



Date: Wednesday, June 24, 2020

Location: Microsoft Teams

Participants: Alan Revill, Township of South Frontenac, Chair
Al Barton, Township of Front of Yonge
Leigh Burse, City of Brockville
Simon Chapelle, City of Kingston
Rhonda Ferguson, Township Athens
Al Hanes, Township of Elizabethtown-Kitley
Garry Hewett, City of Brockville
Paul McAuley, Loyalist Township
Gordon Ohlke, Township of Leeds and the Thousand Islands
Gary Oosterhof, City of Kingston
Lisa Osanic, City of Kingston
Terry Richardson, Town of Greater Napanee
Claire Smith, Township of Rideau Lakes
Ross Sutherland, Township of South Frontenac, Vice Chair

Non-Participants: Matt Harper, Town of Gananoque
Jim Neill, City of Kingston
Nathan Townend, Loyalist Township

Staff Participants: Katrina Furlanetto, General Manager
Tom Beaubiah, Manager, Watershed Planning & Engineering
Donna Campbell, Assistant, Chair & General Manager
Dianne Doyle, Coordinator, Little Cataraqui Creek
Krista Fazackerley, Supervisor, Communication & Education
Steve Knapton, Supervisor,
Andrew Schmidt, Supervisor, Development Review

Delegations: David Green, P.Eng., Assistant Manager, Water Resources Engineering, D.M. Wills Associates Limited

Guests: Karen Ross, Water Resources Administrative Assistant, D.M. Wills Associates Limited

In response to recommendations by the Province of Ontario and public health officials for mitigating and responding to the Coronavirus pandemic (COVID-19) meetings are not held in-person, therefore, this Full Authority Board Meeting was convened via Microsoft Teams.

The meeting commenced at 6:45 p.m.

1. Roll Call

There were fourteen (14) members who participated in the Microsoft Teams meeting.

2. Adoption of Agenda

Moved By: Garry Hewett
Seconded By: Paul McAuley

That the agenda Be Adopted.

Carried

3. Declaration of Conflict of Interest

There was none.

4. Delegation / Presentation

4.1 David Green, P.Eng., Assistant Manager, Water Resources Engineering, D.M. Wills Associates Limited

- Presentation – Cataraqui Region Risk Assessment and Hazards Mapping Strategy ([Attachment #1](#))

Resolution: **061-20**
Moved By: Gordon Ohlke
Seconded By: Simon Chapelle

THAT the presentation by David Green, P.Eng., Assistant Manager, Water Resources Engineering, D.M. Wills Associates Limited, on Cataraqui Region Risk Assessment and Hazards Mapping Strategy, **Be Received.**

Carried

David Green and Karen Ross left the meeting at this point.

5. Approval of Previous Minutes

5.1 Minutes of the Cataraqui Conservation Full Authority Board Meeting of May 27, 2020

Moved By: Terry Richardson
Seconded By: Ross Sutherland

That the minutes of the May 27, 2020 Cataraqui Conservation Full Authority Board meeting, **Be Approved.**

Carried

6. Business Arising

There was none.

7. Items for Consideration

7.1 Cataraqui Floodplain Mapping Strategy (PR 00037) (report IR-056-20)

Resolution: **062-20**
Moved By: Claire Smith
Seconded By: Al Hanes

THAT Report IR-056-20, Cataraqui Floodplain Mapping Strategy (PR 00037), **Be Received**; and,

THAT staff **Be Authorized** to refer to the recommendations in the Cataraqui Region Risk Assessment and Hazard Mapping Strategy prepared by D.M. Wills Associates Limited dated June 2020 for capital project forecasting.

Carried

7.2 Lemoine Point Conservation Area – Shoreline Erosion Study (PR 00079) (report IR-058-20)

Resolution: **063-20**
Moved By: Lisa Osanic
Seconded By: Al Barton

That Report IR-058-20, Lemoine Point Conservation Area – Shoreline Erosion Study (PR 00079) **Be Received**; and

That staff **Be Authorized** to refer to the recommendations in the Lemoine Point Conservation Area - Shoreline Erosion Study prepared by Riggs Engineering dated June 9, 2020 for capital project forecasting.

Carried

7.3 Operating Variance Report to May 31, 2020 (report IR-059-20)

Resolution: **064-20**
Moved By: Leigh Bursey
Seconded By: Rhonda Ferguson

That Report IR-059-20, Operating Variance Report to May 31, 2020, **Be Received.**

Carried

7.4 Capital Variance Report to May 31, 2020 (report IR-060-20)

Resolution: **065-20**
Moved By: Gary Oosterhof
Seconded By: Paul McAuley

That Report IR-060-20, Capital Variance Report to May 31, 2020, **Be Received;** and,

That completed capital projects, as outlined in Attachment #1: Capital Variance Report to May 31, 2020, **Be Closed;** and,

THAT recommended reserve transfers **Be Completed** as outlined in Attachment #1 to this report.

Carried

8. Minutes

8.1 Minutes of Friends of Cataraqui Trail

Resolution: **066-20**
Moved By: Ross Sutherland
Seconded By: Garry Hewett

That the Friends of Cataraqui Trail minutes of April 23, 2020, **Be Received.**

Carried

9. Committee Reports

9.1 Report from Budget Review Committee Meeting of June 12, 2020 (IR-061-20)

- Presentation – Katrina Furlanetto, General Manager ([Attachment #2](#))

Resolution: **067-20**
Moved By: Rhonda Ferguson
Seconded By: Claire Smith

That report IR-061-20, Report from the Budget Review Committee Meeting of June 12, 2020, **Be Approved.**

Carried

10. Announcements or Inquiries / Information

10.1 Report on Communications (IR-062-20)

Resolution: **068-20**
Moved By: Al Hanes
Seconded By: Gordon Ohlke

That report IR-062-20, Report on Communications, **Be Received.**

Carried

11. Motions / Notice of Motion

There were none.

12. In Camera Session

Resolution: **069-20**
Moved By: Al Barton
Seconded By: Terry Richardson

That the Cataraqui Conservation Full Authority Board move **In Camera**.

Carried

12.1 Confidential Report - Full Authority Confidential In-Camera Minutes of May 27, 2020 (report IR-063-20)

12.2 Confidential Report – Personnel Committee of June 17, 2020 (report IR-064-20)

Resolution: **070-20**
Moved By: Leigh Bursey
Seconded By: Simon Chapelle

That the Cataraqui Conservation Full Authority Board move out of **In Camera** and report.

Carried

13. Return to Open Session

Resolution: **071-20**
Moved By: Lisa Osanic
Seconded By: Gary Oosterhof

That the Cataraqui Conservation Full Authority Board **Authorize** staff to pursue items of action as discussed at the **In Camera** session on June 24, 2020.

Carried

14. Adjournment

The meeting adjourned at 7:48 p.m. on a motion by Paul McAuley, seconded by Claire Smith.

Cataraqui Region Conservation Authority

Katrina Furlanetto, M.Env.Sc.
General Manager

Alan Revill, Chair



Cataraqui Region Risk Assessment and Hazards Mapping Strategy

CRCA Board of Directors Presentation
June 24, 2020

David Green, P.Eng.
Assistant Manager, Water Resources Engineering
D.M. Wills Associates Limited



Presentation Overview

- Introduction
- Background/Purpose
- Study Approach/Process
- Reach Delineation
- Risk Assessment
- Hazard Mapping Strategy
- Recommendations
- Summary/Closing




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Background/Purpose

- Background
 - The CRCA is mandated to mitigate the impacts of natural hazards, regulate development within hazardous lands and conduct flood forecasting and warning services.
 - These activities require accurate flood hazard mapping; however, the availability, age and quality of existing floodplain mapping ranges across the Cataraqui Region.
 - As flood emergencies become more common due to the changing climate, it is increasingly important to understand the potential extent of flood hazards.
 - The development/update of new/existing flood hazard maps is required.

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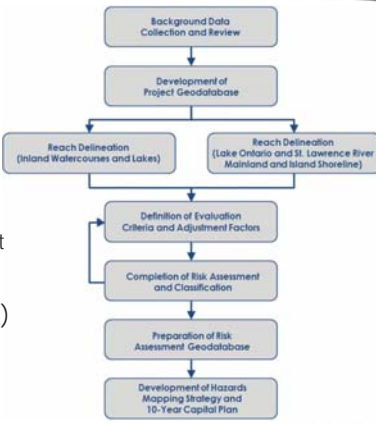
Background/Purpose

- Background Continued
 - Due to budget and time constraints, a risk-based approach is required in order to prioritize the funding of flood hazard mapping projects within the Cataraqui Region.
- Project Purpose
 - Develop a risk-based flood hazard mapping strategy that prioritizes critical areas in order to direct funding to projects that would have the largest impact on risk mitigation / reduction.
 - The study process should be defensible and repeatable and should limit subjectivity to the greatest extent possible.

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Study Approach/Process

- General Approach
 - Use GIS data and tools to drive the analysis and decision making process.
 - Follow established guidelines for risk assessment (NDMP) and adjust as required to meet the needs of the CRCA.
- Study Process (adjacent)



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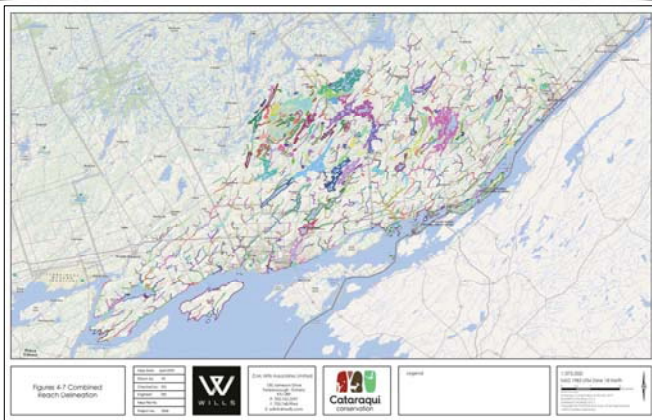
Reach Delineation

- Reach Delineation Summary

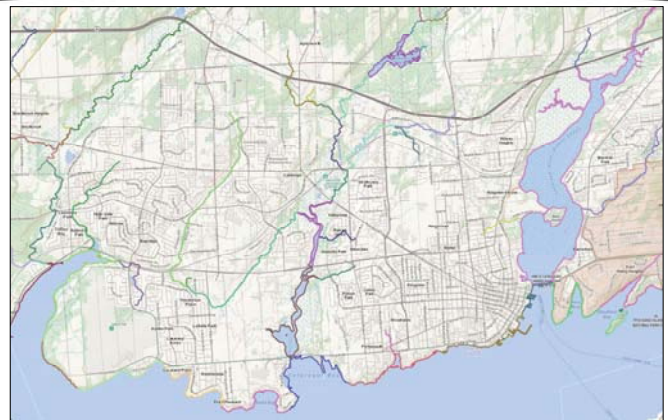
Reach Category	Delineation Criteria	Number of reaches
Inland Watercourse	ArcHydro catchment Area greater than 125 ha	1051
Inland Waterbody	Land Information Ontario waterbodies greater than 100,000 m ²	185
Shoreline Mainland	Shoreline of Lake Ontario and the St. Lawrence River as classified by the Anthony 1993 study ¹	85
Shoreline Island	Shorelines of Lake Ontario and St. Lawrence River Islands	520
Total Reaches	-	1841

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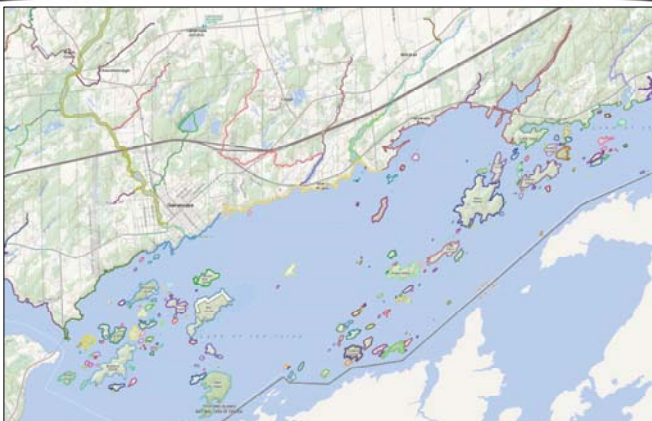
Reach Delineation



Reach Delineation



Reach Delineation



Risk Assessment



- Risk Assessment Definition
 - A systematic process of evaluating the potential risks associated with a projected activity or undertaking.
- Determination of Risk
 - Combination of incident likelihood and consequences.

Risk Rating and Risk Level	Incident Consequences				
	Insignificant 1	Minor 2	Major 3	Critical 4	Catastrophic 5
Very Frequent 5	Medium (5)	Medium (10)	High (15)	High (20)	High (25)
Frequent 4	Low (4)	Medium (8)	High (12)	High (16)	High (20)
Occasional 3	Low (3)	Medium (6)	Medium (9)	High (12)	High (15)
Possible 2	Low (2)	Low (4)	Medium (6)	Medium (8)	Medium (10)
Remote 1	Low (1)	Low (2)	Low (3)	Low (4)	Medium (5)

Risk Assessment



- Natural Hazard Risk Assessment Components
 - Evaluation Criteria
 - Based on the NDMP RAIT.
 - Adjustment Factors
 - Developed by Wills with input from CRCA staff.
 - GIS Background Data Layers
 - Provided by CRCA or publically available.
 - Used to assess the criteria and adjustment factors.
 - GIS Models
 - Developed by Wills to complete the risk assessment and adjustment calculations.

Risk Assessment



- Evaluation Criteria
 - Based on NDMP RAIT.
 - Incident Likelihood Rating based on event return period.
 - Incident Consequence Rating separated in to five (5) main categories, each with different impact classes.
 - People and Societal Impacts.
 - Environmental Impacts.
 - Local Economic Impacts.
 - Local Infrastructure Impacts.
 - Public Sensivity Impacts.
 - Assessed based on available data.

Evaluation Criteria – Example

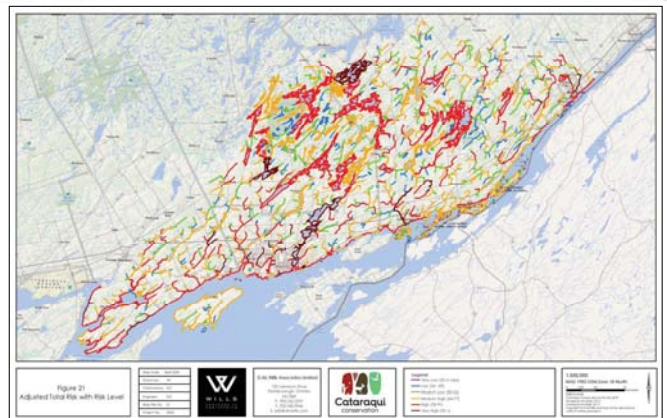
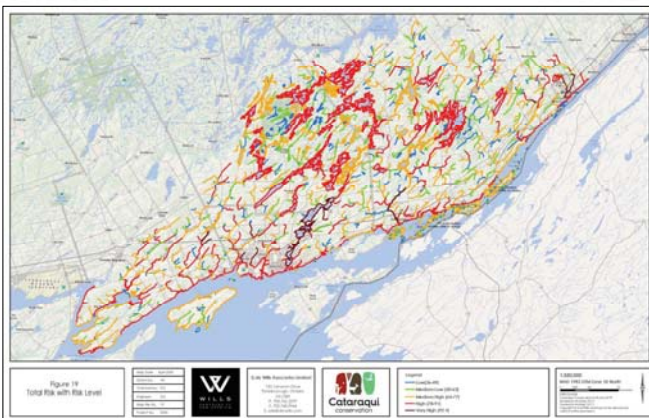
Classification	People and Societal	
Impact Class	Fatalities	
Field Name	PSFatalities_CR	
Definitions	Fatalities = Local population * 0.000006	
Statements	ICR Value	Description
Fatalities greater than 50	5	Could result in more than 50 fatalities.
Fatalities between 10 and 49	4	Could result in 10 to 49 fatalities.
Fatalities between 5 and 9	3	Could result in 5 to 9 fatalities.
Fatalities between 1 and 4	2	Could result in 1 to 4 fatalities.
Fatalities less than 1	1	Not likely to result in fatalities.

- Description and Purpose of Adjustment Factors
 - Factors that may influence risk but are not directly related to incident likelihood or consequence (i.e. NDMP RAIT criteria).
 - Goal is to refine the characterization of risk for each reach.
- Adjustment Factors Used
 - Flood Forecasting and Warning.
 - Impacts of the Change in Climate.
 - Exacerbation of Flood Consequences due to Development.
 - Availability, Age and Quality of Existing Floodplain Mapping.
 - Potential for Ice Jamming (Inland Watercourse).
 - Water Levels Regulated by a Dam (Inland Waterbodies).
 - Degree of Exposure to Lake Ontario (Shorelines).

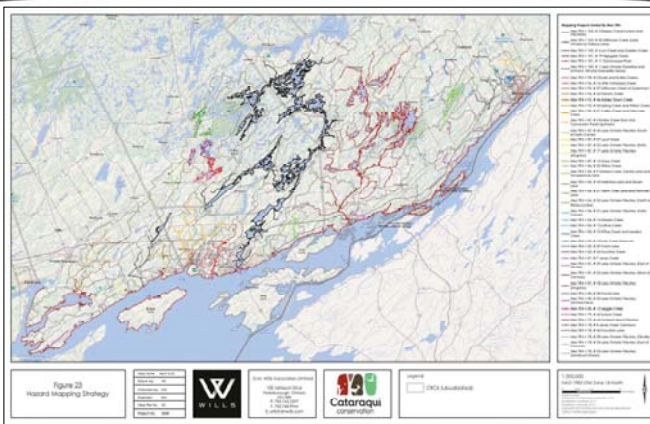
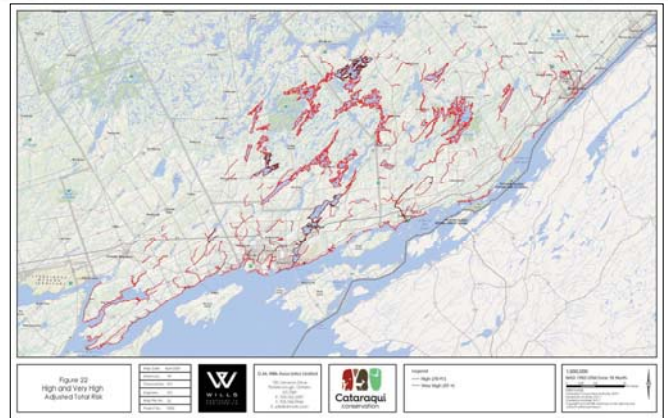
Adjustment Factor – Example

Category	Availability, Age and Quality of Existing Floodplain Mapping	
Reaches Affected	Watercourse, waterbody, mainland shoreline, island shoreline	
Field Name	AF_FM	
Definitions	What is the age of flood mapping	
Statements	AF Value	Description
Mapping < 5 years	-2.0%	Floodplain mapping exists and is newer than 5 years old.
Mapping between 6 and 25 years	-1.0%	Floodplain mapping exists and is 6 to 25 years old.
Mapping >25 years	+1.0%	Floodplain mapping exists but is over 25 years old.
Mapping = Null	+2.0%	No floodplain mapping exists for the reach.

- GIS Background Data and Models
 - Large volume of data and number of reaches, evaluation criteria and adjustment factors make it very difficult to complete the risk assessment and adjustment manually.
 - Models are used to help complete the required analysis.
 - A model is a series of commands within the GIS software that allows the analysis to be completed in a somewhat automated fashion.
 - The risk assessment and risk adjustment processes each used four (4) models, one per reach type.
 - Model undertakes all required calculations and outputs the risk assessment and adjustment results.



- Strategy Development Process
 - Identify High and Very High Risk Reaches.
 - Group Adjacent Reaches to form Work Packages.
 - Total of 40 Work Packages.
 - Incorporates Very Low to Medium High Risk Reaches for connectivity between High and Very High Risk Reaches.
 - Estimate Costs for each Work Package.
 - Based on estimated unit (\$/km) prices.
 - Prioritize Work Packages.
 - Based on Max. Adjusted Total Risk for Work Package.
 - Develop 10-Year Capital Plan.
 - Attempt for consistent annual expenditure.



- Estimated Annual Costs

Year	Estimated Cost (\$)	Year	Estimated Cost (\$)
Year 1	\$750,000	Year 6	\$507,317
Year 2	\$816,099	Year 7	\$684,234
Year 3	\$727,233	Year 8	\$371,723
Year 4	\$987,569	Year 9	\$245,092
Year 5	\$715,848	Year 10	\$70,432
Total Estimated Cost		\$5,875,547	

- Potential Funding Sources
 - General and benefitting levies.
 - Provincial and Federal funding programs.
- Potential Efficiencies
 - Partnerships with other Conservation Authorities and Provincial or Federal Ministries/Agencies.
 - Large-scale background data collection.
 - In-house engineering services.
 - Work with developers in developing/urban areas.
 - Combine flood hazard mapping projects with water control structure projects.

- Implement 10-Year Plan
- Implement other Risk Mitigation Measures
 - Improve flood forecasting and warning systems.
 - Reduce development around higher risk reaches.
 - Identify and map existing flood mitigation measures and update risk assessment adjustment factor analysis.
 - Improve input data quality for the risk assessment and adjustment factors and update risk assessment/adjustment factor analysis.
- Update Risk Assessment and Hazard Mapping Strategy in Five (5) Years.



- Undertook Reach Delineation and Risk Assessment
- Completed Statistical Analysis to Identify Risk Levels
- Developed and Prioritized Work Packages
- Developed a 10-Year Capital Plan
- Identified Potential Funding Sources and Efficiencies
- Provided Recommendations for Implementation and Risk Mitigation



Cataraqui Region Risk Assessment and Hazards Mapping Strategy

CRCA Board of Directors Presentation

June 24, 2020

David Green, P.Eng.
Assistant Manager, Water Resources Engineering
D.M. Wills Associates Limited





Cataraqui
conservation

2021 Budget Development Pressures

Full Authority Board – June 24, 2020

Presentation

- Goals
- External factors
- Internal factors
- 2021 Fee Schedule
- Proposed timeline
- Discussion



Budget Development – Goals

- Maintain (or enhance) programs and services
- Continue to identify opportunities for efficiencies
- Minimize increases to municipal levies
- Further insulate Cataraqui Conservation from revenue shortfalls
- Circulate a draft budget to municipalities by November 2020
- Facilitate budget approval in January 2021

External Factor – CA Act Review

- Ministry of Environment, Conservation and Parks continues to review results from conservation authority (CA), municipal, and stakeholder consultation sessions as feasible
- Timing uncertain regarding amended regulations
- Implications could impact annual transfer payment agreements
- AMO request
 - Expressed concern for municipal budget development
 - Recommended consultation with AMO / Conservation Ontario ASAP

External Factor – Federal and Provincial Funding

Transfer	Impact	Amount	Comments
Forests Ontario	Operating	\$25,100	Annual contribution to operating costs. Future program status uncertain. Anticipated funding in 2021.
Drinking Water Source Protection transfer payment	Operating	\$150,610	Approved funding to March 31, 2021
Watershed Management transfer payment	Operating	\$56,701	Anticipated funding to March 31, 2021
Summer student grants	Operating	Varies	Fully budgeted, \$19,655 requested for 2020; none received
Water & Erosion Control Infrastructure Grant	Capital	\$67,800	Approved funding to March 31, 2021 for water control structure projects (50%);
National Disaster Mitigation Program	Capital	\$0	Funding ended March 31, 2020, no alternative End of program; supports floodplain mapping

External Factor – Uncontrollable Costs

- Statistics Canada Consumer Price Index (inflation):
 - Trending downward from 2.4% (January) to -0.4% (May)
 - Working reference value: + 1.0%
- Ongoing operating costs:
 - Energy
 - Insurance
 - Property tax
 - Staff benefits
 - Utilities

External Factor – COVID-19

- In-year revenue and expenditure impact due to required health & safety measures and provincial / federal restrictions on essential service delivery
- Provincial / Federal assistance for 2021 unknown
- Significant municipal budget implications
- Pressure to reduce General and Special Levy increases
- Delayed budget development schedule

Internal Factor – Compensation Review

- Maintain Cataraqui Conservation as a competitive, fair employer
- Full-year implementation in 2020
- Performance appraisal system successful and ongoing
- Estimated overall increase to base salaries (full step + 1.0% CPI)
 - **2020 = \$138,300**
 - **2021 = \$90,200**

Internal Factor –Budgeted Reserve Draw

- Reliance on reserve draws for regular operations:
 - 2017 = \$221,000
 - 2018 = \$24,500
 - 2019 = \$55,500
 - **2020 = \$0**
- Recommend minimal to no reserve draws in 2021 or future years to support operating

Internal Factor – Reserve Transfers

- Underfunded operating reserve transfers impact capital forecast planning
- Identified unsustainable reserves
 - Boat Ramp & Water Access Points
 - Cataraqui Trail
 - Conservation Areas
 - Facilities
 - Water Control Structures
 - General Reserve
 - Watershed Management
 - Stabilization Reserve

Internal Factor – Administration Facility

- In 2019, the Full Authority Board approved the exploration of a joint administration facility option with Frontenac County
 - Administration Facility Feasibility Study (MOU signed, Phase 2 initiated)
- Available federal “shovel-ready” green infrastructure grant opportunity
- Phase-in funding strategy
- Office requirements re-evaluation

2021 Fee Schedule – Draft for Public Review

- User fees for services provided to individual clients
- Anticipated **\$549K** in revenue (2020 budget, ~11%)
- Fees based on costs, comparisons, market trends, external pressures
- Recommended process for 2021 Fee Schedule:
 - Prepare early in budget process based on best available data
 - Consult on draft version
 - Approve when draft budget is circulated to municipalities

Proposed 2020 Budget Development Timeline

Date	Step	Purpose
June 24	Board meeting	Consider Fee Schedule circulation
June – August	Fee Schedule – review period	
July 22	Budget Review Committee meeting	Review draft service level budget
September 11	Budget Review Committee meeting	Review revised service level budget
September 23	Board meeting	Update on progress to-date
October 16	Budget Review Committee meeting	Consider Fee Schedule / comments Consider revised draft budget
October 28	Board meeting	Consider Fee Schedule approval Consider budget circulation
November – December	Draft budget – review period	
January 1	Fee Schedule – effective date	
January 27	Board meeting	Consider Budget approval

Thank you – Katrina Furlanetto, M.Env.Sc., General Manager

