What is the Purpose of the Joint Water Master Plan

- Identify impact due to population and ICI growth in both City of Abbotsford and District of Mission
- Integrate a new source option into the Masterplan
- Long-term capital program with costs, timing and upgrade priority

Regional Water Supply Links with Each OCP

MAKE IT YOUR MISSION

- Green Infrastructure
- Strategic densification
- Plan to 200,000
- Conserve + Meters
- Commercial Intensification
- Rural Enhancements
- Low Impact Development
- AgRefresh
- Evolve Urban Areas
- 1.5% to 2.0% Growth in All Demands
Key Issues and Opportunities

- New Source for Supply Resiliency
- Enhance Security at Major Assets
- Prepare for Evolving Regulations (i.e., WSA)
- Optimize Water Supply, Demands, and Water Quality
- Prepare for Major Vulnerabilities
- Enhance Maintenance for Better Life Cycle Results

New Source for Growth and Supply Resiliency:

- Collector Well from the Water Source/Supply Study
- Phased/Incrementable, Affordable/Sustainable, Resilient, Flexible, Grantable Approach

**RECOMMENDATION:**

- Proceed with investigations for new source development.
- Budget:
  - $59M (2020-2023)
  - $17M (2041)
Enhance Security at Major Assets

- **Watersheds**: enhance governance e.g. shared use, access control
- **Aquifer**: enhance governance e.g. land use and activities
- **Structures**: prevent unauthorized access

**RECOMMENDATION:**
- Establish joint-use agreements, protection plans, control access points and consider acquisition in select areas
- **Budget**
  - Studies: $250K
  - Security Systems Upgrades: $200K (TBD)

Prepare for Evolving Regulations

- **Water Sustainability Act**
- **BC Drinking Water Protection Act and Regulation**
- **Guidelines for Canadian Drinking Water Quality**

**RECOMMENDATIONS:**
- **Filtration of Cannell Lake**: Plan to preserve “avoidance” classification
- **Groundwater Licensing**: note: applications underway
- **Groundwater at Risk of Containing Pathogens**: monitor and complete GARP screening
- **Manganese**: prepare for new guidelines and adapt as needed
- **pH**: continue to monitor for water quality and corrosion risks;
- **Budget**
  - Studies: $500K
  - pH Upgrade: $15M (if deemed necessary)
Optimization

- Update water conservation program [blueprint]
- Adding Zone 4 Reservoir for reliable supply conditions to Mission
- Review operations of Best Ave. Pump Station
- Optimize Dickson Lake storage e.g. fish and climate

![Graph showing actual vs projected water needs]

**RECOMMENDATION:**
- Proceed with Zone 4 Reservoir, upgrade Dickson Lake Storage and Best Ave. Booster Station.
  - Zone 4 Reservoir: $15M
  - Dickson Lake Expansion: $10M
  - Best Ave Booster Station: $2.0M
- Updated water conservation [blueprint] and increase annual conservation budget: $250K/year

Vulnerability

- System may be compromised when Norrish Creek unavailable (water quality or pipeline)
- Majority of supply is located on opposite side of Fraser River from demand
- Adapt to drought with more supply

**RECOMMENDATIONS:**
- Add Collector Well on South Side of Fraser River
- Update Seismic Vulnerability Assessment and update design guidelines. – $250K
- Upgrade costs for seismic $5.0M (if deemed necessary)
- Review fuel storage requirements
- Update SCADA communications in remote areas – $250K (TBD)
- Update Emergency Response Plans – $100K
Preventative Maintenance and Asset Management

- Maintain financial resources
- Prioritize renewal based on risk, need and knowledge
- Create performance review templates
- Consider long-term investment policy

RECOMMENDATION:

- Adopt new evaluation policy for inspecting and responding to asset deterioration including repairs, renewal and funding – $250K study.
- Annual average investment level of $2M- $2.5M
Proposed Annual Capital Expenditures

Key highlights:

- Long term affordable plan
- Similar expenditure levels as previous plan
- AMWSC major projects are expected to be funded 2/3 by grants
- Future master plans (every 5 years) to review and update

Funding Sources:

- **Grants**
- **Community Works Fund**
- **DCC**
- **Reserves**
- **Debt**

*Only if required*