.0 psi

COST DATA

Total annual cost of operating water system:	+ ? 10	\$2,469,600	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ? 10	\$2.82	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ? 5	\$293.15	\$/Million gallons

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 58 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Billed metered
- 3: Customer metering inaccuracies

NRW will vary on an annual basis for each water audit conducted on the water system. Items like main repair and replacement, lower construction activity, or increased hydrant theft can impact the bottom line.



WATER LOSS CONTROL – Meter Losses

- Over sizing meters: under registration of demand and lost revenue
- Old meters: running slow, stuck, lower accuracy
- Accurate demand measurement requires proper meter sizing and good maintenance practices
- Do you know how accurate your meter readings are?
- AWWA Manual of Practice for old Water Service Meters (M6)
 - AWWA Accuracy Standard = 98% to 101.5% (small meters)
 - = 97% to 103% (for large meters)



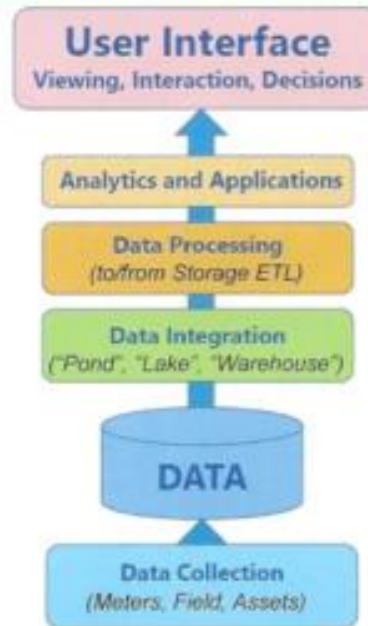
WATER LOSS CONTROL – Meter Losses

Each water utility will implement an AMI project based on their own approach and project goals.

AMI Metering System – Total Process

Using AMI Data in Smart Water Systems How to Make a Smart Water System

- Data Collection
 - AMI, meters, field data, work-orders
- Data Storage
 - Multiple databases, media storage
- Data Integration
 - Linking and relating multiple sources using data lakes and warehouses
- Data Processing
 - Validating, converting, cleaning data
- Data Analytics
 - Trend analysis, modeling, predictive, forecasting, machine learning
- User Interface
 - Web-based, mobile, dashboards, GIS, reports



Annual reads/meter:
Monthly reads = 12
Hourly reads = 8,760

DID is migrating toward AMI metering system which is included in 2022 CIP Plan.



WATER LOSS CONTROL – Which Leak Is Worse

Leak 1 Slow water service leak	Leak 2 Large Main Leak
Rate: 1 gpm Duration: 10 years	Rate: 1,000 gpm Duration 24 hours
Fixed after 10 years	Fixed right away (visible)
5,256,000 gallons 16 acre-feet water losses	1,440,000 gallons 4.4 acre-feet water losses



WATER LOSS CONTROL – Hydrant Theft Can Be An Issue

For Bozeman, Montana, a disastrous water theft prompted the purchase of new security devices to protect its fire hydrants from vandalism and unauthorized access. As an added benefit the system also helps the utility meet post-9/11 era security challenges.

According to John Alston, the city's Water/Sewer Superintendent, timing and conditions could not have been worse: Darkness, a blinding snowstorm, and sub-zero temperatures. Yet, on a February night in 2003, Bozeman experienced one of the worst water thefts in United States history: Hydrants were vandalized, and a total of almost three million gallons of water was lost over a three-day period.

“Landscaping and road damage was significant, but, thankfully, no one was injured,” Alston said.



WATER LOSS CONTROL – SWRCB Water Loss Performance Standard

December 1, 2020

Urban water supplier (naming per water loss audit)	Baseline water loss (Averaged over 2017-2019) Gallons per connection per day	Baseline water loss (Averaged over 2017-2019) Gallons per mile per day	Water loss performance standards Gallons per connection per day	Water loss performance standards Gallons per mile per day
Santa Barbara City Of	27.4	N/A	27.4	N/A
Santa Clara City Of	25.6	N/A	15.4	N/A
Santa Cruz City Of	18.5	N/A	18.5	N/A
Santa Fe Irrigation District	53.2	N/A	22.9	N/A
Santa Fe Springs City Of	31.0	N/A	17.8	N/A
Santa Margarita Water District	16.2	N/A	16.2	N/A
Santa Maria City Of	11.2	N/A	11.2	N/A
Santa Monica City Of	2.2	N/A	2.2	N/A
Santa Paula City Of	10.8	N/A	10.8	N/A
Santa Rosa City Of	16.3	N/A	16.3	N/A
Scotts Valley Water District	19.9	N/A	19.9	N/A
Seal Beach City Of	26.3	N/A	15.4	N/A
Shafter City Of	62.2	N/A	14.8	N/A
Shasta Lake City Of	24.0	N/A	24.0	N/A
Sierra Madre City Of	76.3	N/A	27.2	N/A
Signal Hill City Of	18.6	N/A	18.6	N/A
Soledad City Of	17.6	N/A	10.7	N/A
Sonoma City Of	22.8	N/A	16.6	N/A
Soquel Creek Water District	13.3	N/A	13.3	N/A
South Coast Water District	8.1	N/A	8.1	N/A
South Feather Waterand Power	57.0	N/A	30.4	N/A
South Gate City Of	11.2	N/A	11.2	N/A
South Pasadena City Of	30.1	N/A	18.6	N/A
South Tahoe Public Utility District	71.5	N/A	23.0	N/A
Stockton City Of	35.5	N/A	14.7	N/A

SWRCB would like to see all utilities at < 16 gallons/connection/day in real water losses.

Provides guidance for DID's future water loss control program measures.



WATER RATE POLICY

An important long-term best utility management practice in California and the U.S. with the goal of full cost of service revenue recovery objective. Water rates should updated at least every five years to recover the full costs of service.



Current DID Water Rates

SERVICE SIZE	Prior to 2019	DID ADOPTED RATES			
		JAN 2019	JAN 2020	JAN 2021	JAN 2022
FLAT RATE SERVICES					
3/4" Service	\$39.93	\$47.92	\$52.71	\$57.98	\$63.78
1" Service	\$49.91	\$60.91	\$67.94	\$75.66	\$84.16
1-1/2" Service	\$74.87	\$93.32	\$105.83	\$119.60	\$134.74
2" Service	\$99.83	\$127.76	\$147.84	\$169.92	\$194.21
Development	\$678.81	\$814.57	\$896.03	\$985.63	\$1,084.20
METERED RATE SERVICES - BASE FEE					
3/4" Service	\$21.96	\$26.35	\$28.99	\$31.89	\$35.07
1" Service	\$27.95	\$33.95	\$37.72	\$41.87	\$46.43
1-1/2" Service	\$33.94	\$44.81	\$53.03	\$62.07	\$72.02
2" Service	\$39.93	\$56.79	\$70.60	\$85.79	\$102.50
3" Service	---	\$144.94	\$159.43	\$175.37	\$192.91
4" Service	---	\$232.82	\$256.10	\$281.71	\$309.88
6" Service	---	\$452.33	\$497.57	\$547.32	\$602.05
Misc. Service	\$415.27	\$527.04	\$579.74	\$637.72	\$701.49
METERED RATE SERVICES - QUANTITY FEE					
PER CCF	\$0.50	\$0.60	\$0.72	\$0.86	\$1.00

There were no water rate increases from 2010 through 2018. Water rates in California have been increasing faster than inflation for the past 20 years.

It is recommended that water utilities update water rates at least every five years to reflect costs of service.



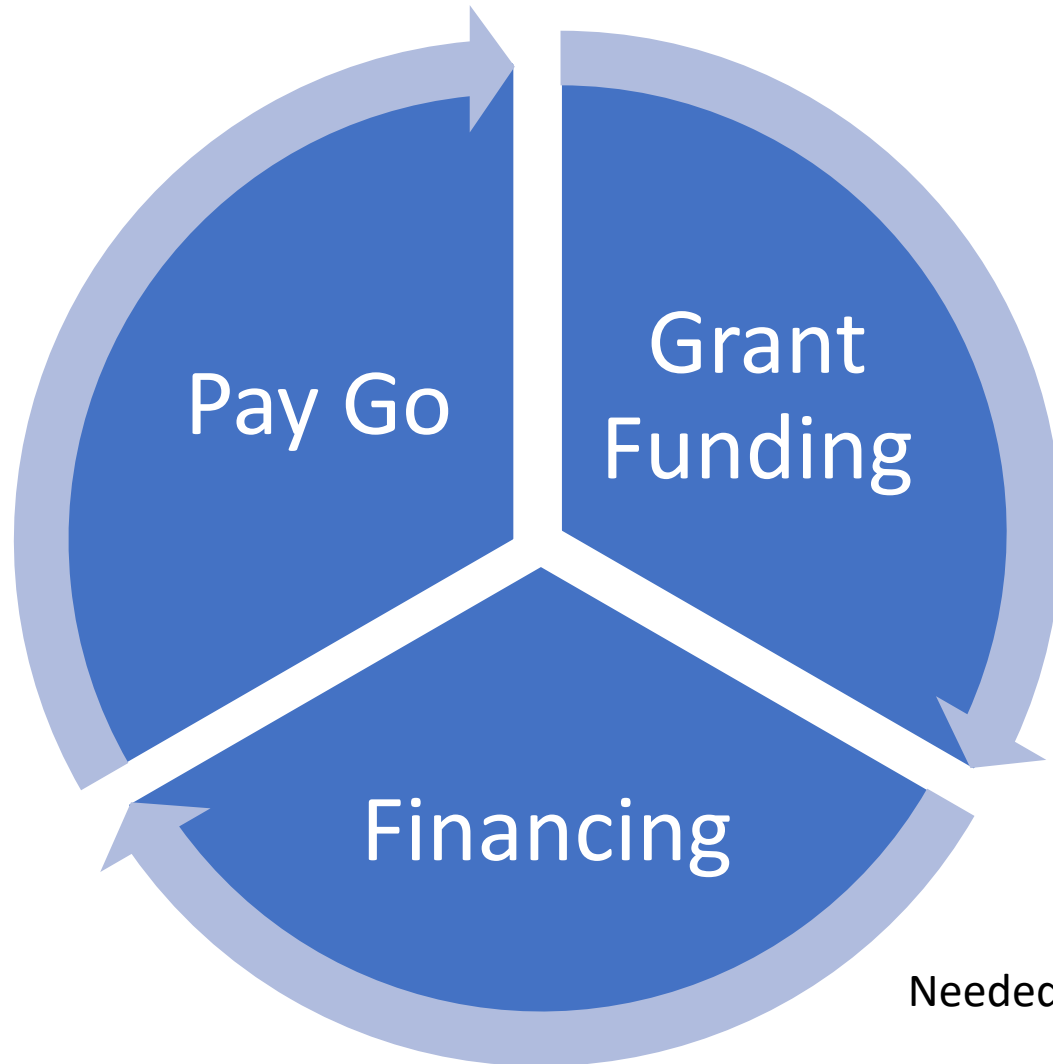
466 service connections

WATER RATE POLICY – INCORPORATE FUNDING STRATEGY

- Single largest reason for big rate increases: deferred infrastructure investments
- Top priority is to fund core assets: wells, water main network, valves, hydrants, and meters that meet current AWWA standards
- DID has deferred maintenance which is impacting service and efficiency
- Develop funding strategy
 - Grants funds
 - Low interest financing



Common Utility – Long Term Funding Strategy



The long-term utility funding strategy will be unique for each utility and be a function of system needs, infrastructure risk, and market timing.

December 9, 2022 Board Meeting:

Review FY22-23 Water CIP Plan

Support Cost-Effective CIP Funding Strategy

Pursue grants & low interest loans where needed

Needed for phase 1 and phase CIP priority projects.



Options for Funding CIP Projects

- Pay-Go Cash Contribution
 - Hard to afford
 - May require budget re-allocations and multiple budget sources
 - Will limit ability to keep up with R&R work-load
- Financing
 - Secure lowest cost financing sources
 - Must have rates in place to support financing approach
 - Best for larger projects
- Grants
 - Available on limited basis
 - Requires strategy and effort to secure grant funding sources
 - May require regional participation and partnerships
 - Must be prepared in advance of grant funding availability
 - May only fund a portion of total project costs



Current Water System Challenges

The Board can work toward getting the water system up to AWWA standards and improve operational efficiencies through implementation of the CIP Plan.

- 1. Water Loss Control Program**
- 2. Aging Pipelines (Steel), valves, hydrants**
- 3. Smart Meters System-wide**
- 4. Long Term Funding Strategy**
- 5. Long Term Rate Plan**



DID Implementation Plan – Funding Options



Current CIP Funding Needs

- Phase 1 = \$2.015M
 - Water main replacements
 - Valve and meter replacements
 - Well rehab work
- Phase 2 = \$1.946M
 - Water main replacements
- Phase 3 = \$5.34M
 - Water main replacements
 - Well Rehabs
 - AMI Metering System Upgrade
- TOTAL = \$9.3M

Consider combining phases 1 and 2 for economies of scale benefits from delivering larger projects.

CIP funding strategy will drive future water rate policy.



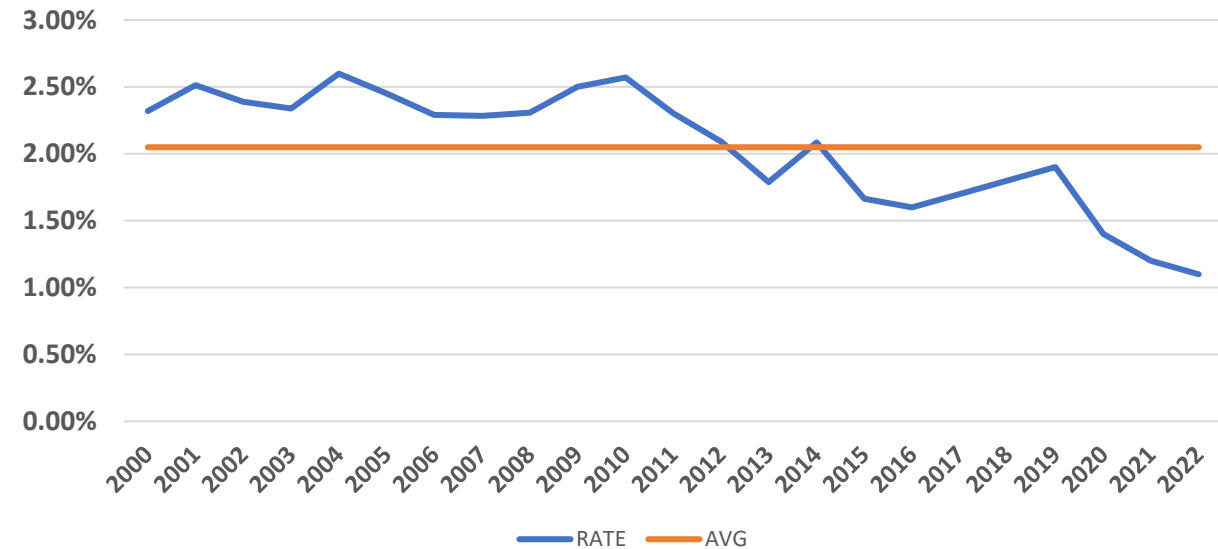
Lowest Cost Financing In Rising Interest Rate Environment

Utility Infrastructure Financing Trends

30-Year Treasury Interest Rate Changes (1980-Present)



California Drinking Water State Revolving Fund Interest Rate History (2000-2022)



DWSRF adjusts annual interest rate each January. Typically 50% of State bond rate.



Lowest Cost Financing In Rising Interest Rate Environment

- DWSRF has the cheapest financing available (still)
 - Construction Application can fund 100% of project costs (planning/design/construction/administration)
 - 30-Year Term Financing/full loan payments begin 1 year after construction
 - 3-Year Construction Period from Loan Agreement Execution
- Structure Applications based on DWSRF funding criteria and priority
- Takes 18-24 months from Application submittal to Funding Agreement execution
- Categorically Exempt projects a big plus (R&R) – CEQA Plus Required
- DWSRF will provide DID with the most CIP budget flexibility



Next Steps

- Recommendations:
 - Pursue Grant Funds For DID Water Utility Needs (2023-24)
 - SGMA Round 2 Implementation Funding Cycle – Focused on priority water CIP projects
 - EPA Medium and Large System Funding – Focused on priority water CIP projects
 - State/Federal Grant Funding – Energy Efficiency Upgrades (solar, fleet, other)
 - Pursue DWSRF Construction Application For DID Water System Improvements in 2023
 - Fund as much Pipe Replacement (with associated valves/hydrants/meters) as possible at lowest rate (Phase 1 and 2 Capital Budgets targeted)
 - 90% Design required for funding approval – LSCE can assist with funding expertise and knowledge
 - Update long term water funding strategies for FY23-24 budget process
 - Maintain on-going Board communications regarding progress



DID Board Meeting – CIP Planning and Implementation Item

DISCUSSION AND QUESTIONS?

