

Public Meeting

Erickson Water

Presented by:

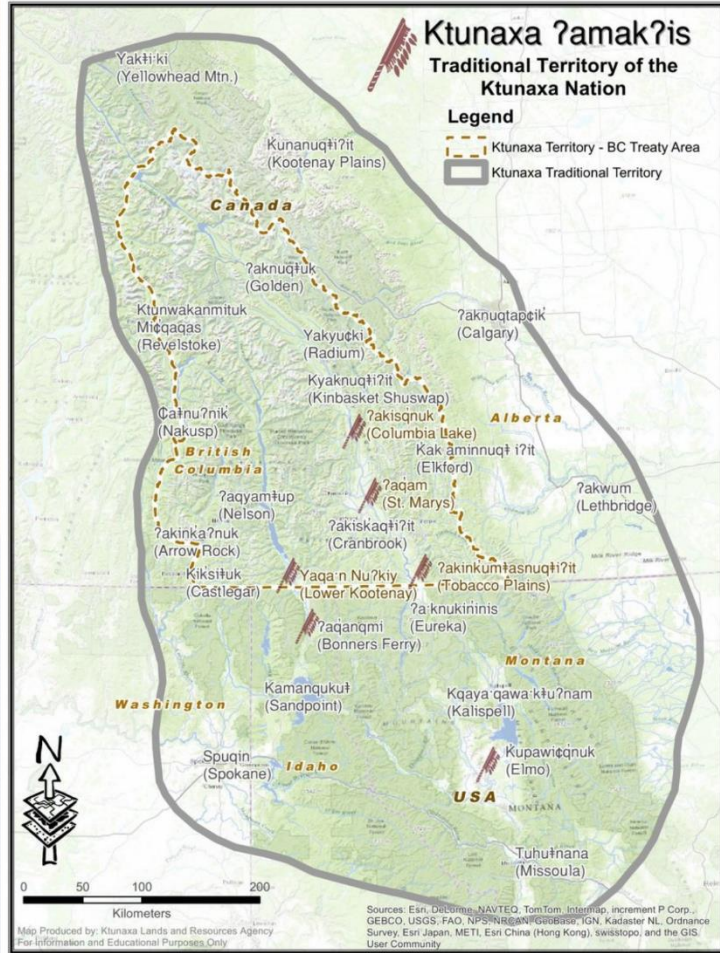
Uli Wolf, General Manager of Environmental Services

Alexandra Divlakovski, Water Operations Manager

Jason McDiarmid, Utility Services Manager

Date: June 21, 2023

rdck.ca



Traditional Territory

We acknowledge and respect the indigenous peoples within whose traditional lands we are meeting today.

- Creston Valley is located on the unceded traditional territory of the Lower Kootenay Band, locally known as Yaqa n Nukiy “where the rock stands”.
- Lower Kootenay Band is part of the Ktunaxa Nations.
- Today, June 21st is National Indigenous Peoples Day.



Meeting Purpose

- Present information on aging infrastructure renewal requirements
 - Long-term decisions have not yet been made
 - Unfortunately more rate increases are inevitable
- Provide an update on Capital Projects





Organization

Regional District Organization

General Manager of Environmental Services
 Uli Wolf

Water Operations Manager
 Alexandra Divlakovski, BSc

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Water Operations Supervisor – Erickson Allan Richardson 3 Full-time Techs Sanca Maint Person Riondel Maint Person</p> <ul style="list-style-type: none"> • Operations • Preventative Maintenance Programs • Repairs • Leak Detection • In-House Capital Projects • Regulatory Compliance • Asset Management Planning | <p>Water Operations Supervisor-Nelson Jay Colley 2 Full-Time Techs 1 Part-Time Tech 1 Seasonal Tech</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Utility Service Manager
 Jason McDiarmid, P.L.Eng.

| | |
|----------------------------------------------------------------|--------------------------------------------------------------------|
| <p>Water Services Liaison Eileen Senyk</p> | <p>Environmental Coordinator Nathalie Nick</p> |
|----------------------------------------------------------------|--------------------------------------------------------------------|

- Administration
- Public Consultation
- Commissions & Community Advisory Committees
- Strategic Planning
- Water Billing and Taxation
- Asset Management & Rate Setting
- Development
- Water Conservation Plan Implementation
- Water Systems Acquisition
- Bylaws, Licensing and Lands

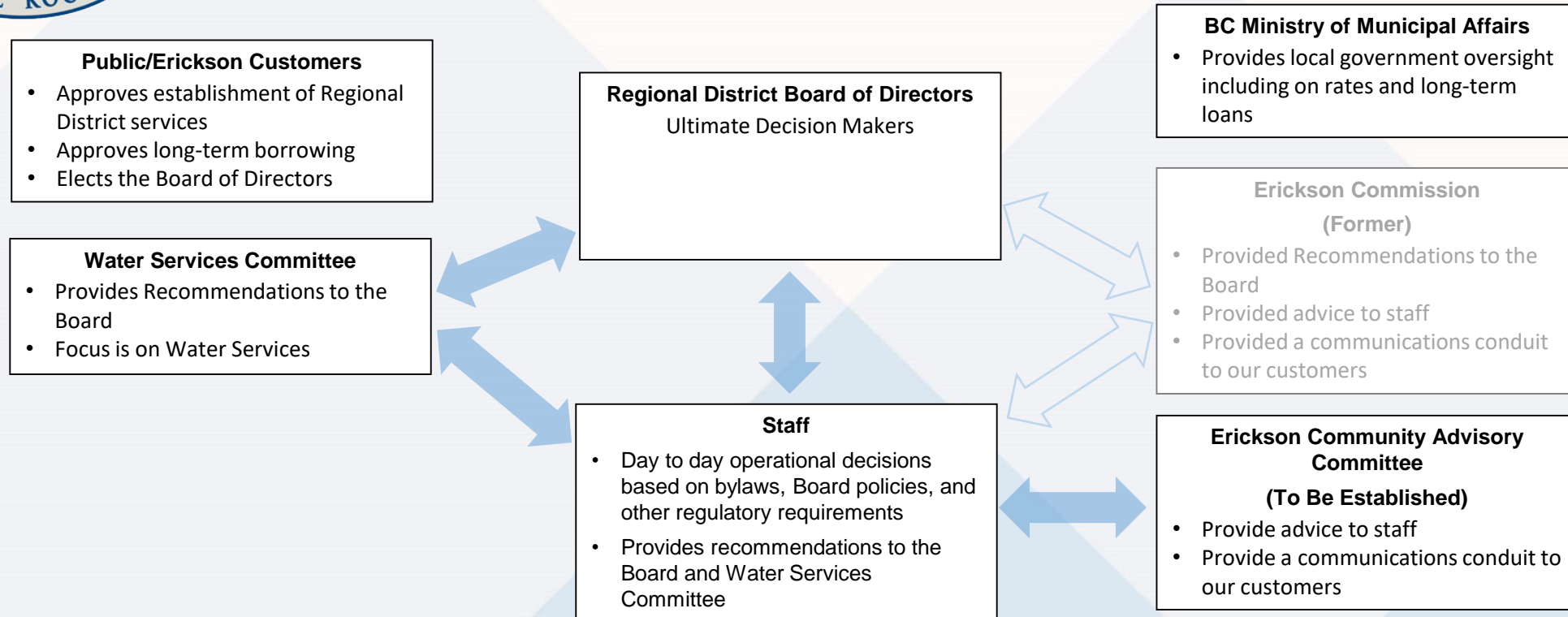
Capital – Technical Support
 Water Operations Manager
 Project Management Group
 Utility Service Manager

- Capital Plan
- Studies
- Concept Plans
- Water Treatment Upgrades
- Water Line Replacements



Organization

Governance & How are Decisions Made





Services

- Arrow Creek and the Erickson Water System are separate Regional District services
- Arrow Creek provide water treatment and transmission to the Town of Creston and Erickson
- Arrow Creek is cost shared between Erickson and the Town of Creston based on consumption
- All Regional District Services are financially independent

Erickson Water Distribution Service



Arrow Water Supply and Treatment Service





Issues and Considerations

Water Supply & Drought

- Treatment plant has limited capacity and water licenses
- Arrow Creek flow can be low during hot dry weather
- Potential Economic and Environmental losses

Potential Solutions

Increase Supply from Arrow Creek

Pros

- More supply most of the year

Cons

- Very expensive treatment plant and pumping upgrades
- Creek likely not able to keep up with warm weather demands
- Low creek base flow for fish and wildlife

Alternate Supply

Pros

- More supply potentially all year

Cons

- Very expensive treatment plant, pumping and distribution upgrades
- Ground water supply is a concern in the area
- Supply from Goat River or other creeks would be harmful to flow levels

Water Demand Management

Pros

- Possibly the least expensive option

Cons

- Potentially limited demand reduction
- Likely requires universal metering



Issues and Considerations

Water Demand, Leakage & Loss

**November 2022 Consumption
per Account per Day: 1.35 m³**

2022 Cost: \$1.51



52 Jugs



6.5 Drums

**July 2022 Consumption
per Account per Day: 17.4 m³**

2022 Cost: \$19.46



669 Jugs



83.7 Drums



1.2 Water Tucks

**2022 Annual System Consumption:
1,285,000 m³**

2022 Cost: \$1,437,000 in User Fees



5.69 Million Drums



85,700 Water Tucks



Issues and Considerations

Water Demand, Leakage & Loss

- Water demands high during summer
- Potential for significant distribution and private leakage
- Potential for water wastage

Potential Solutions

Public Education

Pros

- Lower cost

Cons

- May have limited success
- Many customers already conscious of water demand
- Customers may believe they are not large water consumers
- Customers not always aware of leakage, loss and wastage

Leakage Detection Work

Pros

- Limit Capital expense

Cons

- Takes a lot of staff time
- Many leaks cannot easily be found

Water Metering

Pros

- Helps locate leakage, loss and wastage
- Reduces consumption

Cons

- Capital expense



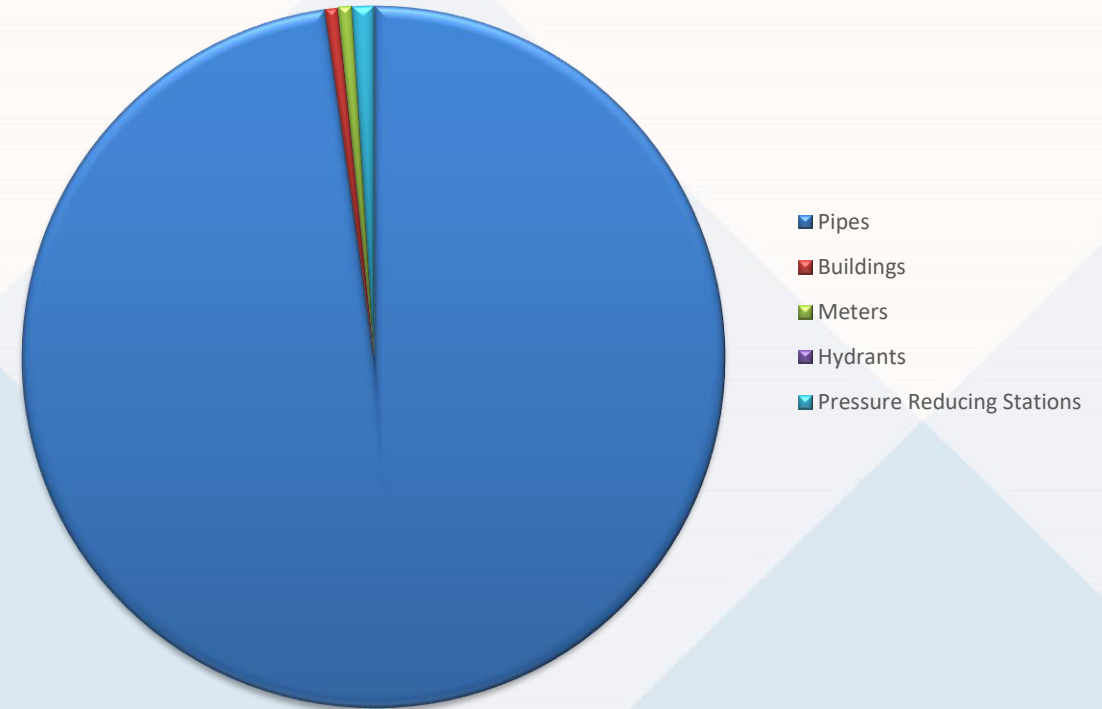
Questions?



Issues and Considerations

Aging Infrastructure and Asset Renewal Asset Replacement Values

| Asset Type | Estimated Value in \$2023 | 25 Yr Estimated Capital Expenditure | 100 Yr Estimated Capital Expenditure |
|----------------------------|---------------------------|-------------------------------------|--------------------------------------|
| Pipes | 32,304,253 | 21,090,566 | 53,547,699 |
| Buildings | 200,000 | 200,000 | 800,000 |
| Meters | 210,000 | 210,000 | 630,000 |
| Pressure Reducing Stations | 323,370 | 75,000 | 796,740 |
| | 33,037,623 | 21,575,566 | 55,774,439 |





Issues and Considerations

Aging Infrastructure and Asset Renewal

Pipe Replacement Requirements

- 33,065 total meters of pipe
- \$32,304,000 replacement value
- 18,549 meters of pipe past due for replacement
- \$18,598,000 replacement value past due for replacement
- 20,380 meters of asbestos cement pipe
- 1,748 meters of steel pipe

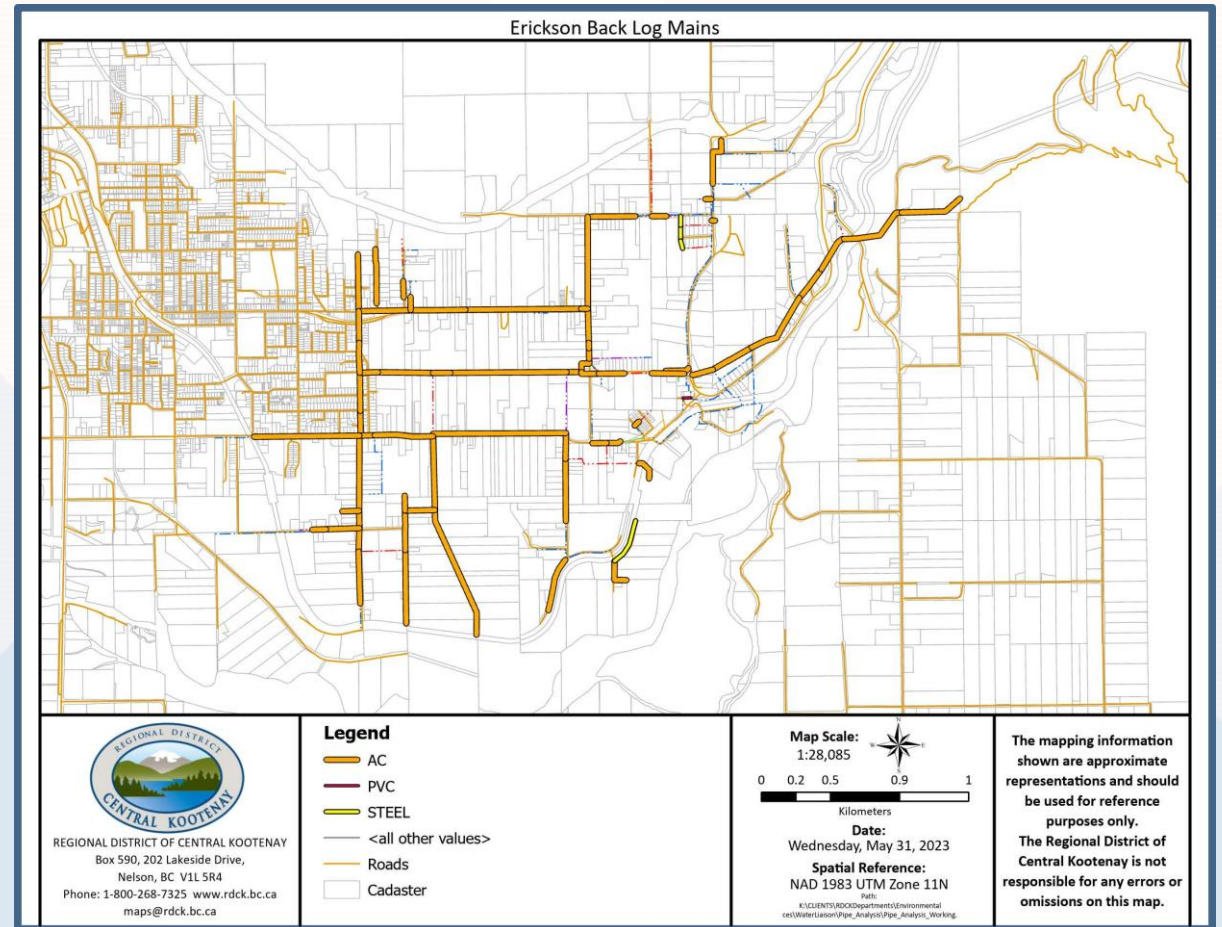
| Item ID | Qty | Type | Diameter Today | In Service Year | Next Replacement Year | Model Replacement Value |
|---------|-------|------|----------------|-----------------|-----------------------|-------------------------|
| PN100 | 476.0 | AC | 150 | 1960 | 2003 | 464,576.00 |
| PN103 | 340.0 | AC | 150 | 1960 | 2005 | 331,840.00 |
| PN109 | 167.9 | AC | 200 | 1960 | 2005 | 172,265.40 |
| PN137 | 124.2 | AC | 150 | 1960 | 2005 | 121,219.20 |
| PN34 | 211.8 | AC | 200 | 1960 | 2005 | 217,306.80 |
| PN35 | 208.0 | AC | 200 | 1960 | 2005 | 213,408.00 |
| PN66 | 330.0 | ST | 100 | 1929 | 2005 | 309,540.00 |
| PN68 | 306.0 | ST | 100 | 1929 | 2005 | 287,028.00 |
| PN105 | 151.9 | AC | 200 | 1960 | 2008 | 155,849.40 |
| PN106 | 489.0 | AC | 200 | 1960 | 2008 | 501,714.00 |
| PN107 | 112.7 | AC | 200 | 1960 | 2008 | 115,630.20 |
| PN149 | 50.3 | AC | 50 | 1960 | 2008 | 45,471.20 |
| PN96 | 870.0 | AC | 150 | 1960 | 2008 | 849,120.00 |
| PN97 | 195.5 | AC | 150 | 1960 | 2008 | 190,808.00 |
| PN98 | 97.2 | AC | 150 | 1960 | 2008 | 94,867.20 |
| PN99 | 258.0 | AC | 150 | 1960 | 2008 | 251,808.00 |
| PN13 | 59.5 | ST | 150 | 1929 | 2009 | 58,072.00 |



Issues and Considerations

Aging Infrastructure and Asset Renewal

Pipe Replacement Backlog



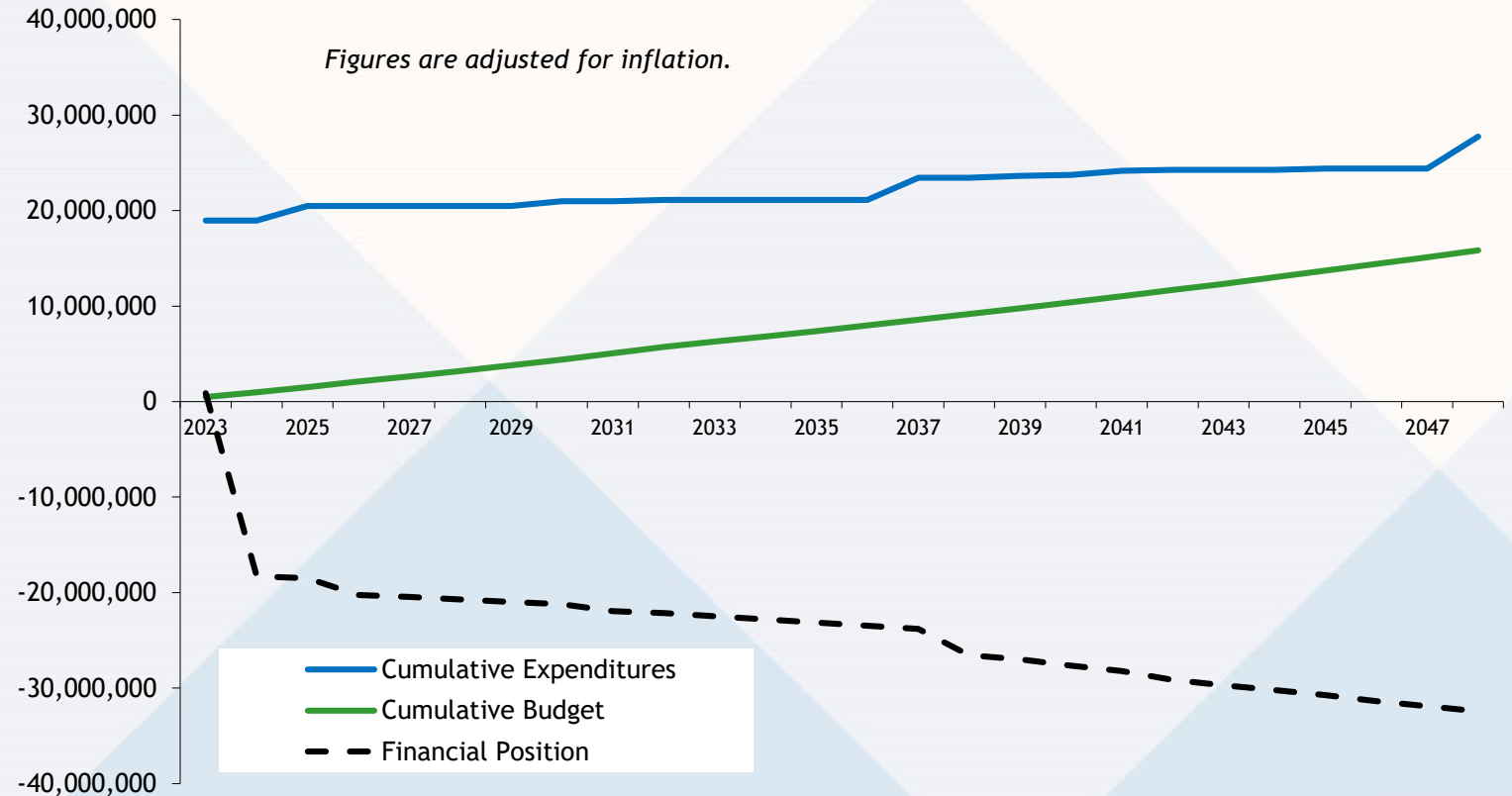


Aging Infrastructure and Asset Renewal

Financial Position

Issues and Considerations

Figure 7: Erickson WATER Comparing Expenditures and Funding (cumulative 25 year projection)





Issues and Considerations

Aging Infrastructure and Asset Renewal

2022 Asset Management Plan Identified Required Contributions to Reserves for Asset Renewal

25 year 883,879
100 year 554,403

Budgeted Contributions to Reserves

| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---------|---------|---------|---------|---------|---------|
| 454,006 | 469,230 | 454,622 | 562,975 | 637,401 | 726,659 |

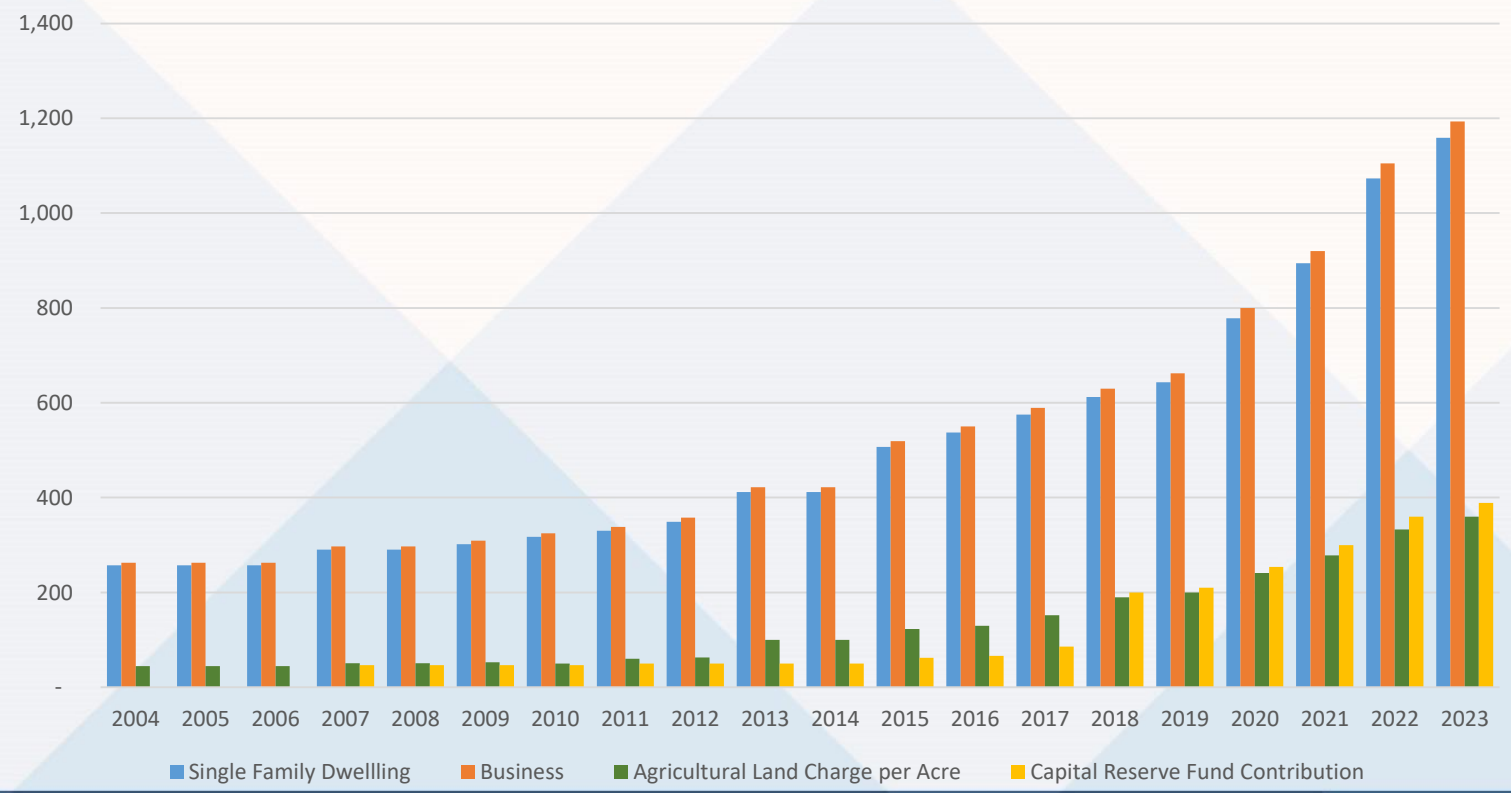
Current Proposed Rate Increases From Board Approved 2023 to 2027 Financial Plan

| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|------|------|------|------|------|------|
| 20% | 8% | 5% | 5% | 5% | 5% |

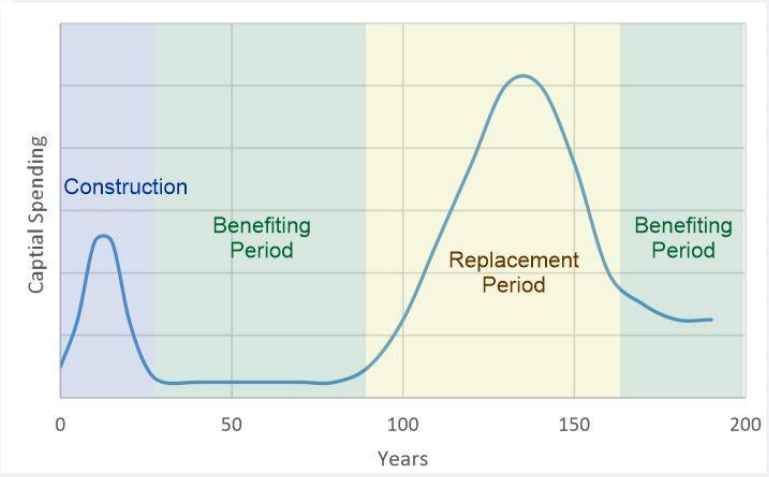


Issues and Considerations

Rate Increases and Rate Equity Erickson Historic Rates



Typical Infrastructure Capital Spending





Issues and Considerations

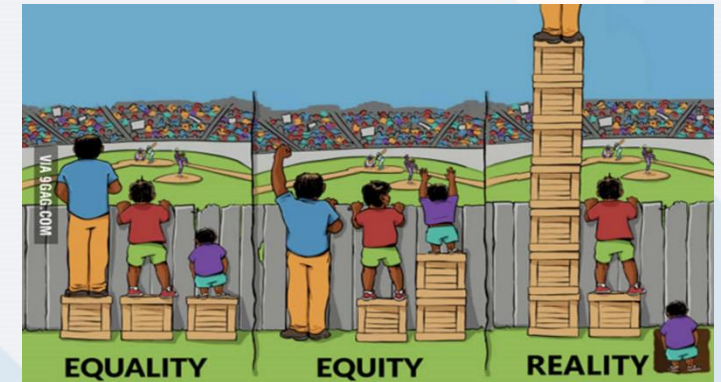
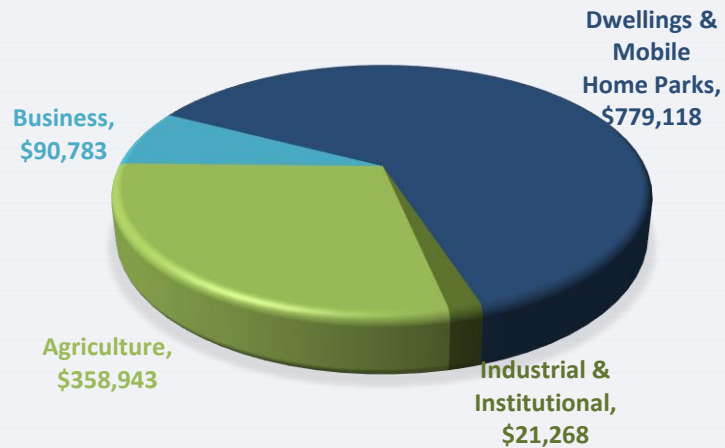
Rate Increases and Rate Equity

Potential Rate Inequities

- Dwelling billing provides most of the Erickson revenue
- Agricultural water billing based on irrigation privileges and not actual irrigation usage
- Agriculture is not subject to mandatory water conservation measures
- Agriculture is the economic base for the Creston Valley
- Universal metering is the best solution for rate equity but rates can still vary by user type

Erickson 2023 Budgeted Water Billing Revenue

Excluding Capital Reserve Fund Contribution





Issues and Considerations

Grants

- Every \$1 million received in grants would save about \$130,000 in annual long-term loan payments, or \$225,000 for short-term loans, \$200 or \$345 average annually per customer

Recent Applications

- Recent linear infrastructure and metering senior government grant applications have not been successful

Grants Received to Date

- Erickson continues to benefit from Community Works grants that are funded by the Province and Federal Government but awarded by the Board
- Successful water systems senior government grants are as follows:

| Grant Year | Project | Grant Amount |
|--------------|--------------------------------------------------------------------------|-------------------|
| 2020/21 | Woodbury Village Water System Treatment Upgrade Project | 480,840 |
| 2016/17 | Arrow Creek Water Main Replacement and System Improvements - Final Phase | 4,162,312 |
| 2016/17 | Balfour Water System Upgrade & Universal Metering Project | 2,819,510 |
| 2016/17 | Ymir Water Storage Reservoir Replacement | 642,964 |
| 2015/16 | Arrow Mainline and Erickson Open Reservoir Replacement – Phase 4 | 2,921,302 |
| Total | | 11,026,928 |

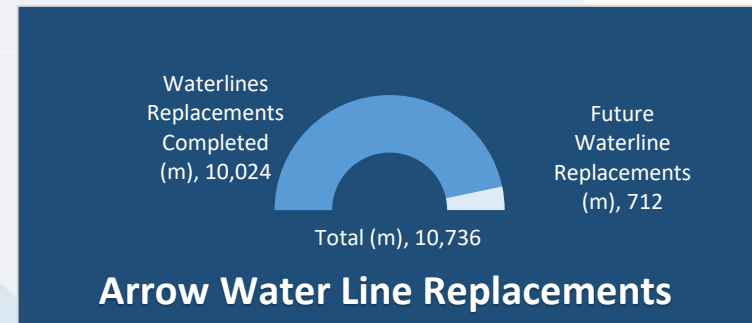
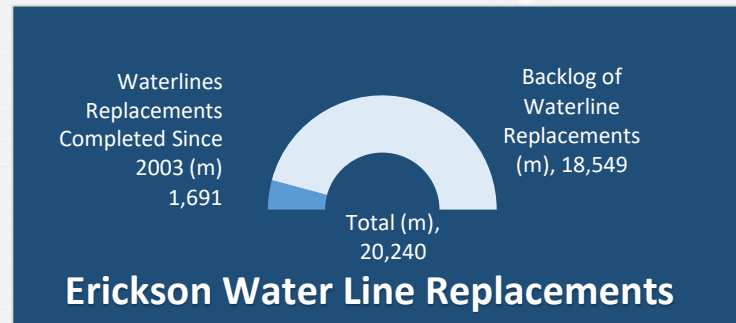
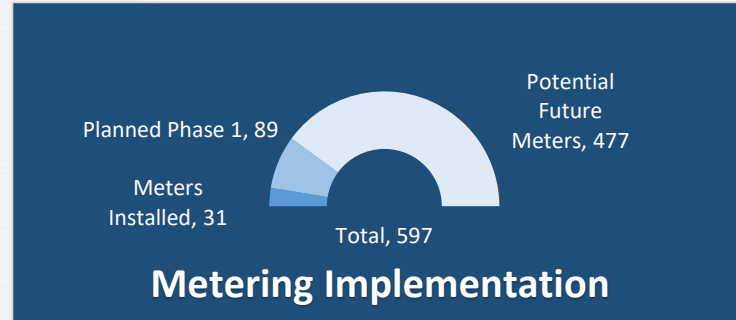


Questions?



Status

Existing Arrow and Erickson Capital Status



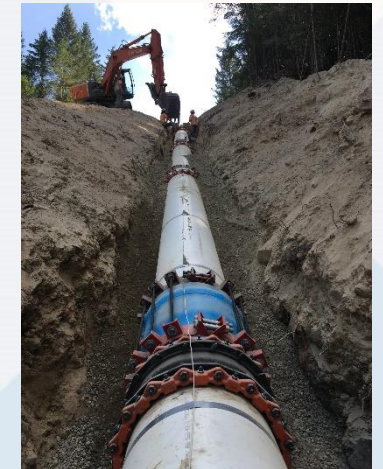
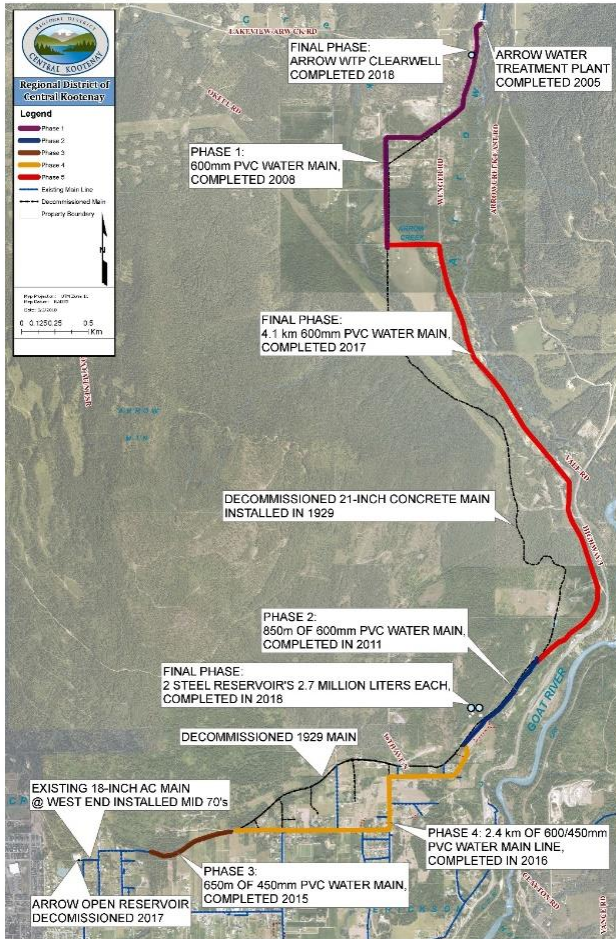
Capital Projects

Arrow Projects

- Past Capital projects have focused on Arrow Main Line replacement and Erickson Open Reservoir Replacement
- Potential intake Coanda screen
- Potential membrane filter replacement with ceramic filters

Recent Erickson Projects

- Erickson Road Water Line Replacement
- Tooze Road Water Line Replacement





Planned Erickson Capital Projects

Existing 2023 to 2027 Erickson Capital Plan

- Phase 1 Metering partially funded from \$750,000 Community Works Grant
- Total universal metering estimated \$3.92 million, if approved
- Total water line replacement will be about \$21 million

| Capital Project | 2023 Budget | 2024 Budget | 2025 Budget | 2026 Budget | 2027 Budget |
|-----------------------------------------------------------|----------------|----------------|----------------|------------------|----------------|
| ERK W-2023-Erickson Water Distribution System Replacement | 200,000 | | | | |
| ERK W - 2022 Hydrant Infill | | | 150,000 | | |
| ERK W-2021-Universal Metering-Phase 1 | 600,000 | 600,000 | | | |
| ERK W-2022-Universal Metering-Phase 2 | | | | 700,000 | 800,000 |
| ERK W - 2021 Dist - PN26-52-24-155-23-27-126 | | | | 450,000 | |
| ERK W - 2021 Dist - Goat River Bridge Water Line | | | 260,000 | | |
| ERK W - 2021 Distribution - PN58 | | 380,000 | | | |
| ERK W - Distribution Upgrade - 2025 | | | 300,000 | | |
| ERK W - 2020 ERK PRV Bypass | 50,000 | | | | |
| | 850,000 | 980,000 | 710,000 | 1,150,000 | 800,000 |



Issues and Considerations

Asset Renewal and Rates

- There are no easy solutions
- Long-term decisions have not yet been made & everybody will have an opinion on what to do
- Board adopts 5 years financial plans
- Capital plans, financial plans and rates bylaw are updated annually

Potential Solutions

Long-term Borrowing for Asset Renewal

Pros

- Lowest peak rates

Cons

- Long-term borrowing requires public approval
- Rate are higher for entire term of loan
- Interest payments nearly equal principal payments

Short-term Borrowing for Asset Renewal

Pros

- Peak rates can be reduced after short-term loans are paid
- Lower overall interest payments

Cons

- Higher peak rates

Renew Assets without Borrowing

Pros

- Peak rates can be reduced after short-term loans are paid
- Potential lowest overall cost

Cons

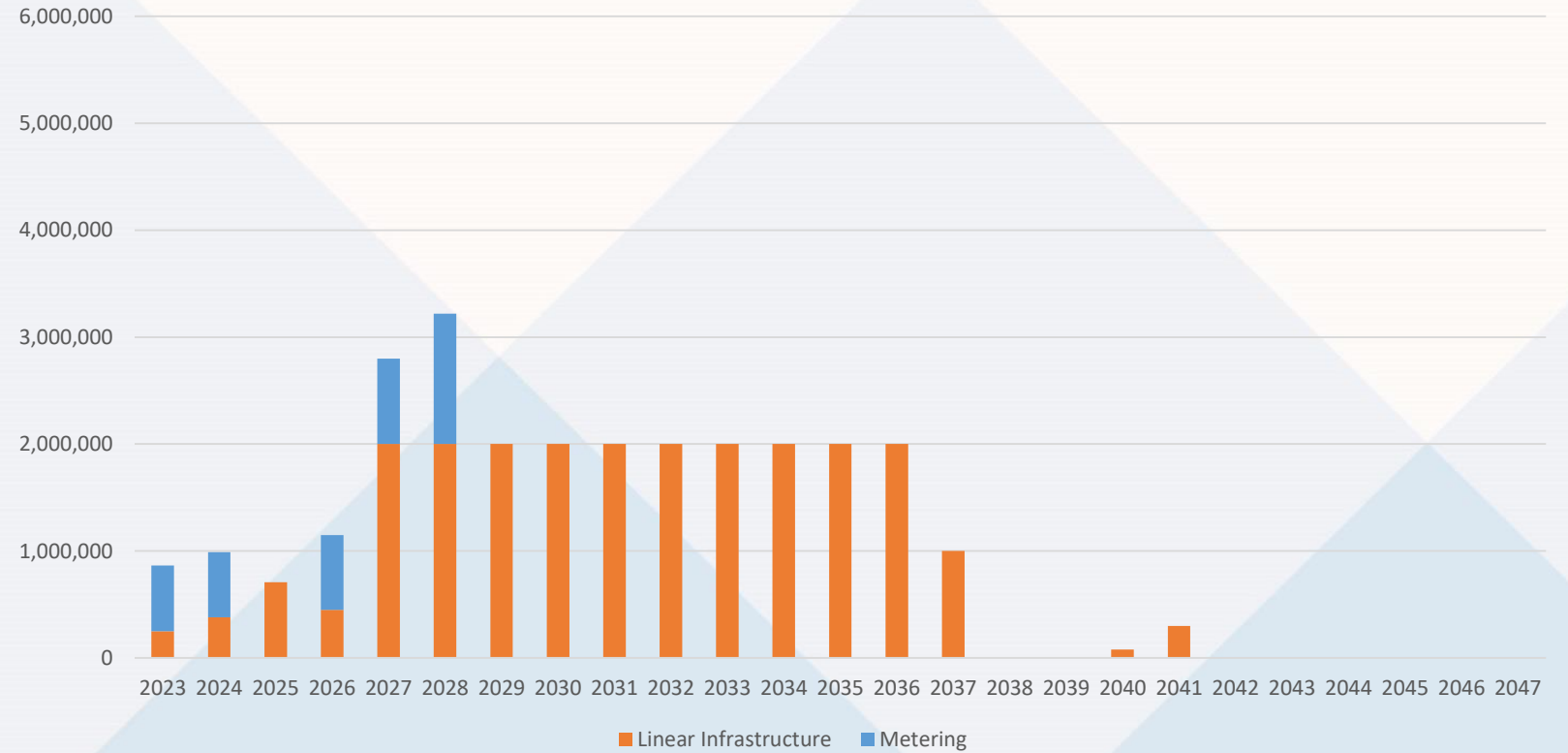
- Highest peak rates but not much higher than short-term loans
- Existing assets might not last long enough to postpone replacements
- Operation & maintenance costs likely to increase as assets continue to age
- Increased service disruptions & Boil Water Notices



Long-term Financial Model Potential Capital Plan

Issues and Considerations

Asset Renewal and Rates





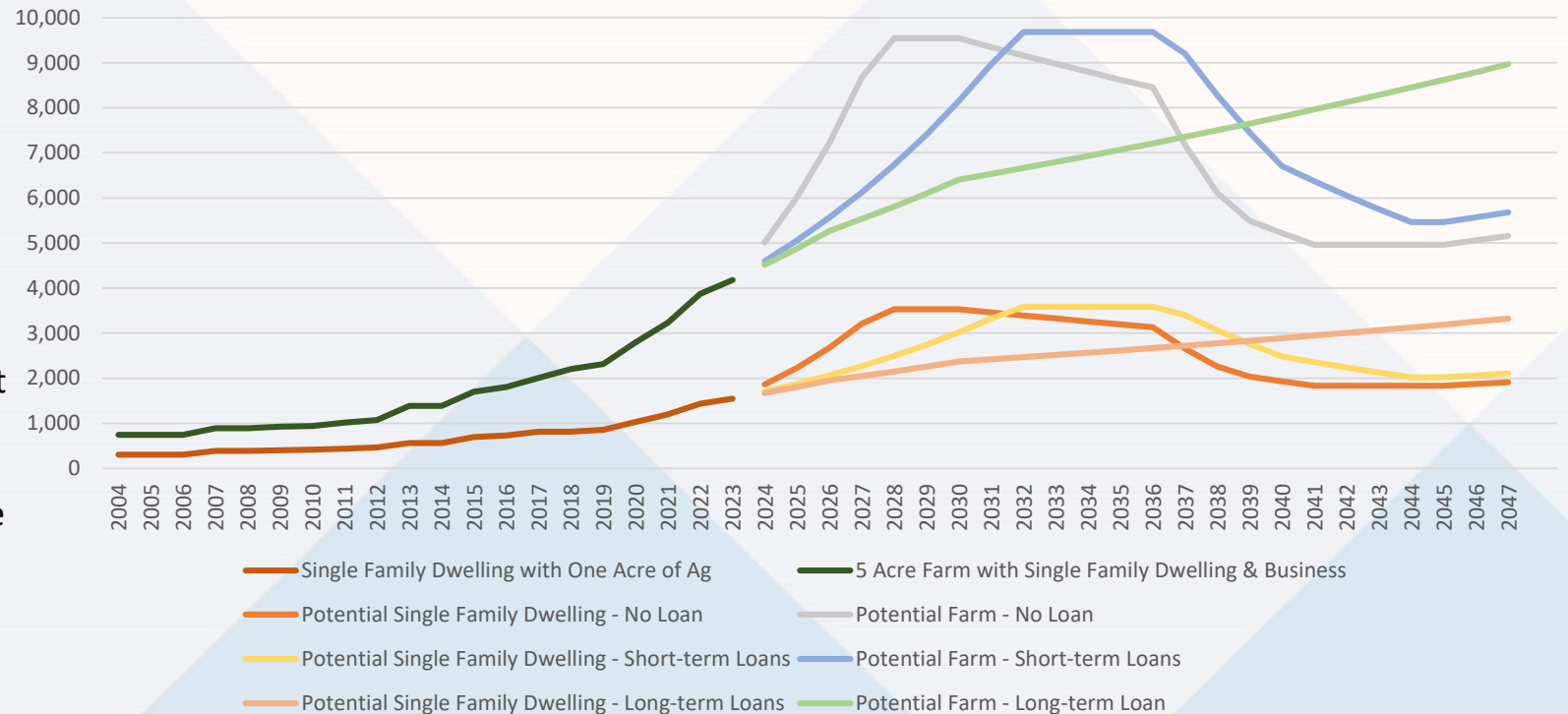
Issues and Considerations

Financial Model

Potential Rates

- Potential long-term borrowing rates continue to rise with inflation & pays the most interest
- Potential short-term borrowing rates delay rate increases but have interest costs
- No borrowing rates provide the lowest overall cost but peak rates are higher than long-term borrowing rates

Asset Renewal and Rates

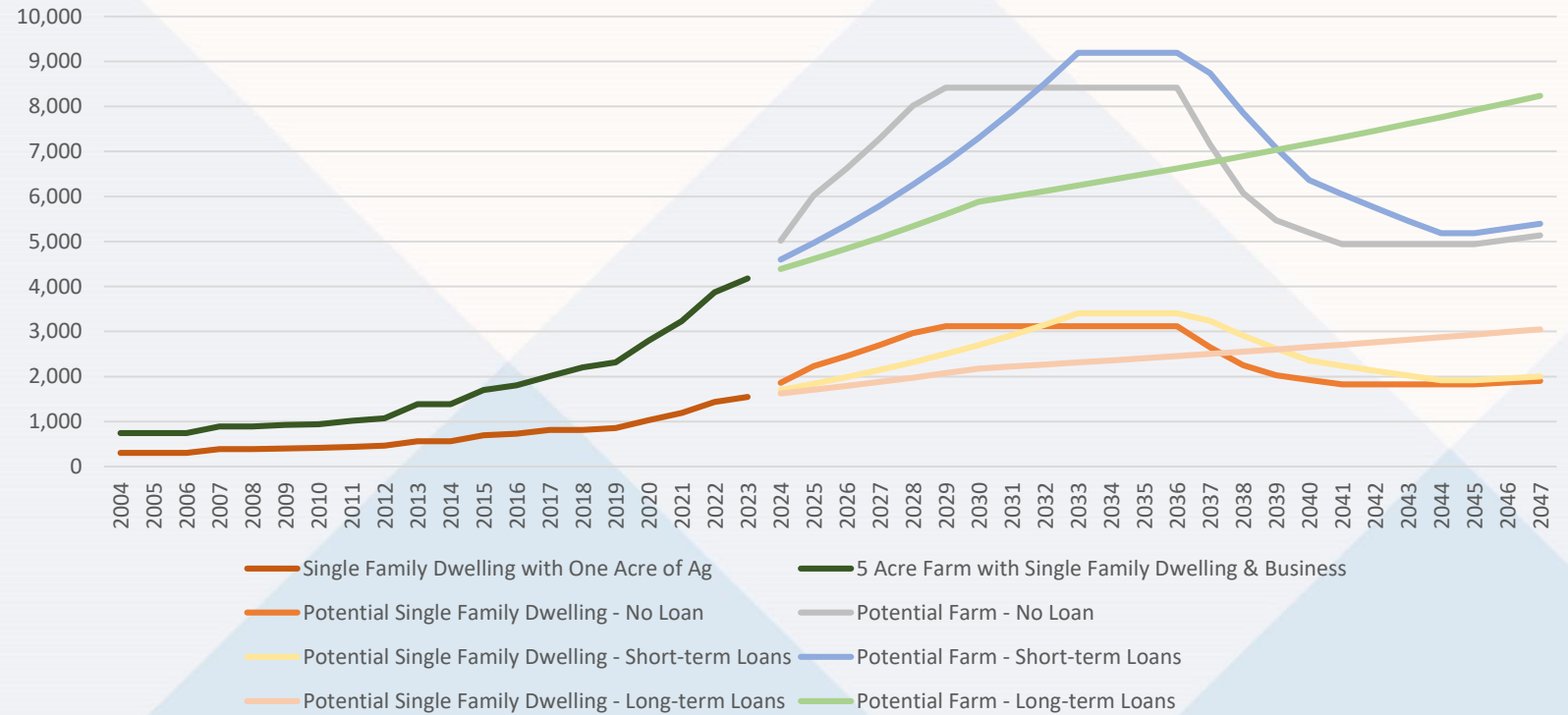




**Financial Model
Potential Rates with Only Phase 1
Metering**

Issues and Considerations

Asset Renewal and Rates





How to provide feedback

Information will be posted on our website

Questions?

Thank you

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