



AFNWA Updates

Operators Workshop
June 15, 2022
Carl Yates, interim CEO

Mission

To provide safe, clean drinking water and wastewater in all participating First Nations communities in Atlantic Canada, delivered by a regional water authority owned and operated by First Nations.

Vision

To be a recognized leader for the delivery of water and wastewater services to First Nations communities across Canada.

Values – Seven Grandfather Teachings

- **Love** (Kitpu/Cihpolakon - Eagle)
- **Honesty** (Putup/Putep - Whale)
- **Humility** (Paqtism/Malsom - Wolf)
- **Respect** (Tiam/Mus - Moose)
- **Truth** (Mikjikj/Cihkonaqc - Turtle)
- **Bravery** (Muin/Muwin - Bear)
- **Wisdom** (Kopit/Qapit - Beaver)

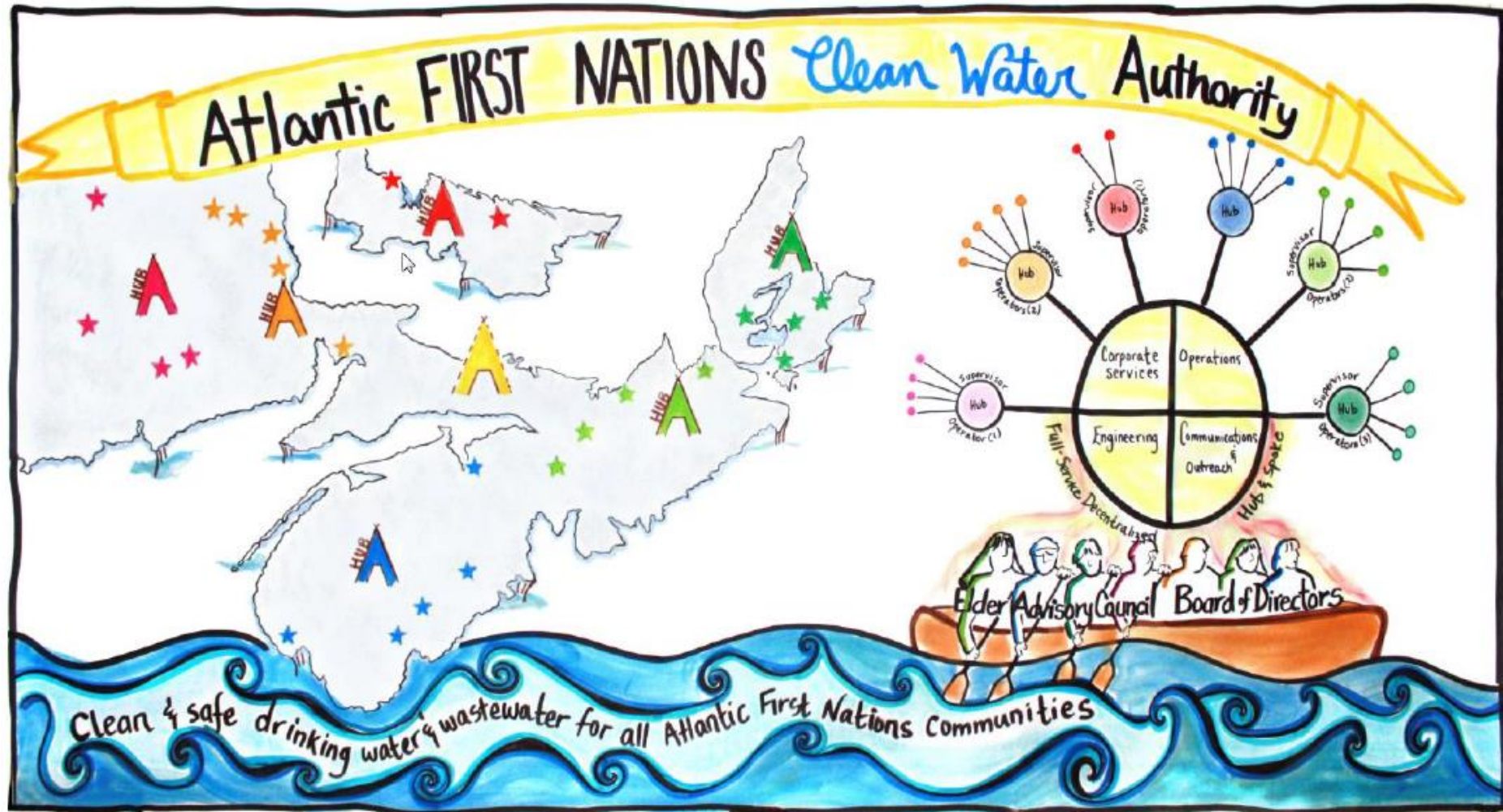
AFNWA Incorporation

- Atlantic First Nations Water Authority incorporated on July 18, 2018 under the federal Not for Profit Act
- The Atlantic First Nations Water Authority is a professional utility, owned and operated by First Nations. The Water Authority is not a political organization. It is a technical organization focused on the provision of water and wastewater services for member communities [Mi'kmaq and Wolastoqiyik] in Atlantic Canada
- Business Case developed in 2019 to describe the why, what and how including order of magnitude costs for 25 year period; updated in 2021 after peer review from Ontario Clean Water Agency

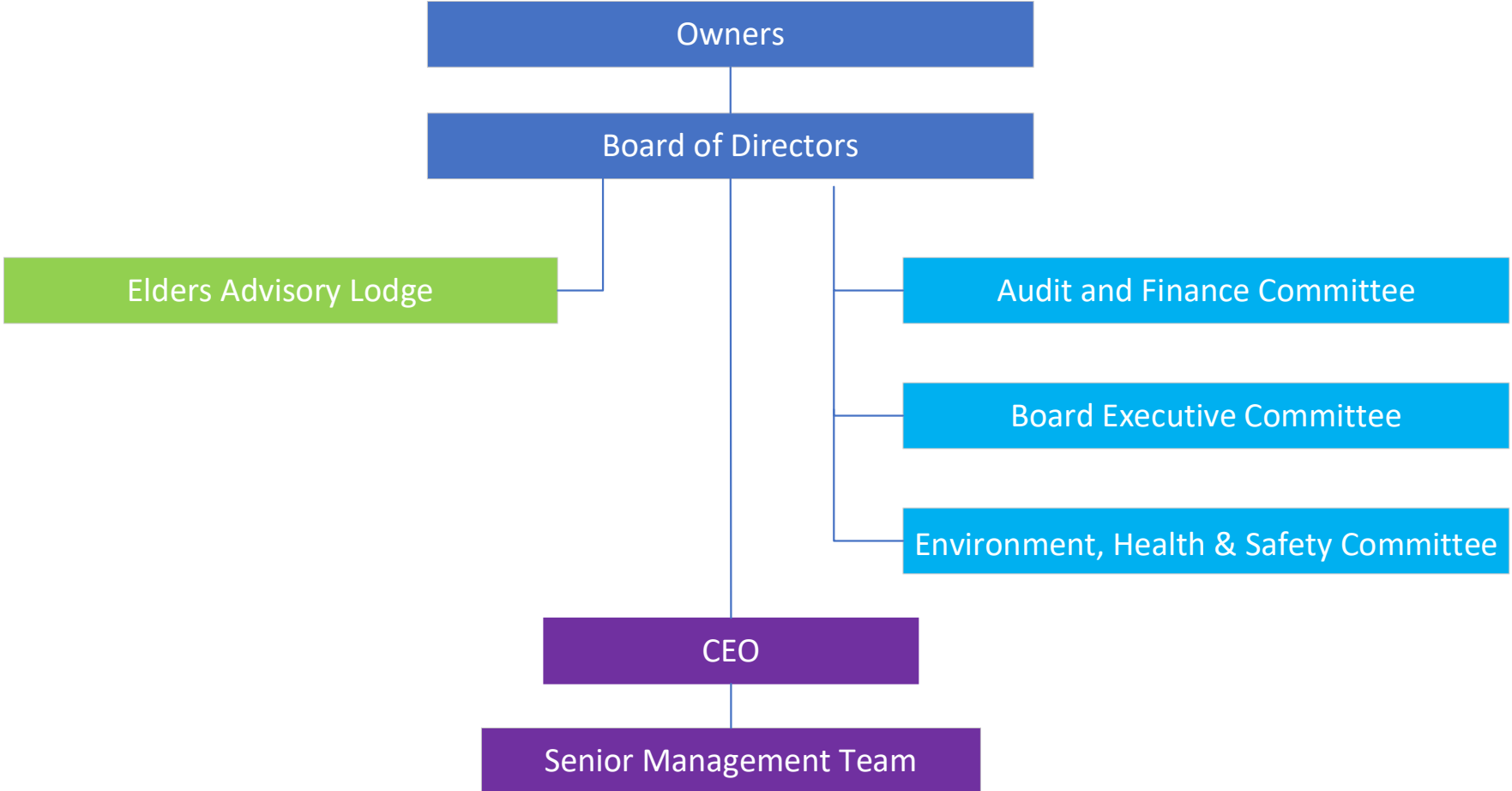
The Recent Roadmap

- AFNWA and ISC signed Framework Agreement on June 23, 2020
- AFNWA Board approved the Transition Implementation Plan [TIP] on June 24, 2020 to serve as a road map to track activities and milestones to make ready for autonomous operation in Spring 2022.
- The Ten Year Business Plan, Service Delivery Transfer Agreement, Community Agreement and Federal Funding commitments are key milestones of the TIP
- With the completion of the 2021/22 fiscal year, we are positioned to achieve our objectives
- A new TIP was recently developed and approved to reflect 2022/2023 objectives
- The objectives are centred on increased level of service, sustainable funding, public health outcomes and environmental stewardship in the context of self determination and capacity building for First Nations

Our service approach that is accountable, equitable and based on *Two-Eyed Seeing*



AFNWA Governance



Operations Hub and Spoke Model



10 Year Business Plan

- The 10-Year Business Plan is a foundational document for AFNWA that details the key programs, objectives and funding for capital and operating budgets
- On February 10, 2022 the AFNWA Board approved the Ten Year Business Plan
- On April 7, 2022 the federal budget included an additional \$173.2 million for the AFNWA consistent with the Business Plan
- The Capital Budget contained in the Business Plan was heavily influenced by the development of an Asset Management Plan and SCADA Master Plan in 2021

Asset Management Plan

- Asset Management Plan [AMP] and SCADA Master Plan completed by Dillon Consulting and Eramosa Engineering, respectively, in 2021
- AMP includes a Framework and Prioritization Matrix to select projects based on risk management principles
- Ten Year Capital Budgets completed for seventeen participating communities
- Coordination through AFNWA Engineering Department
- Wagmatcook and We'koqma'q First Nations recently passed a Band Council Resolution to explore membership in AFNWA and participate in the AMP including development of 10 Year Capital and Operating Budgets and SCADA assessment

Asset Management Plan – Participating Communities

- **New Brunswick**

- Elsipogtog
- Esgenoôpetitj
- Kingsclear
- Oromocto [MTSA]
- St. Marys [MTSA]
- Tobique

- **Prince Edward Island**

- Abegweit
- Lennox Island

- **Nova Scotia**

- Acadia [MTSA]
- Eskasoni
- Glooscap [MTSA]
- Membertou [MTSA]
- Millbrook [MTSA]
- Paqtnkek
- Pictou Landing
- Potlotek
- Sipekne'katik
- Wagmatcook in 2022
- We'koqma'q in 2022

Asset Management Framework



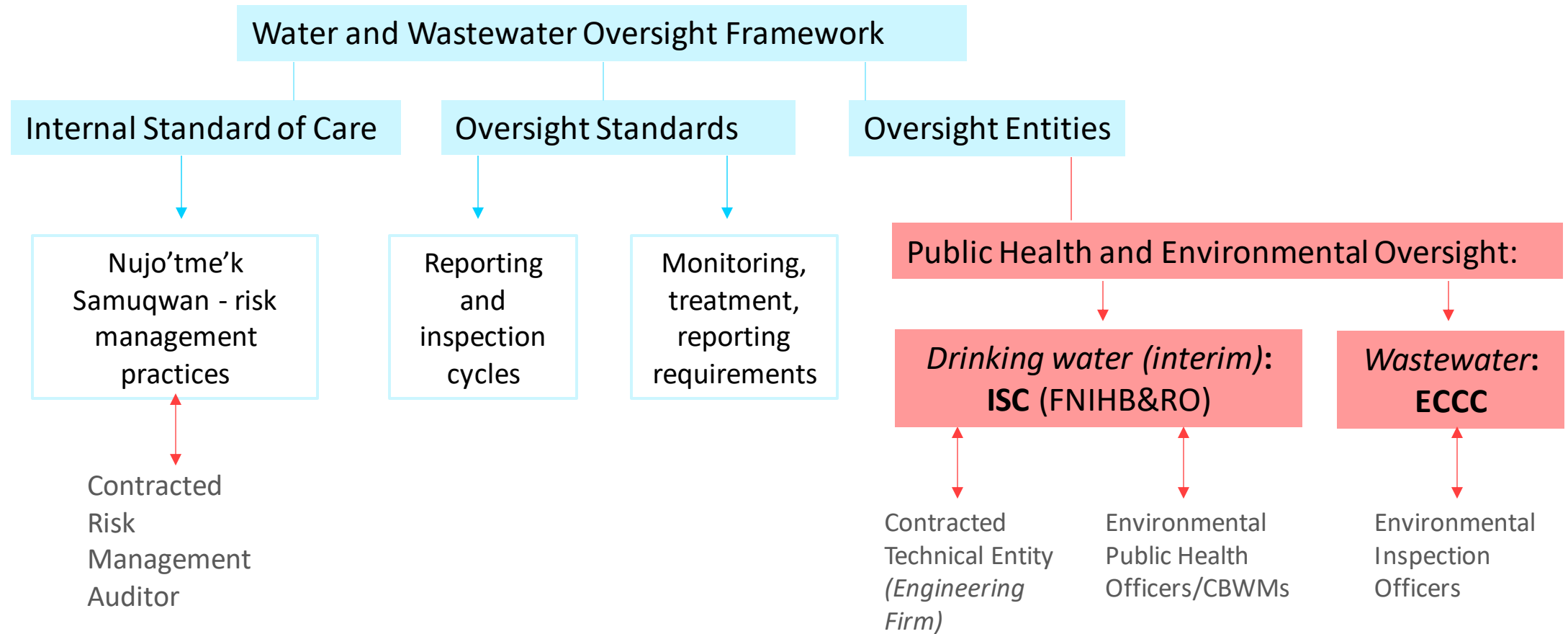
Key Programs - Operations

- Enterprise Risk Management [Framework and Register approved by Board on January 26/22]
- Incorporate a strong Health and Safety culture [Policy approved by Board on January 26, 2022]
- A commitment to regulatory compliance and environmental stewardship [Partnership with Dalhousie CWRS to implement program to comply with regulatory framework objectives]

Key Programs - Operations

- Drinking water to conform to *Guidelines for Canadian Drinking Water Quality*; interim oversight to be established to monitor AFNWA; future oversight anticipated through a revised Safe Drinking Water for First Nations Act [Framework approved on January 26, 2022]
- Wastewater to conform to Wastewater System Effluent Regulations [WSER] with oversight from Environment and Climate Change Canada [ECCC] and effluent discharge objectives tied to Environmental Risk Assessments [ERAs]
- AFNWA proposing to take a proactive approach to quality assurance with the adoption of water and wastewater safety plans [Nujo'tme'k Samuqwan]

Proposed Drinking Water and Wastewater Oversight Framework



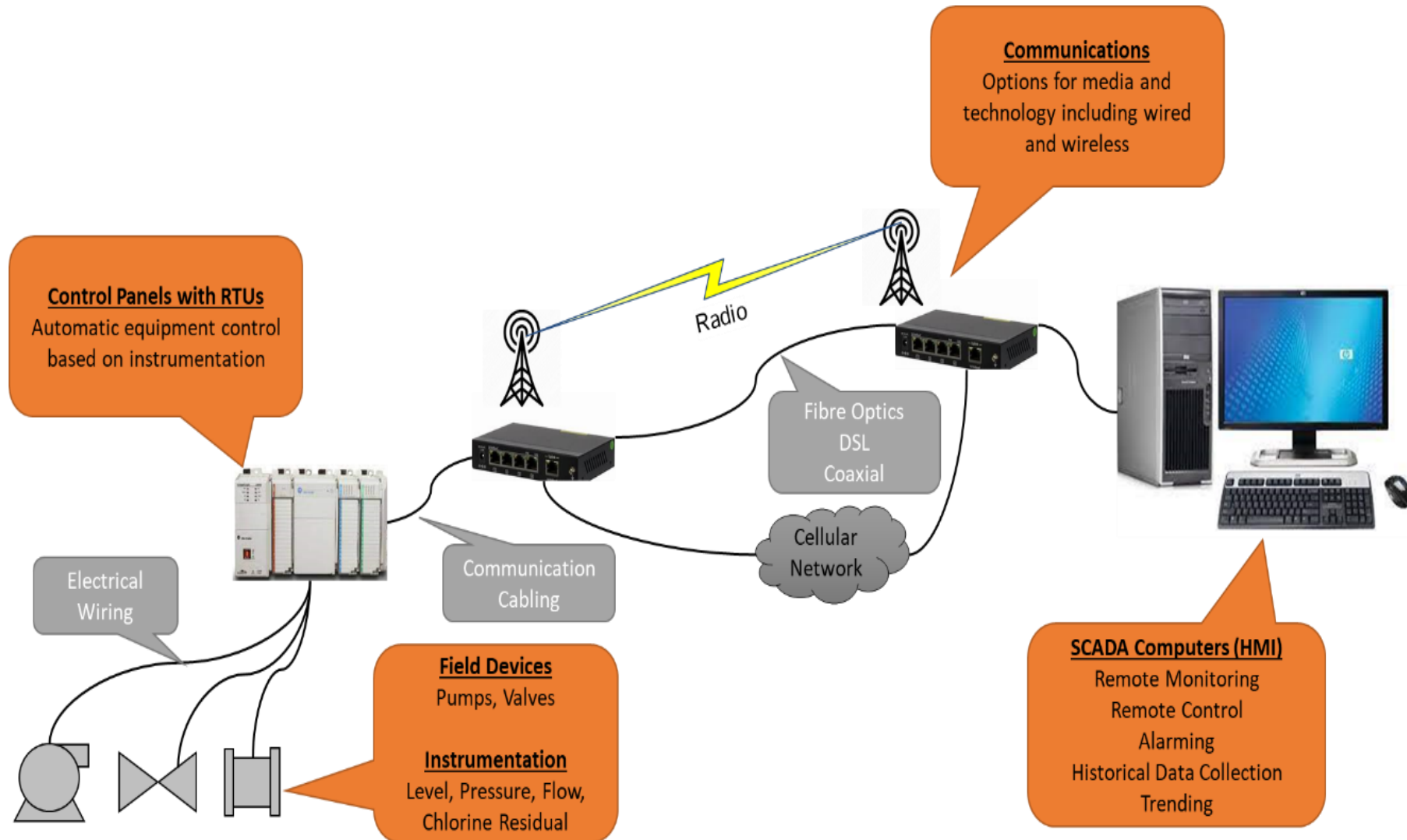
Key Programs – Operations

- A high level of service to communities by fostering relationships and bringing resources close to the communities we serve
- Procurement Policy developed to maximize benefits to the communities we serve [approved by the board on February 10, 2022]
- AFNWA will be looking to partner with Community Public Works for support services [e.g. Excavation, Trucking, Snow Clearing, Gravel, etc.]
- Contractors with indigenous ownership and indigenous employees are favoured through procurement policy

Key Programs - Operations

- Emergency Response Plans
 - Conformance to Incident Command System
 - Unified and consistent approach
 - Partnership with First Nations communities and neighbour municipalities
- SCADA Master Plan Implementation
 - Upgrades over a 5 Year period
 - Total costs of \$13.3 million [2021 dollars]
 - Eramosa hired to develop Standards this year
 - Need Operator involvement [reps from different regions] to develop Standards
 - Training for Operators

SCADA System Components



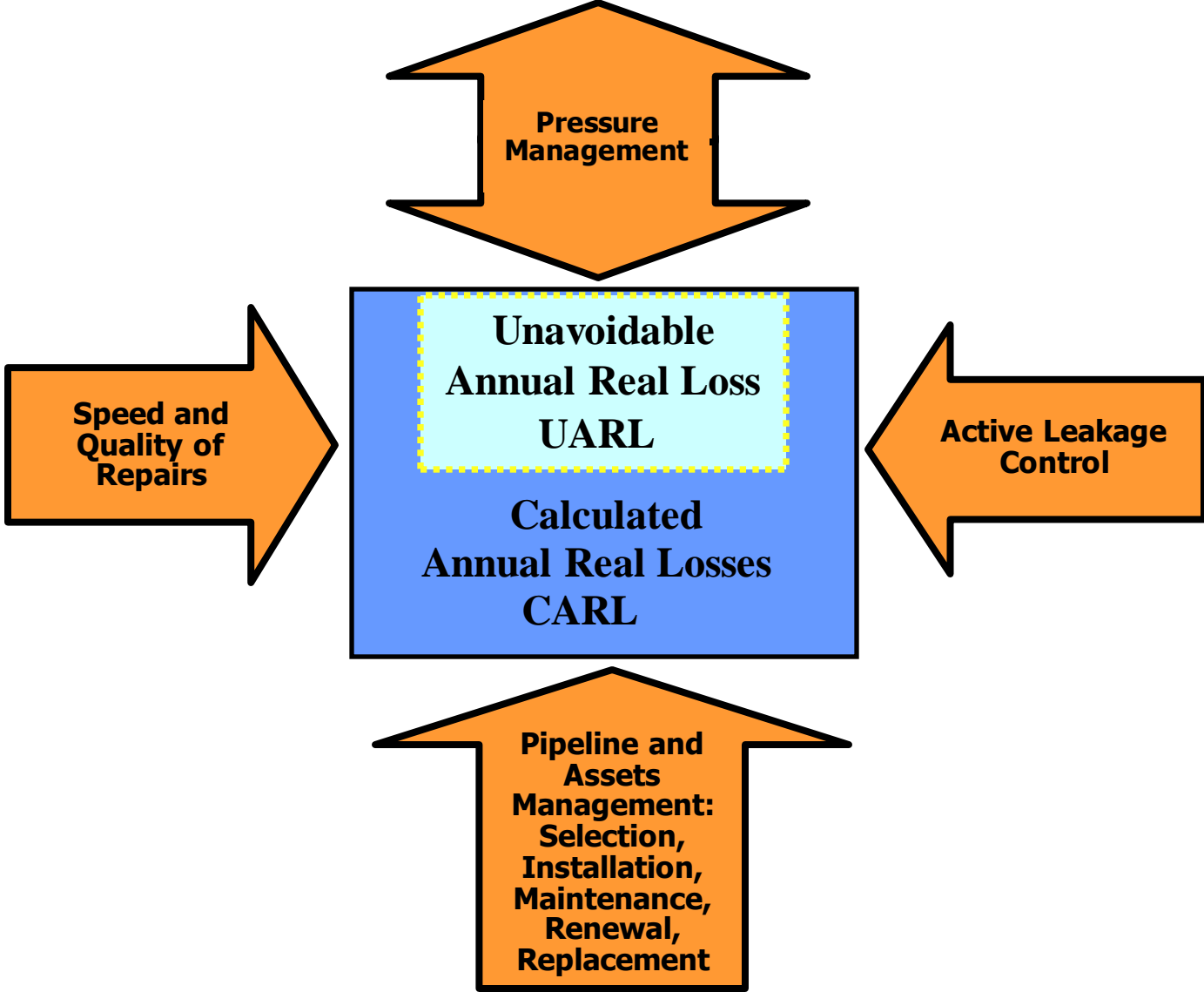
SCADA Standards Workshop

- Eramosa and AFNWA will be hosting a workshop on July 6 and 7, 2022 at Inn on Prince, Truro
- Open invitation to Operators to participate
- Topics include:
 - Remote Terminal Unit Software Standard Review
 - Network Standard Review
 - Human Machine Interface Software Standard Review
 - Remote Terminal Unit Hardware Standard Review
 - Process Control Narrative and Piping & Instrumentation Diagram Review

Key programs - Operations

- Water Loss Control [leakage reduction in water distribution system]
 - Saves money
 - Reduces damage to property
 - Supports public health outcomes
 - Protects the environment
 - Increases supply capacity for growth

Water Loss Control Strategies



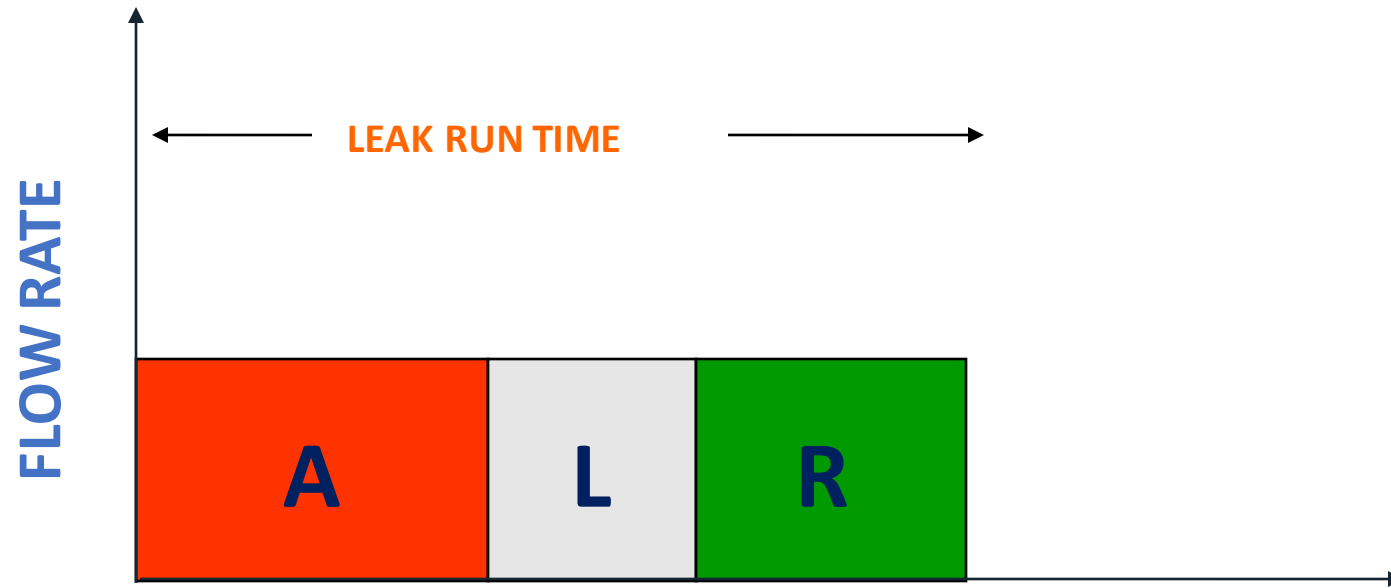
Active Leakage Control



- It is about decreasing leak run time
- Find the leak early, when it is small
- Leverage technology [SCADA and leak detection equipment] and people [train them well]

Leak Run Time Awareness

$$\text{Leak Volume Loss} = (A+L+R) \text{ Time} \times \text{Flow Rate}$$



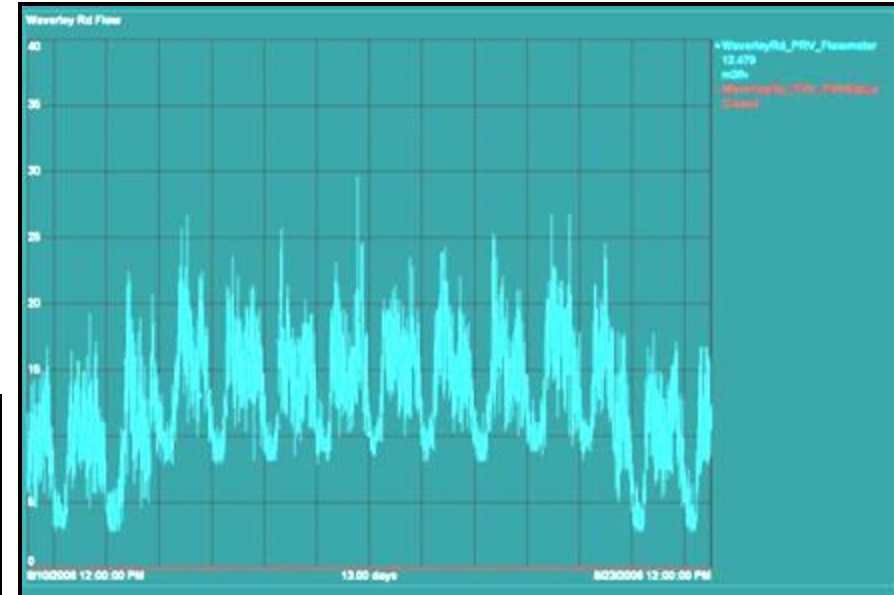
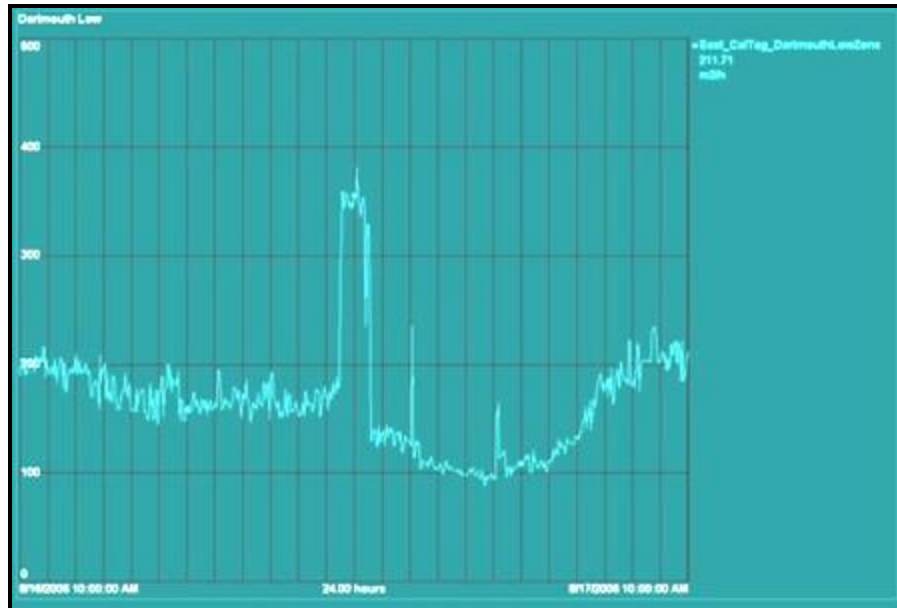
$$\text{RUN TIME} = * \text{Awareness} + \text{Location} + \text{Repair}$$

Actual Leak Sequences – Halifax Water

Aug 12 – Aug 21

Unreported 9 day
runtime 5m³/hr

1080 m³ (237,000 Gal)

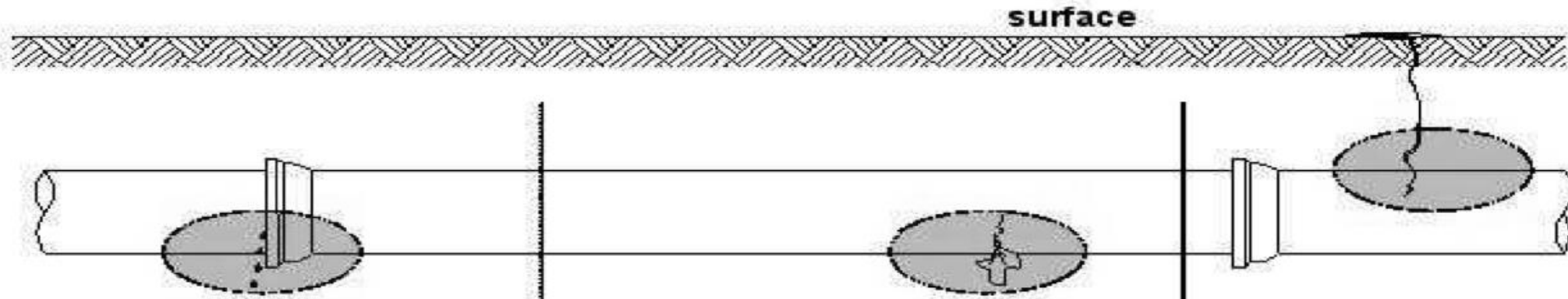


Aug 16 Reported

200m³/hr 1 hour runtime

200 m³ (44,000 Gal)

3 Types of Leakage



Background leakage

Un-reported and un-detectable using traditional acoustic equipment.

Tools

- Pressure reduction
- Main and service replacement
- Reduction in the number of joints and fittings

Un-reported leakage

Often does not surface but is detectable using traditional acoustic equipment.

Tools

- Pressure reduction
- Main and service replacement
- Reduction in the number of joints and fittings
- Proactive leak detection

Reported leakage

Often surfaces and is reported by the public or utility workers

Tools

- Pressure reduction
- Main and service replacement
- Optimized repair time



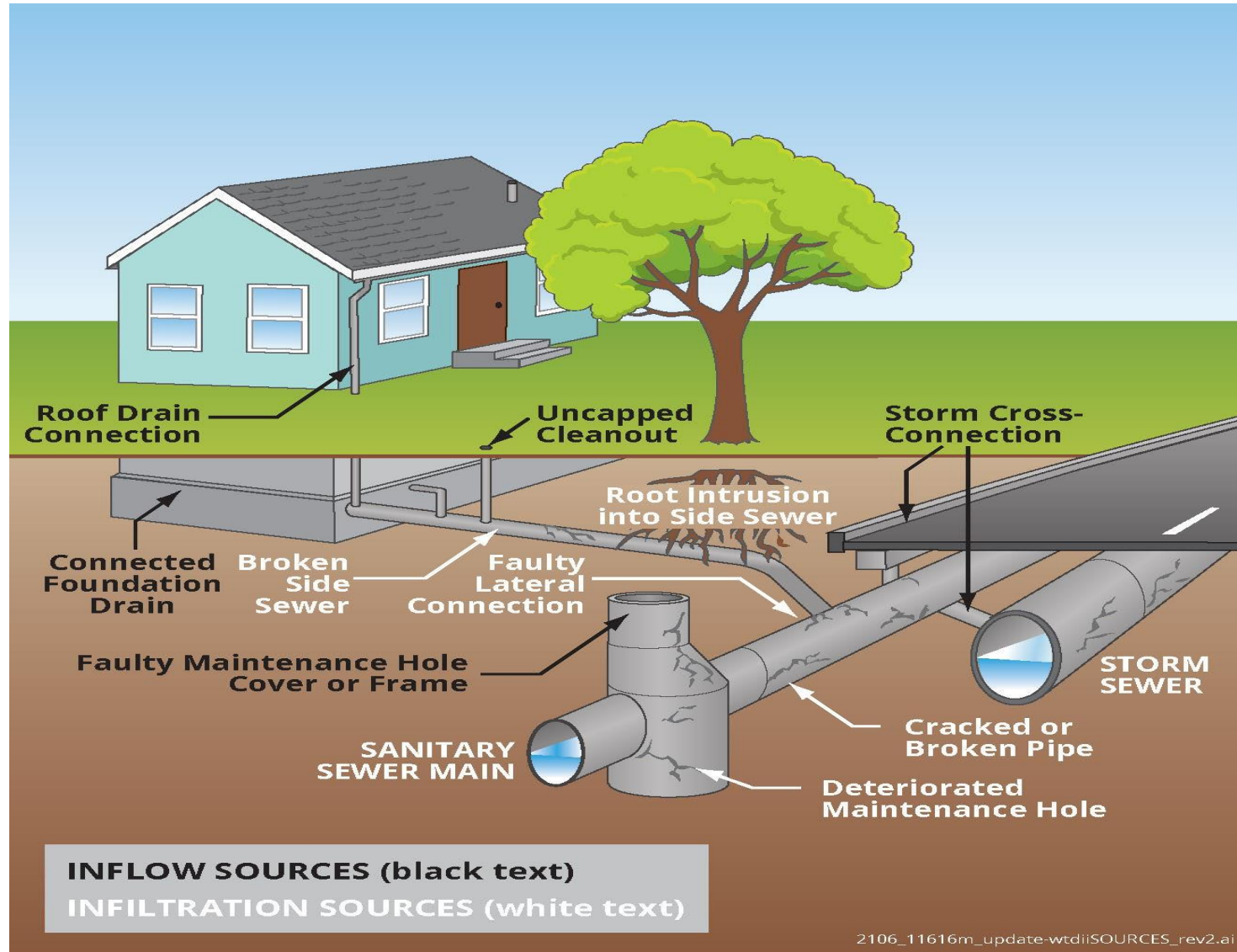
Leak Detection;
more than the gear

Inflow & Infiltration Reduction

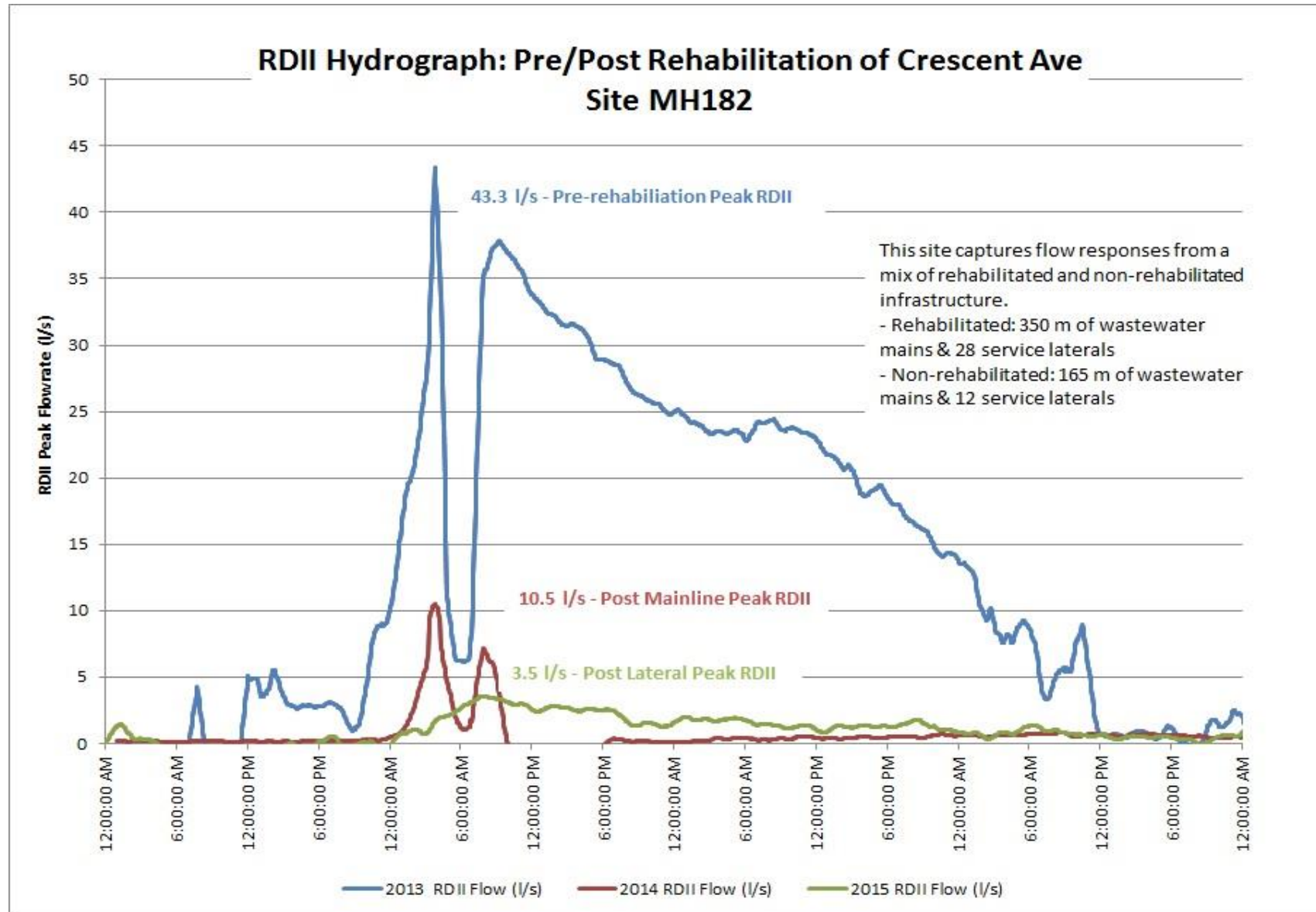
- Inflow and Infiltration Reduction [keep extraneous flow out of wastewater system]
 - Saves money
 - Reduces damage to property
 - Supports public health outcomes
 - Protects the environment
 - Increases capacity for growth



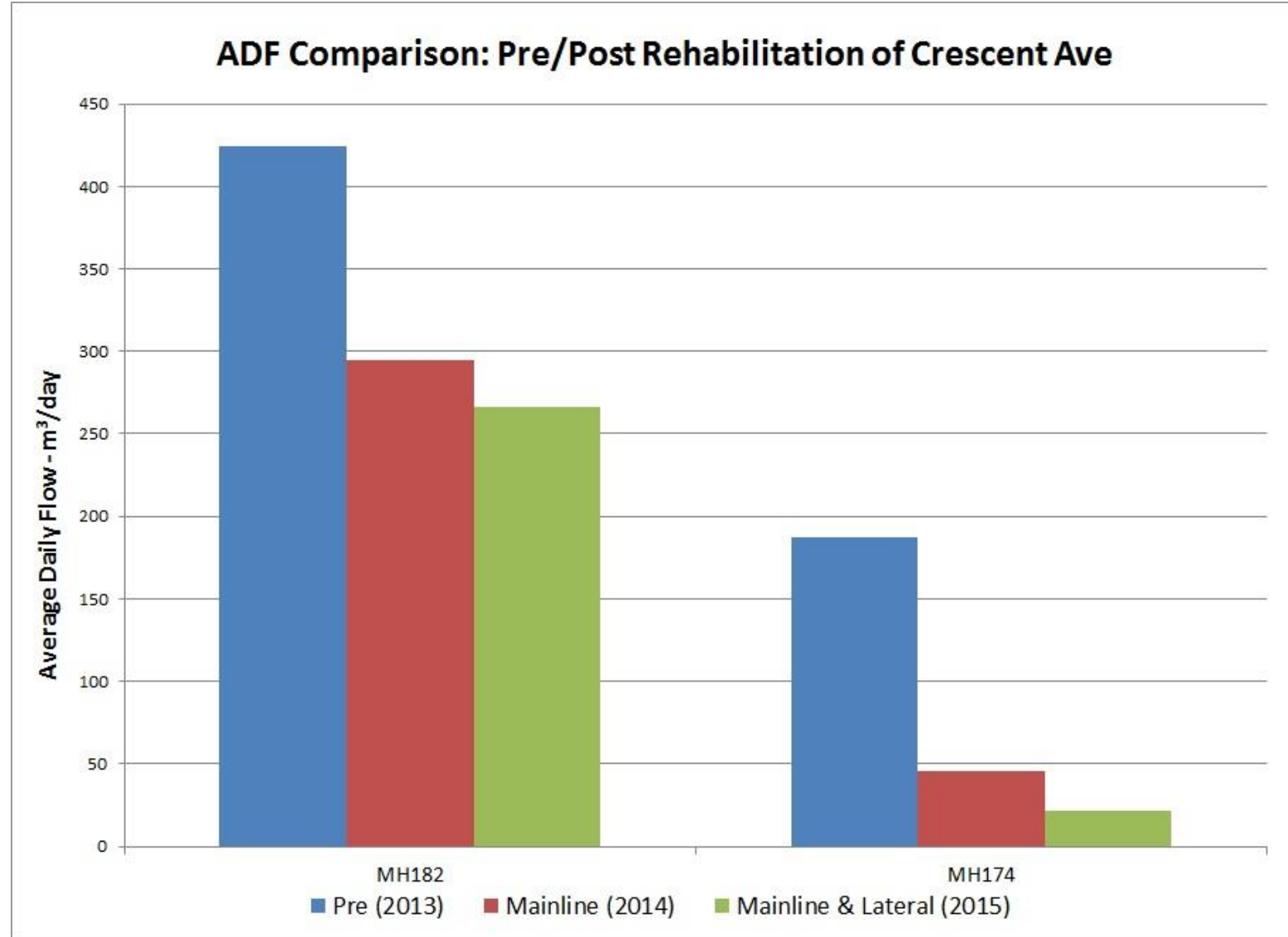
I&I Sources for Reduction



Wet Weather Management



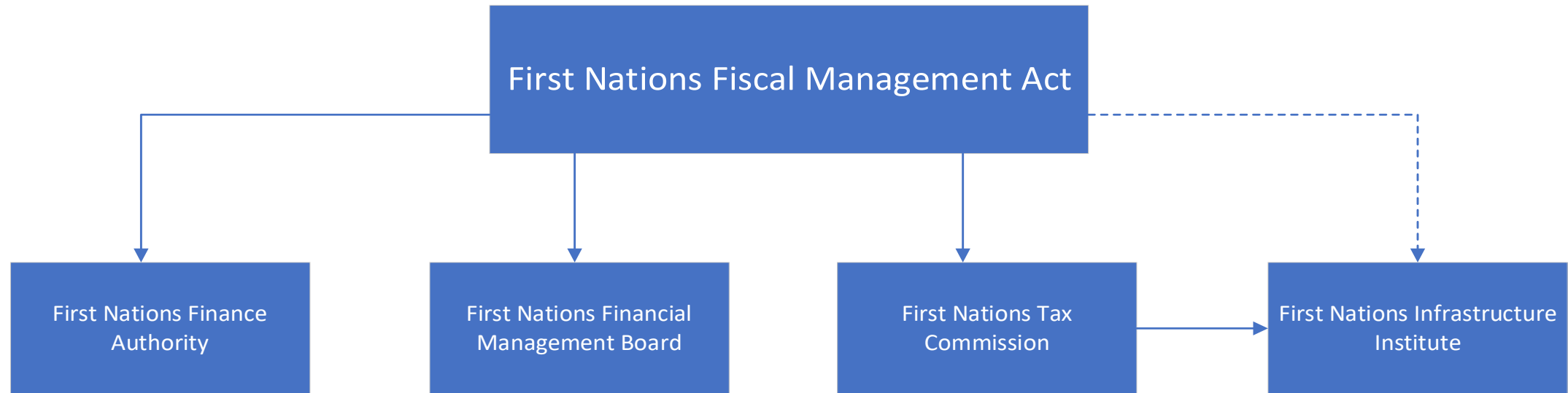
Wet Weather Management



Key Programs – Corporate Services

- In-house capacity for accounting, financial reporting, HR, training and career development, procurement, information technology
- Development of funding approach for budgets
- Relationship with First Nations Financial Management Board to develop framework for economic oversight [MOU approved by Board on January 26, 2022]
- Goal to achieve certification from FNFMB for non-profit organizations to demonstrate financial stewardship and leverage debt servicing through First Nations Finance Authority

Economic Oversight Framework



FNFA is a non-profit corporation that permits qualifying First Nations to work co-operatively in raising long-term private capital at preferred rates through the issuance of bonds, and provides investment services to First Nations.

FNFMB is a shared-governance corporation which assists First Nations in strengthening their local financial management regimes and provides independent certification to support borrowing from First Nations Finance Authority and for First Nations economic development.

FNTC is a shared-governance corporation that regulates and streamlines the approval of property tax and new local revenue laws of participating First Nations, builds administrative capacity through sample laws and accredited training, and reconciles First Nation government and taxpayer interests.

FNII is currently housed under the FNTC, however is vying to be the fourth organization under the FNFMA. FNII strives to provide the skills and processes necessary to ensure First Nations efficiently and effectively plan, procure, own, and manage infrastructure assets on their lands.

Funding Overview - First Nations Water and Wastewater Service

AFNWA Approach:

- Ignored the historical and revised ISC methodologies
- Took a long term view for both capital and operating [ten year budget]
- Capital Budget based on recent work completed by Dillon Consulting, Eramosa Engineering and AFNWA Management review
- Operating Budget compiled from first principles with a zero-based budget approach [supported by information from participating communities, AFNWA Management and best practice review]
- Full funding from the federal government
- No user fees for water and wastewater service

Ten Year Capital Budget

CAPITAL ITEMS	03/31/2023	03/31/2024	03/31/2025	03/31/2026	03/31/2027
CAPITAL PROGRAMS*	1,254,777	2,047,777	1,463,855	2,680,226	2,853,134
CAPITAL PROJECTS <\$20K **	364,357	160,944	178,296	258,346	213,842
CAPITAL PROJECTS - AMP/SCADA **	17,478,242	6,146,255	7,247,470	9,033,780	13,648,973
TOTAL CAPITAL EXPENSES	19,097,376	8,354,976	8,889,620	11,972,352	16,715,948

CAPITAL ITEMS	03/31/2028	03/31/2029	03/31/2030	03/31/2031	03/31/2032	TOTAL
CAPITAL PROGRAMS*	895,104	906,667	868,852	881,691	1,895,217	15,747,299
CAPITAL PROJECTS <\$20K **	463,178	340,286	240,647	232,083	65,676	2,517,654
CAPITAL PROJECTS - AMP/SCADA **	17,638,748	10,904,872	10,262,124	12,699,065	9,981,345	115,040,874
TOTAL CAPITAL EXPENSES	18,997,030	12,151,825	11,371,623	13,812,839	11,942,238	133,305,828

* Capital Programs were identified through an internal Capital budgeting exercise.

** Capital Projects were identified by Dillon Engineering and Eramosa Engineering through their Asset Management Plan and SCADA Review.

Ten Year Operating Budget

OPERATING EXPENSES	03/31/2023	03/31/2024	03/31/2025	03/31/2026	03/31/2027	03/31/2028	03/31/2029	03/31/2030	03/31/2031	03/31/2032	TOTAL
SALARIES & BENEFITS	4,613,641	4,613,641	4,531,236	4,464,940	4,382,536	4,316,239	4,233,835	4,167,539	4,085,134	4,018,838	43,427,579
PROFESSIONAL DEVELOPMENT	306,316	457,765	407,765	246,382	246,382	246,382	246,382	246,382	246,382	246,382	2,896,521
TRAVEL	368,140	368,140	368,140	368,140	368,140	368,140	368,140	368,140	368,140	368,140	3,681,395
CONTRACT SERVICES	4,286,656	4,337,216	4,438,336	4,438,336	4,337,216	4,337,216	4,337,216	4,337,216	4,337,216	4,337,216	43,523,840
UTILITIES & ADMIN SERVICES	1,338,053	1,338,053	1,418,408	1,418,408	1,418,408	1,418,408	1,418,408	1,418,408	1,418,408	1,418,408	14,023,374
PROFESSIONAL SERVICES	589,174	589,174	539,174	539,174	539,174	539,174	539,174	539,174	539,174	539,174	5,491,743
COMMUNITY OUTREACH	115,250	115,250	87,750	87,750	87,750	87,750	87,750	87,750	87,750	87,750	932,500
INFORMATION SERVICES	80,740	75,740	74,925	74,110	73,296	72,481	71,666	70,851	70,036	69,222	733,067
FLEET COSTS	257,000	257,000	257,000	257,000	257,000	257,000	257,000	257,000	257,000	257,000	2,570,000
CHEMICALS	83,500	83,500	83,500	83,500	83,500	83,500	83,500	83,500	83,500	83,500	835,000
OTHER PROFESSIONAL SERVICES	266,340	266,340	411,000	402,394	391,387	379,816	367,654	354,869	341,430	327,303	3,508,534
BOARD COMPENSATION	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	2,250,000
TOTAL OPERATING EXPENSES	12,529,810	12,726,819	12,842,235	12,605,135	12,409,789	12,331,107	12,235,725	12,155,829	12,059,171	11,977,933	123,873,553

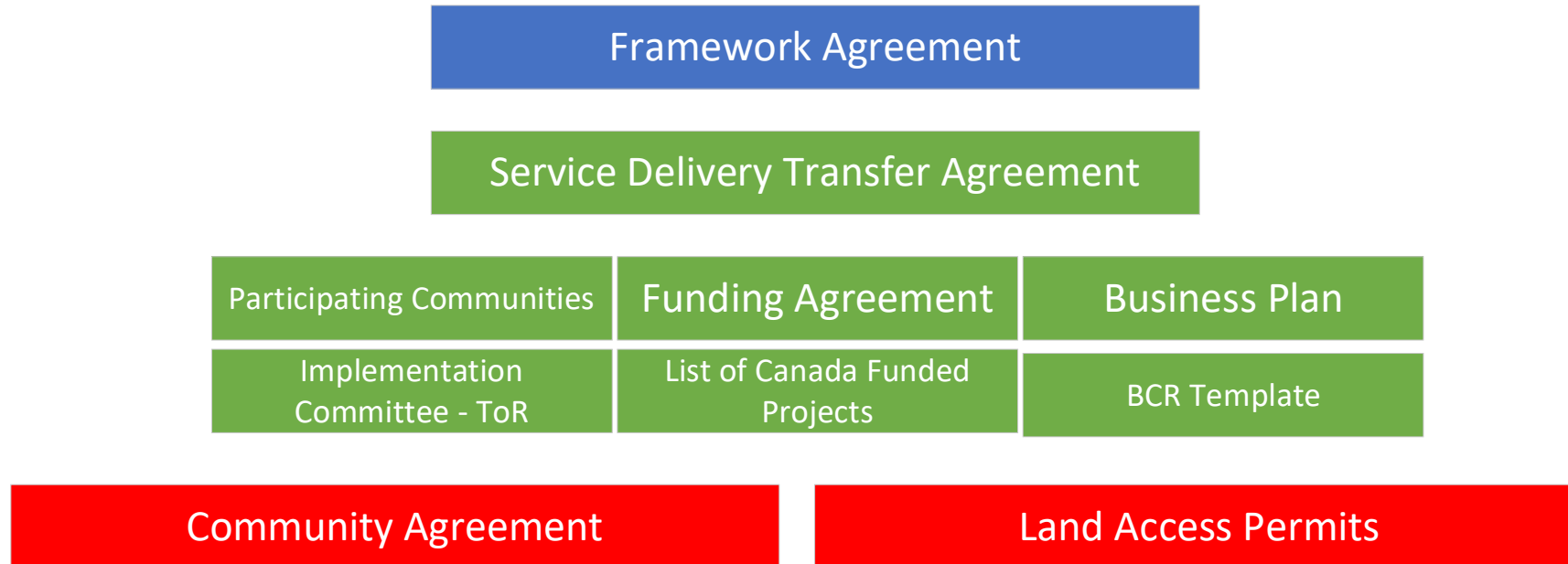
Ten Year Summary Budget

	03/31/2023	03/31/2024	03/31/2025	03/31/2026	03/31/2027	03/31/2028	03/31/2029	03/31/2030	03/31/2031	03/31/2032	TOTAL
TOTAL OPERATING EXPENSES	12,529,810	12,726,819	12,842,235	12,605,135	12,409,789	12,331,107	12,235,725	12,155,829	12,059,171	11,977,933	123,873,553
TOTAL CAPITAL EXPENSES	19,097,376	8,354,976	8,889,620	11,972,352	16,715,948	18,997,030	12,151,825	11,371,623	13,812,839	11,942,238	133,305,828
TOTAL AFNWA BUDGET	31,627,186	21,081,795	21,731,855	24,577,487	29,125,737	31,328,137	24,387,550	23,527,452	25,872,010	23,920,171	257,179,380

AFNWA Agreements

- Service Delivery Transfer Agreement (SDTA)
 - AFNWA and Canada
- Funding Agreement
 - AFNWA and Canada
- Community Agreement
 - AFNWA and Member Communities

Agreement Process



Service Delivery Transfer Agreement [SDTA]

- Transfers responsibility for service delivery from Minister of Indigenous Services to AFNWA
- Federal government commitment to funding for the long term
- SDTA comes into effect after 8 Communities sign a BCR to execute Community Agreement with a specific transfer date
- AFNWA goal to achieve this threshold by December 1, 2022 and keep building from there.

Funding Agreement with ISC

- Commitment to fund the Ten-Year Business Plan (\$257 Million)
- Funding Agreement to be reviewed in Five Years to recalibrate next Ten Year Business Plan
- Commitment to fund beyond Ten Years
- Annual adjustments for inflation [CapEx and OpEx]

First Nations Community Agreement

- AFNWA will sign Community Agreements (CA) with each individual First Nation which will include agreement on:
 - Transfer of Service Responsibility
 - Transfer of Liability
 - Municipal Type Service Agreement (MTSA) designation of responsibility to Water Authority
 - Delineation of responsibilities [including service laterals]
 - Employee Transfer
- A copy of the community agreement has been sent to participating communities for comment on June 10, 2022

Community Onboarding a Phased Approach

- There are four phases:
 - Early Adopters (December 1, 2022)
 - Patient Adopters (April 1, 2023)
 - Late Adopters (2023/2024 Fiscal Year)
 - Future Adopters [with the standard membership protocol]
- In order to complete the transaction, AFNWA will require:
 - Council BCR
 - Inclusive of Land Access Permits and O&M funding redirection
 - Signed Community Agreement

How to join AFNWA as Employee

- Community Operators will be offered employment on the same date as Community transfers system responsibility
- Recruitment for other positions; Procurement Coordinator, Technical Services Utility Tech, Planning and Development Technologist and Supervisors
- Expect some Operators will show interest for Supervisor jobs
- Promote careers with AFNWA for First Nations
 - On the job-training and education support
 - Promote education through scholarships
 - Preference to hire First Nations candidates

Total Compensation

- Salaries and Wages
 - Base Pay tied to National Public Sector Market using Korn Ferry methodology
 - Market survey every three years
 - Annual adjustments in between survey years based on Canadian CPI [3.4% for 2021]
 - Eligible employees receive overtime pay at 1.5 times base pay and double time on holidays [cash or banked time]
- Pensions and Benefits
 - Defined Contribution Pension Plan [50/50 Cost sharing]
 - Contributions at 5.6% of Salary up to CRA Yearly Maximum Pensionable Earnings [YMPE]
 - Contributions at 7.6% above YMPE [currently \$64,900]
 - All employees participate in Canadian Pension Plan
 - Medical and Dental Plans tailored to employee needs [50/50 Cost sharing]

Total Compensation

- Vacation
 - 3 weeks to start and up to 6 weeks after 20 years of service
 - Existing Operators community service recognized for vacation
 - Coverage for Operators when they go on vacation
- Sick Benefits
 - Accumulated at 1 and ¼ days per month [15 days per year]
 - Sick Leave accruals up to 90 working days
 - Coverage for Operators when they call in sick
- Career Development Support
 - Courses tailored to job
 - Support for continuing education

AFNWA Scholarships / Bursaries

Nujo'tmu'k Samuqwan Bursary *[Taking Responsibility for Our Water]*

- \$4,000-\$8,000* (full-time, renewable)
- Spring 2021 rollout
- Indigenous recipient(s) selected by NSCC Foundation from industry-related programs

The logo for NSCC, consisting of the lowercase letters 'n', 's', 'c', and 'c' in a bold, blue, sans-serif font.

Danny Lanteigne Memorial Scholarship

- \$4,000-\$8,000* (full-time, renewable)
- Spring 2021 rollout
- Indigenous recipient(s) selected by NBCC Foundation from industry-related programs

The logo for NBCC, featuring a stylized graphic of a blue and yellow wave or leaf shape to the left of the uppercase letters 'NBCC' in a bold, blue, sans-serif font.

Operator Salaries-Skill Based Pay

- The salary range for an Operator is \$46,247 to \$57,808 depending on level of certification. There are eight steps in the range starting at Operator in Training with increments after each subsequent certification
- The maximum salary is \$57,808 for an Operator with Level 2 certification in all four categories

Supervisor/Lead Operator

- There will be a Supervisor/Lead Operator assigned to each Service Area
- The Operations Supervisor salary will range from \$51,565 to \$64,455
- There are eight steps in the range with a maximum pay of \$64,455 when Level 2 certification is obtained in all four categories
- Supervisor will be assigned company vehicle for response in service area [mobile office]

Vacation Benefits

- Three weeks up to Ten years of service
- Four weeks after Ten years of service
- Five weeks after Fifteen years of service
- Six weeks after Twenty Years of service
- Current service with First Nation Community will be used for calculation of vacation as an employee of AFNWA

Medical/Personal Leave Benefits

- Paid medical leave credits for employees at the rate of 1-1/4 days per month for each month employed up to a maximum of 15 days per fiscal year
- Medical leave credits can be carried over from year to year to a maximum of 90 working days
- An employee is entitled to a maximum of five days of paid leave per year for personal reasons
- AFNWA will participate in Provincial Workers Compensation Programs
- There are many other Leave Benefits under the HR Policy [Maternity/Paternity, Bereavement, Education, etc.] – Please refer to the Policy for specific benefits

Training and Career Development

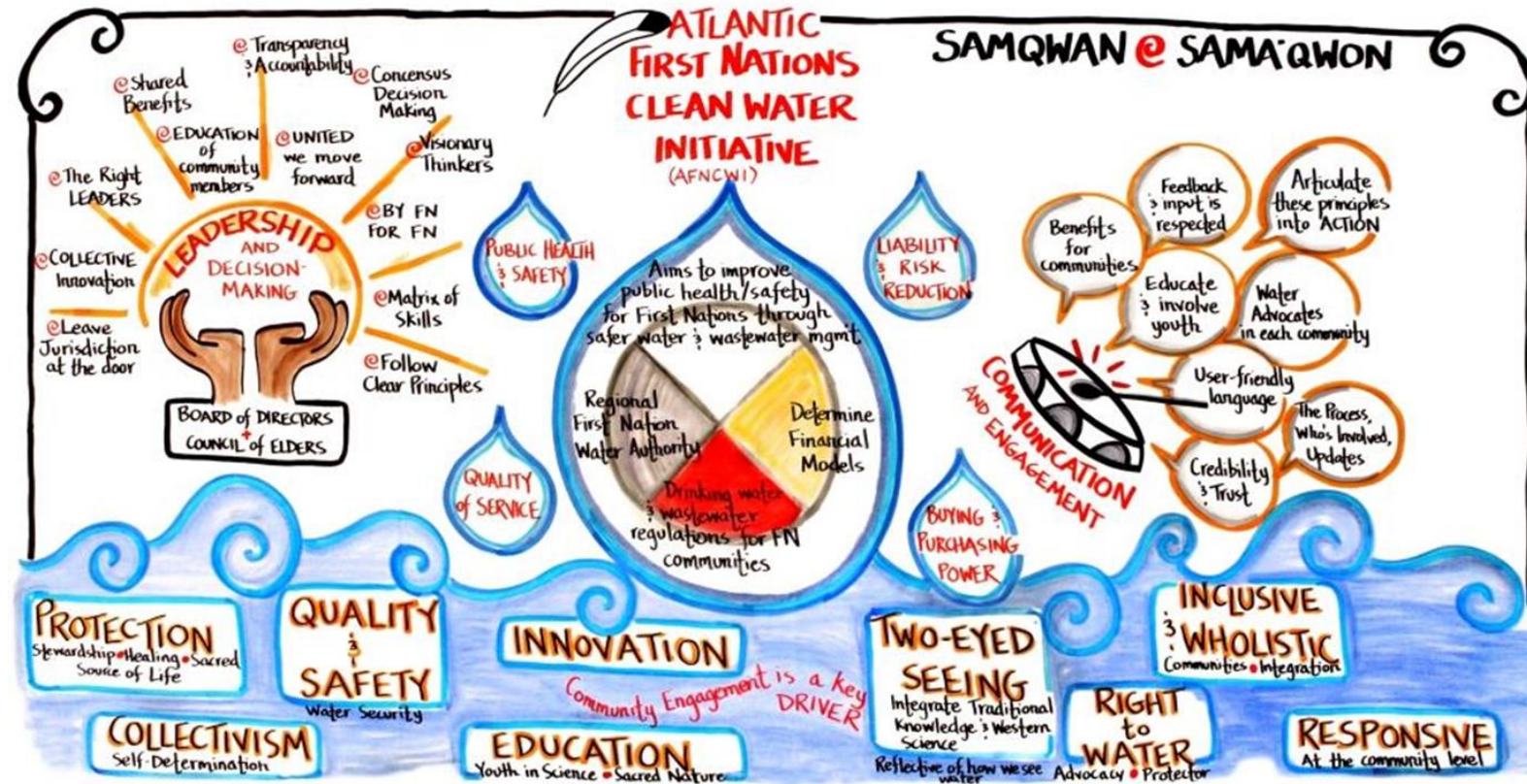
- With Covid travel restrictions being lifted, more opportunities for in person training through ACWWA, MPWWA
- On-line courses are still an option
- AFNWA will also coordinate training session based on need
- AFNWA will pay for courses, study guides, tutoring, etc. to obtain Operator certification or other work-related courses
- We will adopt a formal training and development program for all AFNWA staff.

Critical Path Next Steps

- June 2022:** Submission to Treasury Board
- July 30, 2022:** Finalization of Community Agreement
- Spring/Fall 2022:** Dedicated Outreach to Community Chiefs and Councils to present Business Plan, and Community Agreement to ensure an informed decision to transfer water and wastewater system responsibility and become a member of AFNWA
- Dec. 1, 2022:** Begin Operations in Early Adopter Member Communities

Based on Best Practices and Sound Evidence

The Water Authority Represents a Sustainable Path for Generations



Wela'lin!



Woliwon!

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