Financial Workshop
August 27, 2020
Introduction

• Introduction
• Consultant Presentation (Raftelis)
  – Cost of Service Overview
  – Fixed vs. Variable Revenue Discussion
  – Dedicated Fire Service Lines
• Financial Plan Update and Scenarios
• Next Steps
• Board Guidance Requested
  – Potential revisions to the fixed/variable revenue allocation
  – Updates to dedicated fire service line rates
  – Update the Cost of Service Analysis
  – Potential rate adjustment
Transition to Consultant Presentation
Review of updates to the Financial Planning Model since the budget

Presentation of financial scenarios:
- COVID-19 revenue considerations
- N3 Ranch options
- Pension/OPEB funding

Economic indicators and past-due balances
Key Changes to Financial Planning Model Since Budget Adoption

- Received $1.0 million in grants from Oliver De Silva, Inc. for fish passage projects in lower Alameda Creek
- Updated medical cost estimates based on flex dollar allowance capped at 2017 dollars
- Preliminary actual General Fund ending cash balance for FY 2019/20 is $5.7 million higher than estimate presented at budget adoption
- Higher accuracy in metering consumption due to meter replacements in the Advanced Metering Infrastructure (AMI) project. Staff estimates this will provide a revenue increase similar to a rate adjustment
The District continues to maintain ending balances for the General Fund above the target levels
- Low balance of $78.8 million in FY 2023/24 at budget adoption
- Low balance of $89.4 million in FY 2023/24 after updated for actual activity
The District continues to maintain strong annual debt coverage ratios
The District maintains extremely strong ratings
- ‘AAA’ by S&P and ‘Aa1’ by Moody’s
• The District’s annual operating revenues are sufficient to cover operating expenses including depreciation
The District relies on other revenue sources (such as property tax, grants, interest income, etc.) in addition to water rate and charge revenue to fully fund its annual operations, debt service payments, and capital program.
• FY 2019/20 actual expenditures were $2 million higher than the year-end estimate at budget adoption
Key Assumptions:
1. 3% rate increase effective March 1, 2021 and each year thereafter
2. No pandemic-related decline in commercial water consumption
3. Maintain current Capital Improvement Program, inclusive of AMI change order, and planned water supply investments
4. Pension/OPEB funding @ 6.5% discount rate (level $) + market status annual payment – full funding by 2032
5. $14.5 million financing for Advanced Metering Infrastructure
6. Includes Financial Planning Model updates since budget adoption – most significantly billed demand eventually increases from 34 MGD to 35.15 MGD due to enhanced accuracy from meter replacements
Status Quo low balance of $89.4 million in FY 2023/24
• Potential COVID-19 revenue adjustments:
  1. 20% decline in commercial water use FY2020/21 – FY2021/22
  2. Forgo FY 2020/21 rate increase
     a. Many water agencies are considering rate deferrals because of COVID-19
  3. Both 1 & 2 above
20% Decline Commercial Water Consumption

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Ending Balances</th>
<th>Underfund Balances</th>
<th>Target Balances</th>
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<td>FY 2024</td>
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<td>FY 2025</td>
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<td>FY 2026</td>
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<td>$150 million</td>
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</table>

- Low balance of $83.7 million in FY 2023/24
- Status Quo low balance of $89.4 million in FY 2023/24
Forgo FY 2020/21 Rate Increase

- Low balance of $76.6 million in FY 2023/24

Status Quo

- Status Quo balance of $89.4 million in FY 2023/24
Financial Planning Model Scenarios
Revenue Declines + 0% Rate Increase FY2020/21

20% Decline
Commercial Consumption
+ Forgo
FY 2020/21 Rate Increase

• Low balance of $71.0 million in FY 2023/24

• Status Quo low balance of $89.4 million in FY 2023/24
• N3 Ranch

1. $68 million list price (100% bonds) + $2 million annual O&M expenses
   - AMI funded 100% SRF Loan $39.5 million 20yrs @ 2% to help manage near-term cash flow
2. $5 million (cash) contribution towards Partnership purchase + $1 million annual O&M expenses
3. Full N3 Ranch purchase and O&M costs + commercial revenue decline + forgoing a FY 2020/21 rate increase

* For illustrative purposes only. Final purchase price or contribution would be subject to negotiation.
Financial Planning Model Scenarios
N3 Ranch List Price + $2M annual O&M

- Low balance of $87.0 million in FY 2024/25
- Assumes True Interest Cost of 2.92% with debt service at approximately $3.4 million

- Status Quo low balance of $89.4 million in FY 2023/24
Financial Planning Model Scenarios
N3 Ranch List Price + $2M annual O&M

N3 Ranch List Price
+
$2M Annual O&M

Water Debt Coverage Ratios

- Debt coverage ratio drops from peak 904% in FY 2019/20 to 325% by FY 2025/26

Status Quo

Water Debt Coverage Ratios
### Financial Planning Model Scenarios
**N3 Ranch Partnership $5M + $1M annual O&M**

#### N3 Ranch Partnership
- **$1M Annual O&M**

#### Status Quo
- **Low balance of $80.3 million in FY 2023/24**
- **Status Quo low balance of $89.4 million in FY 2023/24**

### General Fund Ending Balances

<table>
<thead>
<tr>
<th>FY</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<th>2024</th>
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<th>2026</th>
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<td><strong>Ending Balances</strong></td>
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<td>$100M</td>
<td>$115M</td>
<td>$130M</td>
<td>$145M</td>
<td>$160M</td>
<td>$175M</td>
<td>$190M</td>
<td>$205M</td>
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<tr>
<td><strong>Underfund Balances</strong></td>
<td>$5M</td>
<td>$10M</td>
<td>$15M</td>
<td>$20M</td>
<td>$25M</td>
<td>$30M</td>
<td>$35M</td>
<td>$40M</td>
<td>$45M</td>
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</tbody>
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**End of Document**
Financial Planning Model Scenarios
N3 Ranch Purchase + 20% Decline Commercial Water Consumption + Forgo FY 2020/21 Rate Increase

- Low balance of $64.3 million in FY 2024/25, $2.0 million below reserve target

- Status Quo low balance of $89.4 million in FY 2023/24
Financial Planning Model Scenarios
N3 Ranch Purchase + 20% Decline Commercial Water Consumption + Forgo FY 2020/21 Rate Increase

- Debt coverage ratio drops from peak 904% in FY 2019/20 to 299% by FY 2025/26
6.0% Level $
Ending June 30, 2032

• Low balance of $78.7 million in FY 2023/24

Status Quo

• Status Quo low balance of $89.4 million in FY 2023/24
Due to the District’s meter reading cycle, water consumption changes for commercial and residential customers are based on data from two months prior.
Indicators

Past Due Balances ($ thousands)


$0  $200  $400  $600  $800  $1,000  $1,200
Conclusion

• Staff Recommendations
  – Update the Cost of Service Analysis and subsequently determine if revisions to dedicated fire line rates are appropriate
  – Maintain the current fixed/variable allocation
  – Consider forgoing a rate increase
    • AMI related meter replacements improve the accuracy of metering consumption, providing a similar revenue increase
Conclusion

• Board Guidance Recap
  – Revisions to the fixed/variable revenue allocation
  – Updates to dedicated fire service line rates
  – Update the Cost of Service Analysis
  – Rate adjustment
Next Steps

– Depending on Board guidance:
  • A second financial workshop October 22 if there is an interest in revising the fixed/variable allocation and/or further considering a rate adjustment
  • If there is interest only in updating the Cost of Service Analysis and/or evaluating dedicated fire line rates, this would return to the Board at the regular December Board meeting
  • Otherwise, this workshop may conclude the process
Stay Connected to the District

- www.acwd.org
- ACWD Aqueduct Newsletter
- Facebook & Twitter
  @AlamedaCountyWD

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Fremont, CA 94538
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Thank you
Alameda County Water District

Rate Discussion
August 27, 2020
1. Cost of Service
2. Fixed and Variable Revenue Discussion
3. Public / Private Fire
Cost of Service Analysis
Key Legislation in California Affecting Water Rates

• **Cost of Service Requirements**
  › Proposition 218 (Article XIIIC and XIIIID of California Constitution)
  › Proposition 26
  › California Government Code 54999

• **Water Conservation**
  › Article X of California Constitution
  › SB 606 + AB 1668: calculated efficiency and reporting
  › SWRCB Self Certification: three years of adequate supplies
CASE STUDY
City of San Juan Capistrano

CTA vs. City of SJC
• Rate payers (Capistrano Taxpayer Association, CTA) sued the City of San Juan Capistrano over its water budget rate structure
• The Orange County Appellate Court ruled that the rates did not meet the proportionality requirement in August 2013

Key Factors
• Lack of administrative record (report)
• City used multipliers to justify the tiered rates without any record of an underlying cost rationale
San Juan Capistrano Ruling

• There must be a nexus between the cost of providing service and the rates charged to customers
• This nexus needs to be clearly shown in the administrative record (report)
• Show your work!
What is Cost of Service?

• Different types of customers generate different costs because their patterns of use or characteristics are different

• Cost of service allows the matching of rates charged with the costs of serving each group

• Each group will “pay its own way” – no subsidies
Water Systems and Costs

Both water systems shown on the right have an annual demand of approximately 10,500 AF per year.

Which system costs more to operate, repair, or replace?
Cost of Service
Allocation to Cost Components

- SUPPLY
- CONSERVATION
- BASE DELIVERY / COSTS
- EXTRA CAPACITY (Peaking Costs)
- METER MAINTENANCE
- CUSTOMER SERVICE

Volumetric Rate ($/hcf)
Fixed Charge by Meter Size
Distribute Costs to Customer Classes

Distribute Costs to Each Class

CUSTOMER CLASSES
Cost to Serve Each Class
(Single Family, Multi-family, Commercial etc.)
Rate Design
Commodity Rate Derivation

To calculate commodity rates, we combine the unit ($/CCF) costs of water supply, water delivery, peaking/capacity costs and conservation costs.
Rate Design
Service Meter Charge Derivation

To calculate service meter charges, we combine the costs of base delivery, meter maintenance, extra capacity and customer service.

BASE DELIVERY
Delivery rate ($/Meter-size)

METER MAINTENANCE
AWWA Capacity Ratio ($/Meter-size)

EXTRA CAPACITY (Peaking Costs)
AWWA Capacity Ratio ($/Meter-size)

CUSTOMER SERVICE ($/Account)

TOTAL SERVICE METER CHARGE ($/Meter-size)
# Where Do We Recover Our Cost?

2015 Cost of Service Results

<table>
<thead>
<tr>
<th>Cost Components</th>
<th>Fixed or Variable</th>
<th>How to allocate cost</th>
<th>% of Cost of Service</th>
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<tbody>
<tr>
<td>Customer Service</td>
<td>Fixed</td>
<td>Number of Accounts</td>
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<td>Meter Maintenance</td>
<td>Fixed</td>
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<td>Base Delivery</td>
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<td>Meter capacity ratio Uniform rate</td>
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<td>Peaking</td>
<td>Fixed Variable</td>
<td>Meter capacity ratio Peaking ratio</td>
<td>24.4%</td>
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<tr>
<td>Supply</td>
<td>Variable</td>
<td>Allocate to customer class and then by tier</td>
<td>13.5%</td>
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</table>
Fixed and Variable Revenue Discussion
Water System Cost Structure

**FIXED**
- Does not vary with level of water production
- Salaries, debt service, etc.

**VARIABLE**
- Varies with level of water production
- Power, chemicals, etc.
Water System Cost Structure
Based on 2020 Expenditure

Fixed Costs are High

74% of total annual costs

Variable Costs are Low

26% of total annual costs
Financial Nature of Fixed Cost / Variable Revenue Business Model

• During periods of increasing water sales, costs are spread over more water molecules
  › Lower pressure on rates
  › “Behind the Curtain Era”: 1960’s to 1980’s

• The reciprocal is true: Periods of decreasing water sales create pressure to increase rates
  › “In the Spotlight Era”: 1990’s to present
Challenges with Fixed Cost / Variable Revenue Business Model

- California’s population has grown, but water demand has not increased
  - Higher public awareness of water scarcity
    - Periodical droughts / conservation message
  - Change in lifestyle
    - Having a green lawn at home is not the norm
  - End-use appliances use less and less water
  - Increased regulatory demand for efficient water use
Balancing Act In Increasing Fixed Charge
Change in Service Charge from 1992

Historical Water Bills (16 CCF)
Service Charge Percentage of Bill

Variable and Fixed % Split of Bill for 16 CCF

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<tr>
<td>2020</td>
<td>43%</td>
<td>57%</td>
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How Should We View Water?

**Water as a Commodity**
- Water is a limited resource
- The unit rate of water should be high
- Revenues are dependent on sales
- Promote conservation
- Assist with affordability for health and safety
- Financial risk during drought conditions

**Water as a Service**
- Water is one of the most capital-intensive products
- 75 to 90% of the cost of a water agency is fixed, regardless of usage
- We pay for the ability to use water – 24 hours, 7 days a week
- High fixed cost to reflect the nature of the water utility
- Assist with revenue stability during drought conditions
- Does not promote conservation or affordability for health and safety
Cost and Revenue Structure
FY 2020

- **Fixed**: 47%
- **Capital Cost**: 28%
- **Variable**: 26%

**Revenue**

- **Consumption Charge (variable)**: 8%
- **Consumption Charge (reliable)**: 51%
- **Service Charge (fixed)**: 31%
- **Property Tax**: 10%
Fixed vs. Variable Revenue Under Different Hydrological Conditions

- 2020 Expenditure: $123M
  - O&M: $90.6M
  - Capital: $34.2M

- If a drought occurred, a $9M shortfall would occur
  - Does not take into account savings from reduction in water sales or revenue from stage rates
  - Reserves are healthy and can absorb this shortfall temporarily
Observation

- The District has significantly increased the Service Charge since 2011
  - This has assisted the District in providing revenue stability during the historical drought in 2014/2015
- The District has other sources of revenue that assist with revenue stability
  - ~41% is fixed revenue without any water sales (Service Charge + Property Taxes)
- Given the reduction in demand that has occurred in the past 10 years, most water use is considered reliable
  - ~51% of total revenue is considered reliable (water sales up to drought demand level)
- Only 8% of total revenue is considered variable
- Given its reserve levels, the District is in good financial condition
- Water demands have actually increased for the District during the pandemic
Public / Private Fire
Fire Service Overview

• The District has about 2,400 private dedicated fire service lines primarily for commercial or multi-family residential customers

• The main service line for these connections usually has a meter from 2” – 10”. There is also a ‘bypass’ line with a 5/8” or 3/4” meter

• These accounts are billed a private fire service rate for the meter on the main service line plus the regular service charge for the bypass meter.
  › Annual revenues are ~$1.1 million.

• The District’s most recent Cost of Service Analysis did not specifically address charges for dedicated fire service lines.
  › These charges should be reevaluated.

• The previous Cost of Service is five years old
Terms

- **Fire Protection**: Includes public fire protection (fire hydrants) and private fire protection (private fire standpipes for connections and sprinklers)

- **Direct Fire Protection Costs**: known costs such as yearly cost to fix/maintain fire hydrants or water costs. Ideally identified in a utility budget.

- **Indirect Fire Protection Costs**: Estimated costs of maintaining the infrastructure capacity to instantaneously meet fire flow demands. These capacity-related costs must be estimated as part of the cost of service process.

- **Base Extra Capacity Method**:
  - **Base**: the costs or flow associated with serving water at average flow
  - **Extra Capacity**: the costs or flow associated with serving water above average demand/flows
    - Other names for extra capacity include:
      - **Max Day and Max Hour**
      - **Peaking**
      - **Demand**
      - **Capacity**
Estimating Fire Protection Costs

- Fire Protection Costs are mainly for the capacity to fight a fire, not just the water to fight a fire
  - Determine the appropriate duration of fire activity
  - Allocate this cost between direct and indirect fire protection based on the number of hydrants (public) and private fire lines / meters
Max Day (MDD) and Max Hour Demand (MHD)

Water system design accounts for fire fighting capacity

Distribution System Design (Pipeline Diameter)

Distribution Storage System Design (Tanks)

FIRE CAPACITY

MHD

ADD

FIRE CAPACITY

MDD

ADD

Extra Capacity
Estimating Indirect Fire Protection Costs

• Estimate the maximum day and maximum hour costs of fire events as defined by:
  › Duration and intensity of each fire event
  › Could have multiple fires at once

• Requires professional judgement
  › Ideally a water system master plan can provide guidance on fire flow requirements
Next Steps
Next Steps

1. Conduct Cost of Service Analysis
2. Present findings and receive input
3. Develop administrative record for the Cost of Service Analysis
Thank you!

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