

Asset Management Plan for Small Water Systems

Webinar: 60 Minutes of Content + 30 Minutes of Q&A

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What We'll Cover Today

Why asset management matters for small water systems

The five core questions of asset management

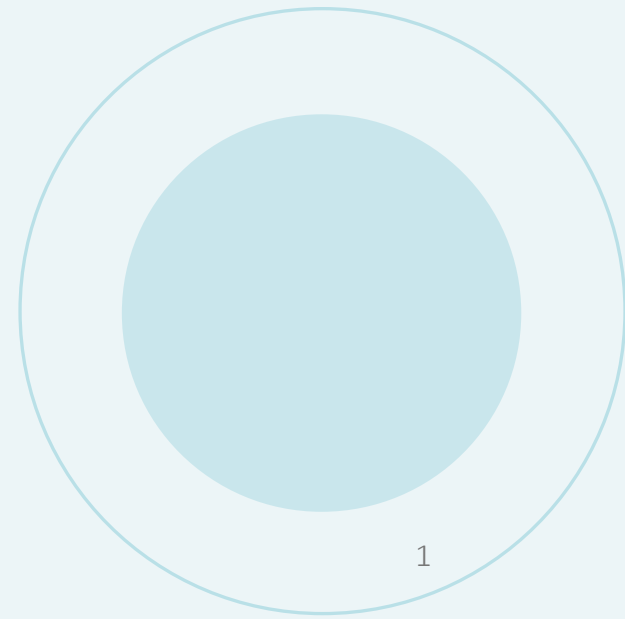
Building an asset inventory, assessing condition, and identifying critical assets

Real-world BC case studies — proactive vs. reactive management

Life-cycle costing, capital renewal schedules, and funding strategies

Staying in compliance and handling common challenges

Key resources, funding programs, and your action plan



Why This Matters Today

- Small water systems serve some of BC's smallest and most vulnerable communities
- Aging pipes, pumps, and wells are reaching end of life across the province
- Boil-water advisories and system failures are costly, disruptive, and preventable
- Good asset management protects public health and your budget



What Is Asset Management? (In Plain Language)

- Asset management = knowing what you own, its condition, and what it costs to keep it working
- It's about making smart decisions with limited money and staff
- Goal: reliable service today, without surprise costs tomorrow
- Applies to pipes, pumps, wells, reservoirs, valves, buildings — every physical asset



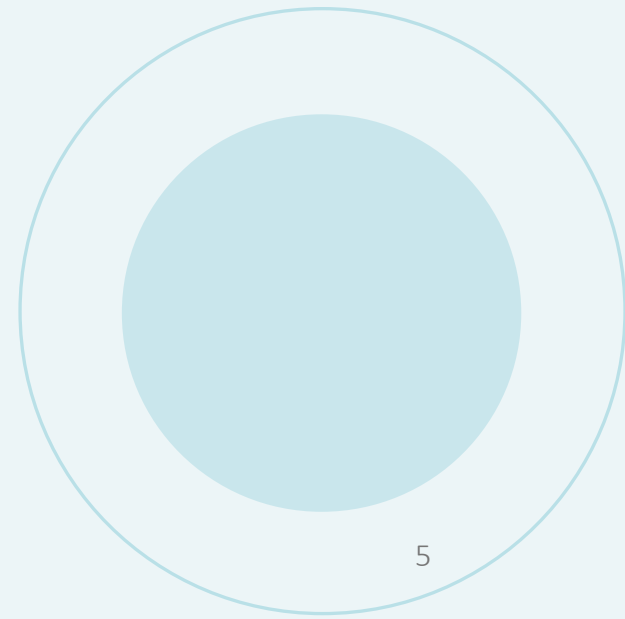
From "Run-to-Fail" to Proactive Planning

- Reactive ("run-to-fail"): fix it only when it breaks
- Proactive: inspect, maintain, and plan for replacement before failure
- Reactive repairs cost more, happen at the worst times, and risk service interruptions
- Proactive planning is scalable to any size system — even one operator



The Five Core Questions of Asset Management

A practical framework for planning and decisions



The Five Core Questions of Asset Management

1. What is the current state of my assets?
2. What is my required sustainable level of service?
3. Which assets are critical to sustained performance?
4. What is my minimum life-cycle cost?
5. What is my best long-term funding strategy?

<https://www.assetmanagementbc.ca>



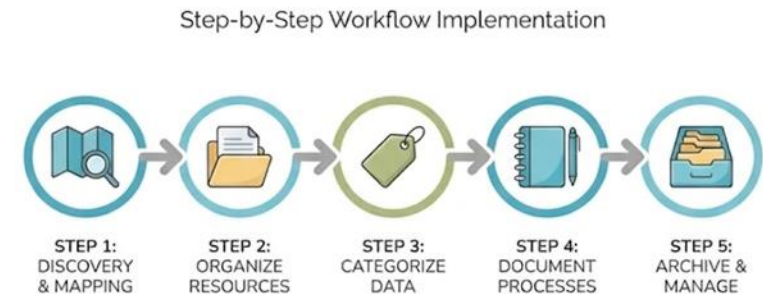
Question 1: What Do I Have? (Asset Inventory)

- An asset inventory is a complete list of everything in your system
- Include: source (well/intake), treatment, storage/reservoir, pumps, valves, pipes, meters
- Record: location, size, material, install date, condition
- "If you don't know what you have, you can't manage it"
- <https://smallwatersystemsbc.ca/search/node?keys=asset+management>



Step-by-Step: Building Your Asset Inventory

1. Walk the system and list every component, section by section
2. Gather existing records: drawings, permits, invoices, maintenance logs
3. Assign a unique ID and location to each asset
4. Record install date, size/capacity, material, and manufacturer
5. Store it in one place everyone can access



Step-by-Step: Building Your Asset Inventory

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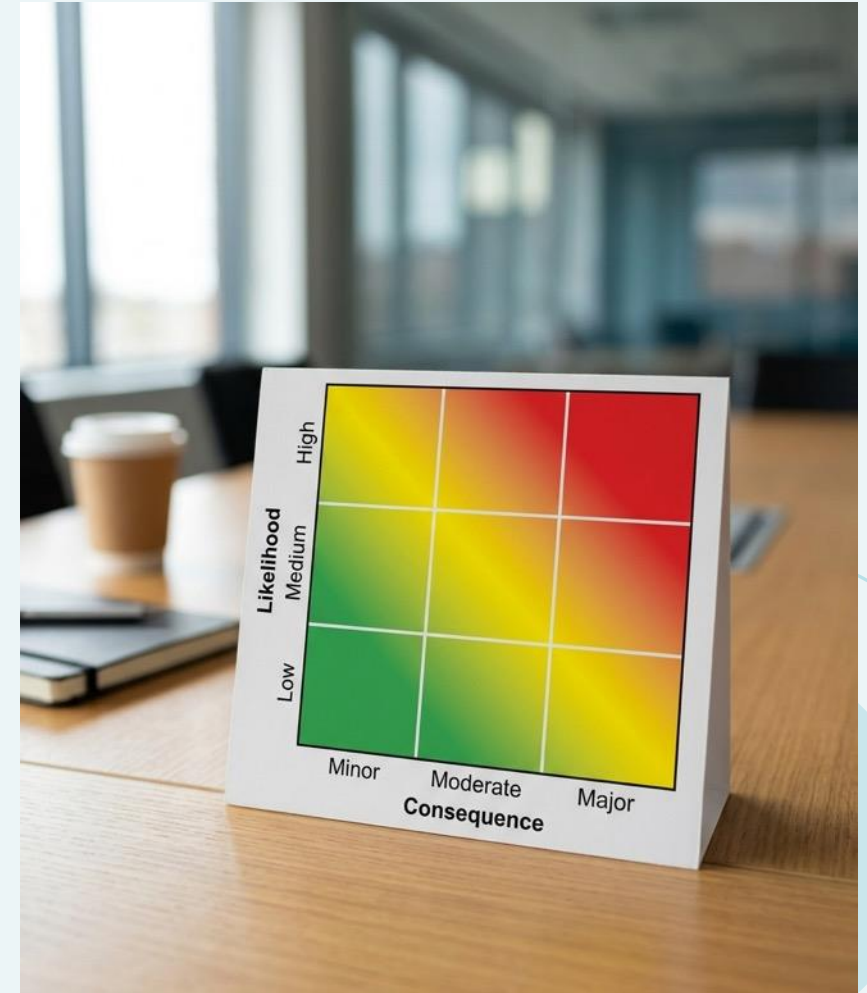
Question 2: What Service Do I Need to Deliver?

- A "level of service" is a measurable promise to your users
- Examples: water quality standards, minimum pressure, maximum outages per year
- Must meet BC Drinking Water Protection Act & Regulation minimums
- Service levels guide every other asset management decision



Question 3: Which Assets Are Critical?

- Not all assets carry equal risk — focus limited resources on what matters most
- Critical assets: failure causes major health, safety, or service impacts
- Use a simple Risk Matrix: Likelihood × Consequence
- High likelihood + high consequence = top priority for inspection and renewal



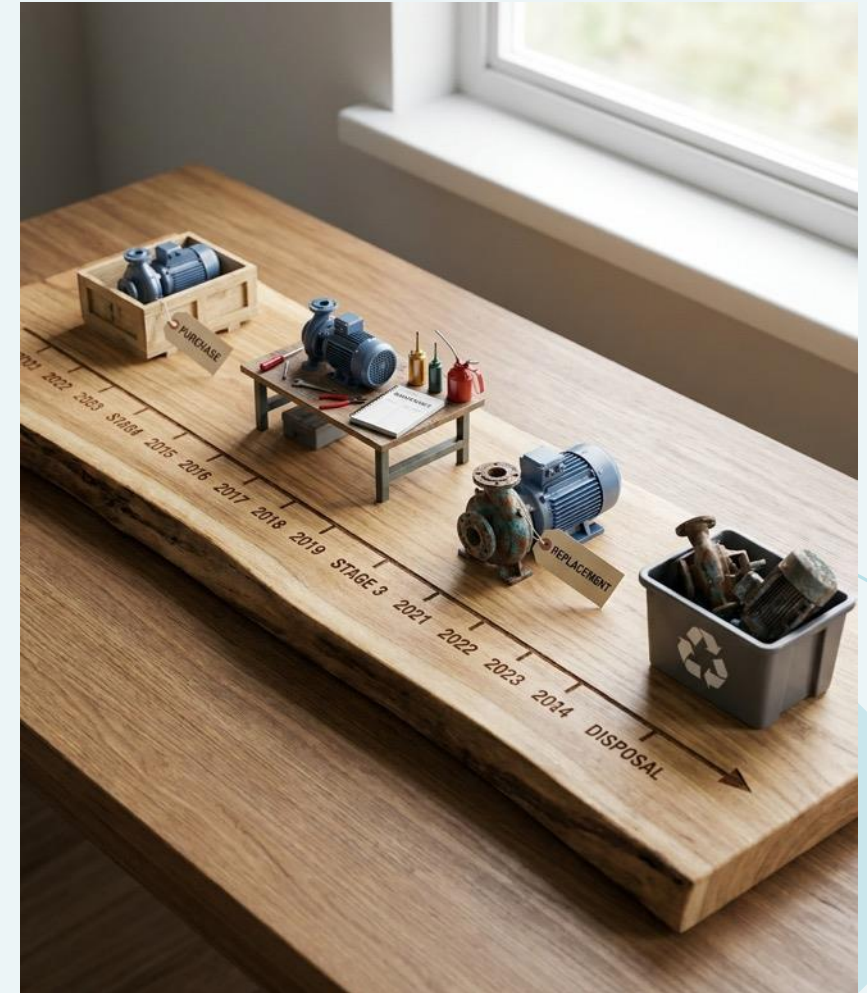
Practical Example: Applying the Risk Matrix

- Example asset: only water pump on a small system serving 40 homes
- Likelihood of failure: Medium (aging, 15 years old)
- Consequence if it fails: High (no backup, immediate loss of service)
- Result: High-priority asset — needs monitoring, spare parts, and a renewal plan



Question 4: What Is My Minimum Life-Cycle Cost?

- Life-cycle cost = total cost of an asset from purchase to disposal
- Four components: Acquisition, Operation & Maintenance (O&M), Renewal, Disposal
- Cheapest to buy is not always cheapest over time
- Life-cycle thinking prevents "false savings" from deferred maintenance



Question 5: What Is My Best Long-Term Funding Strategy?

- Every asset will eventually need renewal — funding must be planned, not improvised
- Three main funding sources: user rates, reserve funds, grants/borrowing
- A funding strategy matches money available to renewal needs over 10–20+ years
- Avoiding this question leads to emergency borrowing or special levies



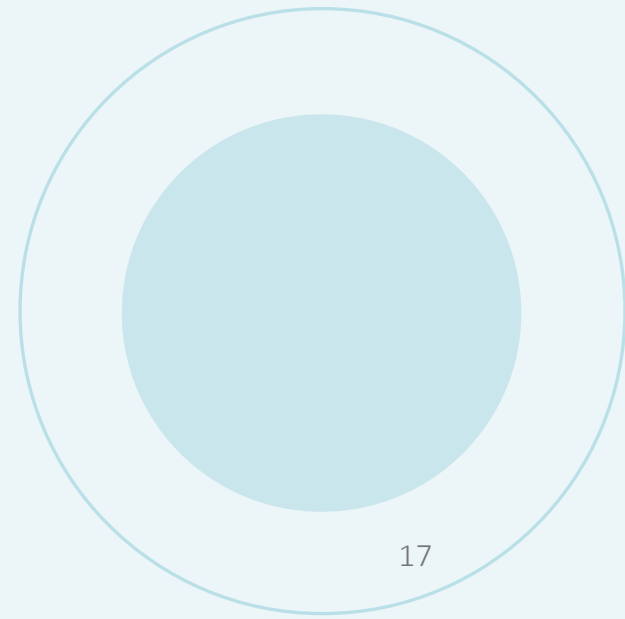
Assessing Asset Condition

- Condition assessment = rating how "healthy" each asset is today
- Simple scale: 1 (like new) to 5 (failed/failing)
- Consider: age, maintenance history, performance, visible wear, manufacturer lifespan
- Update ratings annually or after major repairs



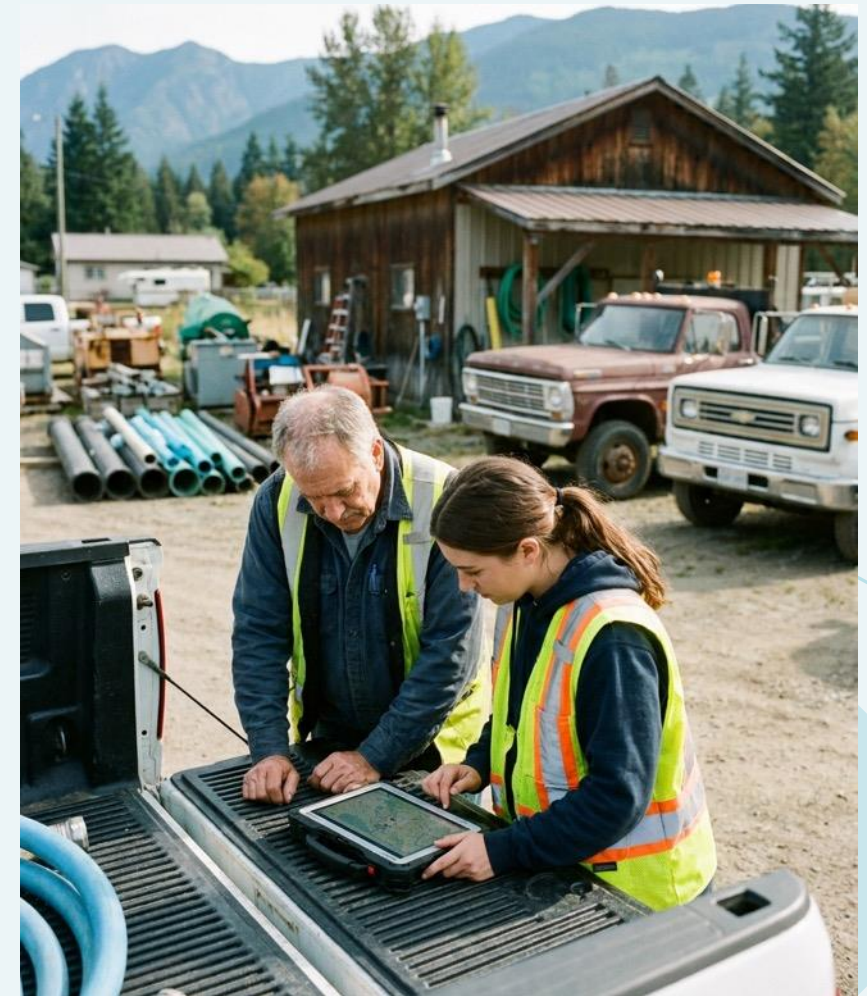
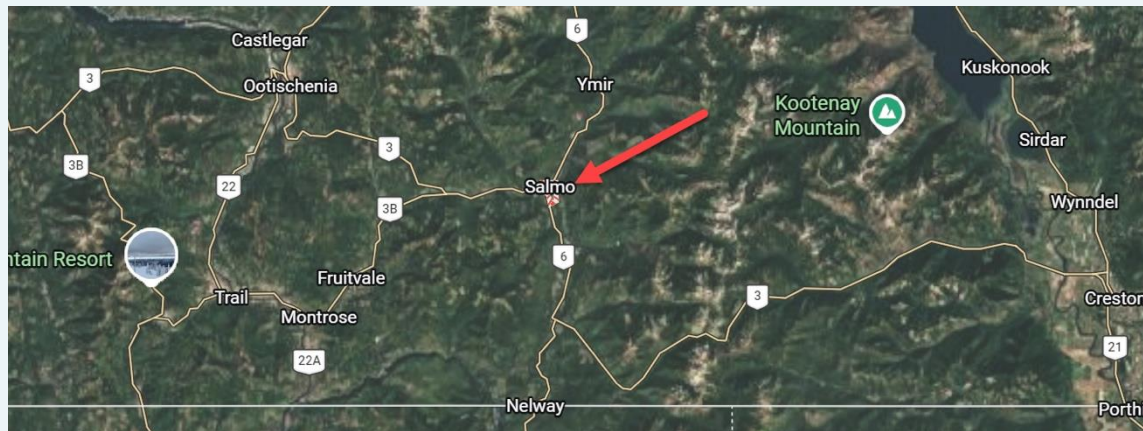
Case Studies from BC

Lessons from proactive and reactive approaches



Case Study 1: Proactive Asset Management in Action

- Village of Salmo, BC — small community, limited staff and budget
- Built a full asset inventory and condition assessment for roads, water, and sewer systems
- Trained 70% of staff in national asset management practices
- Result: better budgeting, fewer surprises, asset management embedded into daily operations



Case Study 2: The Cost of Reactive Management

- Several BC mobile home park water systems have faced long-term boil-water advisories
- Aging wells, cracked 40–50 year old pipes, and deferred maintenance were common causes
- One owner spent over \$40,000 on emergency wells/chlorination — but old pipes still caused problems
- Lesson: reactive fixes without full life-cycle planning don't solve root causes

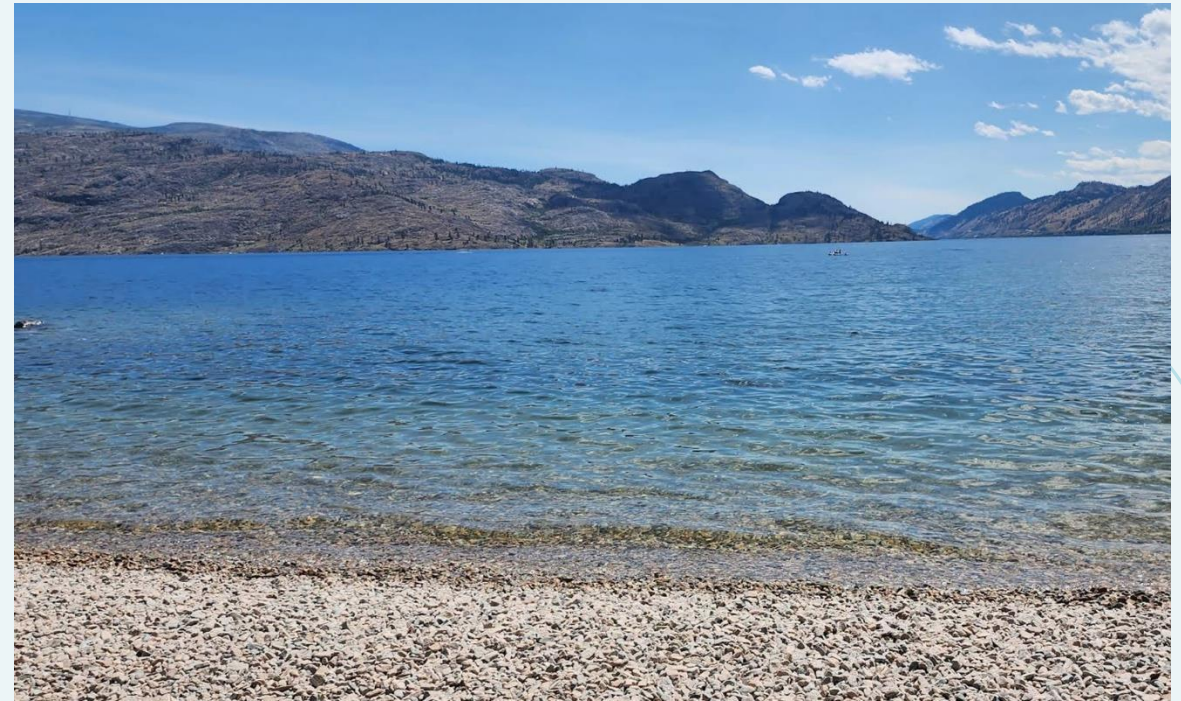


Current Example: Okanagan Lake Park Campground North

- Located in the southern Interior of British Columbia
- Approximately 390 km northeast of Vancouver
- Terraced campground overlooking Okanagan Lake
- 80 beautiful campsites



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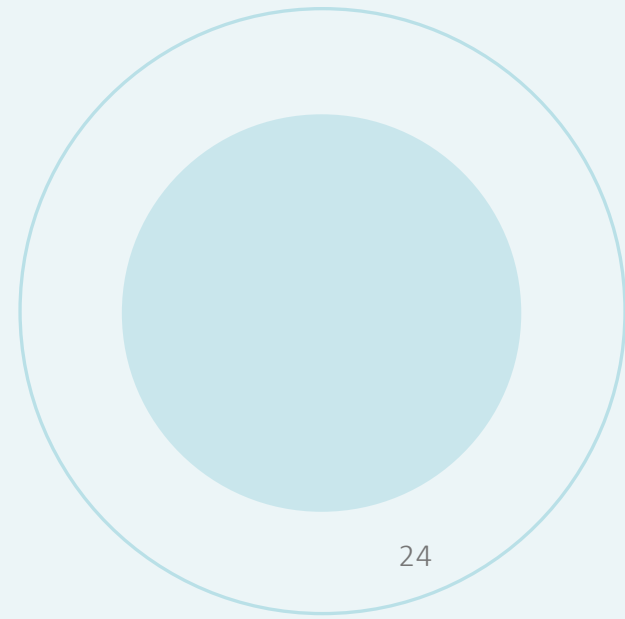


Current Example: Okanagan Lake Park Campground North



Funding & Long-Term Planning

Capital renewal, reserves, and rate structures



Building a Capital Renewal Schedule

- Turns large, irregular future costs into predictable annual planning
- Example: a \$100,000 pump replacement due in 10 years = ~\$10,000/year set aside now
- Base the schedule on condition ratings and expected remaining life
- Update annually as assets age or conditions change



Building a Dedicated Reserve Fund

- A reserve fund = money set aside specifically for future asset renewal
- Contribute a set amount annually, based on your capital renewal schedule
- Avoids scrambling for emergency loans or special levies during a crisis
- Strata corporations in BC are legally required to fund reserves this way



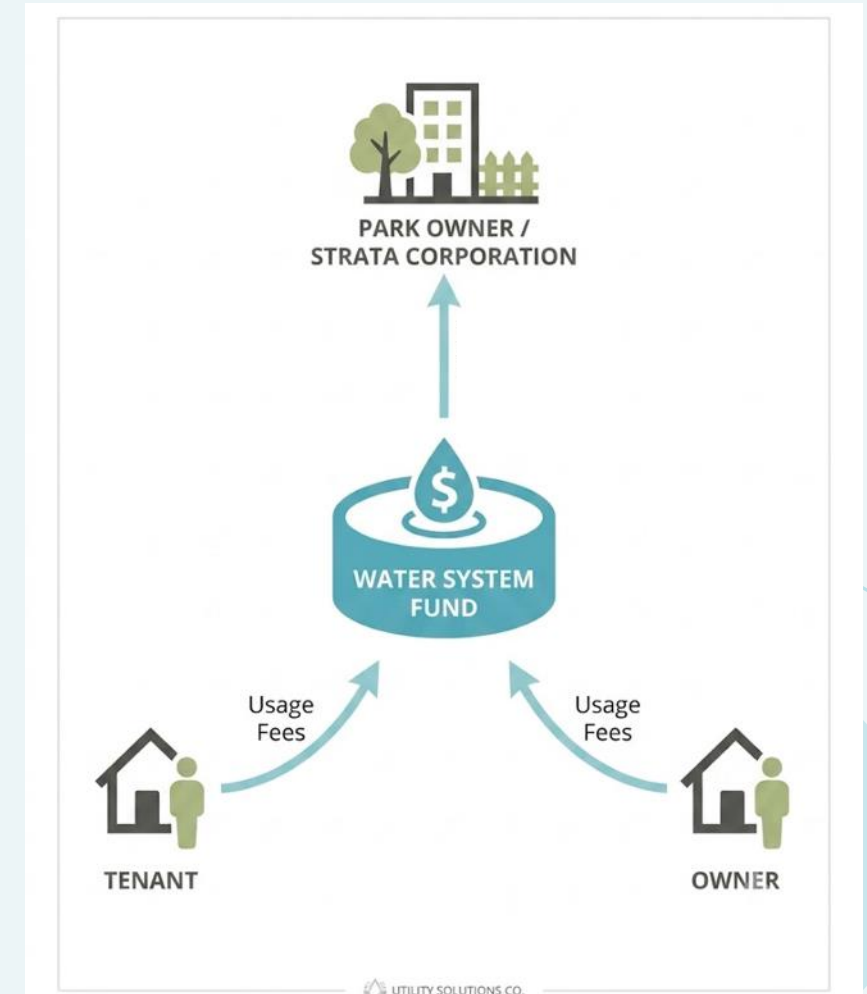
Reviewing Your Rate Structure

- Rates should cover the full cost of service: O&M + renewal + reserve contributions
- Many small systems set rates too low to fully fund long-term renewal
- Review rates regularly — don't "set and forget"
- A modest, predictable rate increase beats a large emergency special levy

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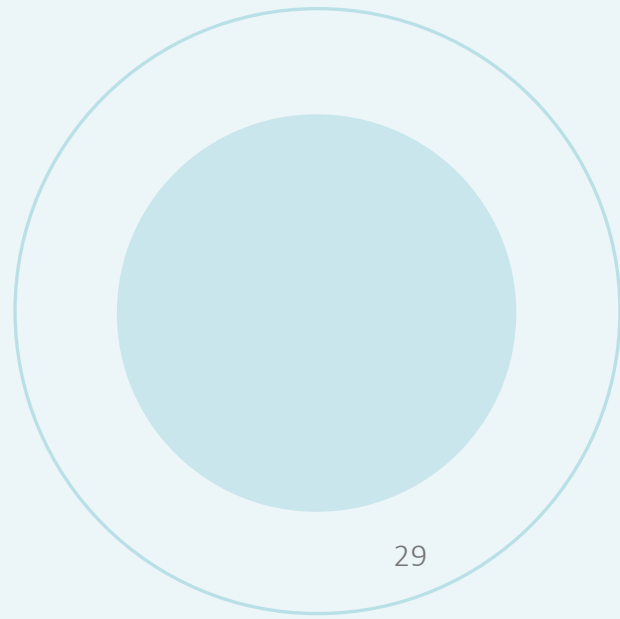
Who Pays? Tenants, Owners, and Strata Responsibility

- Mobile/manufactured home parks: the landlord/park owner is responsible for shared water system infrastructure, not individual tenants
- Tenants are only responsible for damage they personally cause (not normal wear and tear)
- Strata corporations: costs are shared among all owners via strata fees, reserve funds, or special levies ($\frac{3}{4}$ vote)
- Always check your specific tenancy agreement or strata bylaws for details



Compliance & Common Challenges

Staying on the right side of the rules



Staying in Compliance: BC Drinking Water Rules

- Governed by the BC Drinking Water Protection Act & Regulation
- "Small system" = serves up to 500 people in any 24-hour period
- Requires: valid operating permit, water quality testing, and an emergency response plan
- Non-compliance risks public health, advisories, and legal liability



Common Challenges for Small System Operators

- Limited staff time, budget, and technical expertise
- Aging infrastructure with incomplete historical records
- Balancing daily operations with long-term planning
- Difficulty affording large capital upgrades without outside support



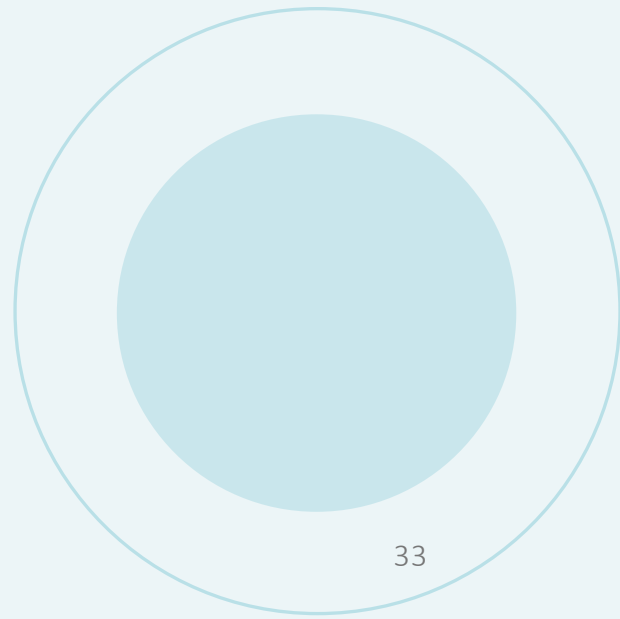
Simple Follow-Up Procedures for Common Problems

1. Document the issue immediately (what, when, where)
2. Assess health/safety risk first — notify users if needed
3. Contact your Drinking Water Officer for guidance on next steps
4. Apply a temporary fix, then schedule a permanent solution
5. Update your asset inventory and renewal schedule afterward



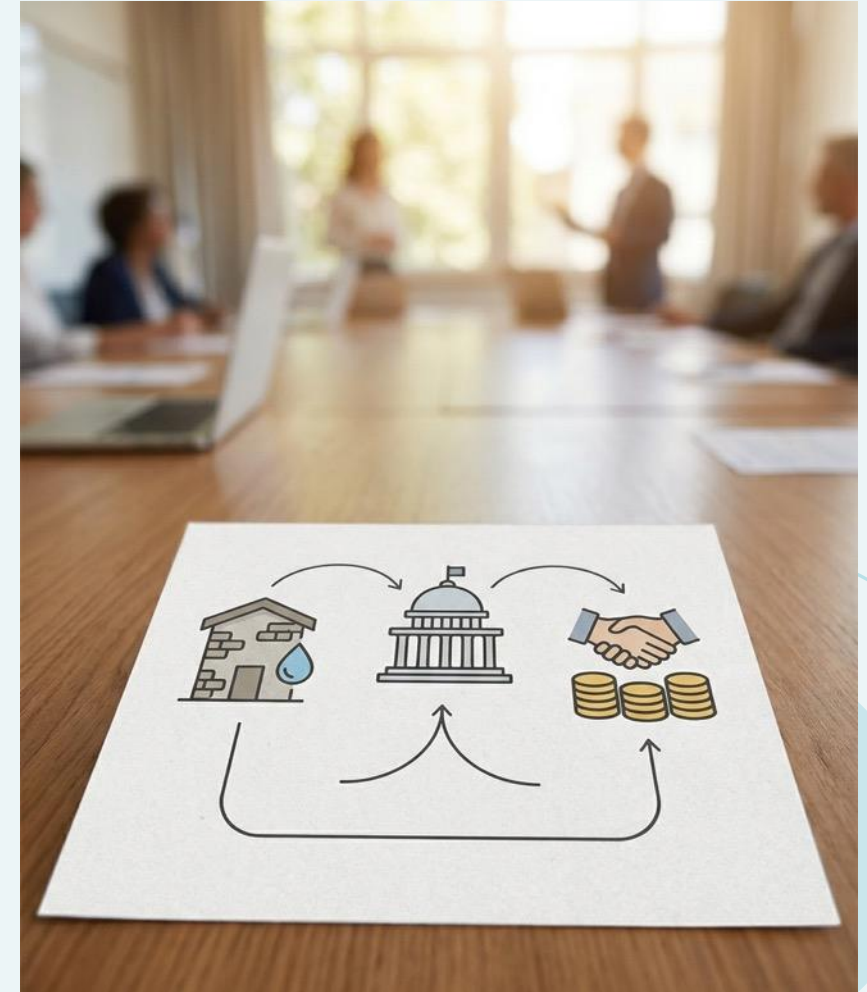
Resources & Your Action Plan

Where to get help, and what to do next



Where to Get Help: Funding & Technical Assistance

- Build Communities Strong Fund (federal, 2026+) — delivered in BC by UBCM (Community Works Fund, Strategic Priorities Fund)
- BC Local Government Infrastructure & Planning Grants
- FCM (Federation of Canadian Municipalities) Asset Management Grants — funding for asset management planning activities
- Regional health authorities and Drinking Water Officers can advise on compliance upgrades
- WaterBC (SIS)
<https://waterbc.ca/community/programs/access-to-funding/>



Where to Get Help: Funding & Technical Assistance

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Resources for Water and
Wastewater Systems
in Western Canada

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Access to Funding

This program helps community water suppliers to access several sources of funding to help pay for infrastructure renewal and upgrading.

About Access to Funding

There is a large and growing infrastructure deficit in Canada and British Columbia. Many organizations have not set aside sufficient funds over the years for renewal of expensive tangible assets like pipes and reservoirs. They are now faced with extensive replacement needs. In addition, more stringent health protection requirements mean that water systems are required to upgrade infrastructure and install expensive treatment processes. Many community organizations therefore need to access funds for the replacement and upgrading of infrastructure

Find Out More

The Access to Funding Program (AFP) assists small and medium water organizations to access funding from several sources. It helps you to secure a loan, possibly obtain a grant, and to increase revenues through changes to water pricing. Find out more about how we can help you by clicking on these

[Financial Best Management Practices \(BMPs\)](#)

[Canadian Water Directory](#)
For the water industry in western Canada

[Canadian Water Websites - easy to build websites for Canadian water suppliers](#)
For community water systems in western Canada

Where to Get Help: Funding & Technical Assistance

[7 Steps to Effective Water Treatment](#)

[Point-of-Entry Water Treatment](#)

[Boil Water Notice Remediation](#)

Find Out More

The Access to Funding Program (AFP) assists small and medium water organizations to access funding from several sources. It helps you to secure a loan, possibly obtain a grant, and to increase revenues through changes to water pricing. Find out more about how we can help you by clicking on these links:

[Securing a Loan](#) – certain water organizations may borrow at competitive rates from lending institutions

[Obtaining a Grant](#) – grants can help in the planning of infrastructure and in reviewing opportunities for conversion

[Water Pricing](#) - Setting the right price for your water, together with good customer communications, can lead to opportunities for revenue increases.

Before considering in detail the various sources of new funding it is important to prepare properly. For example, application to a lending institution or review of your water pricing should be preceded by an initial assessment of your financial circumstances. This could include review of long-term asset renewal requirements, the history of reserve fund management, level and fairness of existing water rates and charges, growth in the region, and initial consideration of water conservation and demand management. You will find assistance with many of these topics on this WaterBC.Ca web site.

You can also contact us for further information; just click on the Contact SIS button in the left margin above.

[water suppliers](#)

For community water systems in western Canada

Key Resources & Handbooks

- BC Small Water Systems Online Help Center (smallwatersystemsbc.ca) — templates, guides, Operator's Hub
- Asset Management BC (assetmanagementbc.ca) — the Roadmap and five-question framework
- Drinking Water Officers' Guide (BC Ministry of Health) — compliance reference
- InfraGuide / FCM (Federation of Canadian Municipalities) resources — Canadian best practices for municipal infrastructure and asset management



Wrap-Up: Your Asset Management Action Plan

- Start small: build or update your asset inventory this month
- Identify your top 5 critical assets using the risk matrix
- Estimate life-cycle costs for at least one major asset
- Bring your questions — 30 minutes of Q&A starts now

