



Submitted by: Alycia Wettlaufer, Legislative Coordinator/Deputy Clerk **Report No:** 2022-216

Council Meeting Date: Regular Council - 21 Dec 2022

Subject: Embro Dam Review

File: Environmental Planning

RECOMMENDATION:

For Council's information.

BACKGROUND & COMMENTS:

The purpose of this report is to provide Council with background information regarding the Embro Dam project, and the actions that the Township has taken in response to the project.

Background

In 2007/2008, concerns over the Embro Dam were raised through engineering assessments. Specifically, there were significant concerns related to the structural integrity and hydraulic capacity of the Dam.

In 2012, a special meeting was called for the purpose of considering a report from the UTRCA regarding the Harrington and Embro dams. Several Zorra residents attended the meeting and spoke in favour of keeping both dams. Council passed the following resolution in response:

Resolution 38-02-12

Moved by: Gord MacKay

Seconded by: Jim Verwer

THAT the Upper Thames River Conservation Authority be requested to submit an application to the Water & Erosion Control Infrastructure program for funding to carry out an Environmental Assessment on Harrington Dam and Embro Dam.

Disposition: Carried

In 2015, the Upper Thames River Conservation Authority (UTRCA), in conjunction with the Township, retained Ecosystem Recovery to prepare a Class Environmental Assessment (EA) for the Embro Dam and Harrington Dam. From 2015-2017, there were a few delegations made, both by the UTRCA and Zorra residents, regarding the Embro Dam. There were several residents, as well as the Harrington and Area Community Association, which spoke in favour of keeping both dams and highlighted the historical/cultural importance of such.

Moreover, in June 2017, Ecosystem Recovery filed the draft Class EA, and UTRCA presented the findings to Council. Council passed the following resolution in response:

Resolution 32-06-17

Moved by: Marcus Ryan

Seconded by: Doug Matheson

WHEREAS the Upper Thames River Conservation Authority in conjunction with Zorra Township retained Ecosystem Recovery to prepare a Class Environmental Assessment for Harrington Dam and Embro Dam;

AND WHEREAS in June 2017, Exosystem Recovery filed a Draft Class Environmental Assessment for Harrington Dam and Embro Dam;

NOW THEREFORE BE IT RESOLVED that Council direct Township staff to report back to Council at the July 25, 2017 Council meeting on the capital costs, maintenance costs, potential fines and funding opportunities and potential economic impact for each of the three options of:

1. *Do nothing*
2. *Replacement of dams*
3. *Identified preferred alternatives*

Disposition: Carried

Township staff then prepared Report 2017-110 Harrington Dam & Embro Dam Environmental Assessments (see attachment A).

Additionally, Township staff also prepared a presentation regarding the financial analysis for the Harrington and Embro Dam (see attachment B). Council passed the following resolution in response to the presentation;

Resolution 06-09-17

Moved by: Marcus Ryan

Seconded by: Doug Matheson

THAT the Embro and Harrington Dam process be deferred for one month;

AND THAT Council request information regarding the requirement for a Cultural Heritage Resource Assessment and a liaison committee from UTRCA.

Disposition: Carried

In 2019, the UTRCA staff indicated that there was still an outstanding heritage assessment which needed to be completed prior to moving forward with the EA.

In November, 2022 UTRCA contacted Township Staff requesting a delegation with Council regarding the current status of this project (see item 7a on the agenda).

FINANCIAL IMPLICATIONS:

N/A

ATTACHMENTS:

[Attachment A - Report 2017-110 Harrington Dam and Embro Dam EA](#)

[Attachment B - Embro and Harrington Dam Financial Analysis 2017](#)

Approved By:

Don MacLeod, Chief Administrative Officer
Karen Martin, Director of Corporate Services

Status:

Approved - 14 Dec 2022
Approved - 15 Dec 2022



MEMO

To: Mayor & Members of Council **Date:** July 21, 2017

From: Don MacLeod, Chief Administrative Officer **Number:** 2017-110

Subject: Harrington Dam & Embro Dam Environmental Assessments **File:** E20/Dams

Council Meeting Date: July 25, 2017 **Agenda Item:** **7(e)**

RECOMMENDATION:

For Council's consideration.

BACKGROUND:

At the June 20, 2017, Council meeting, the following resolution was passed:

“WHEREAS the Upper Thames River Conservation Authority in conjunction with Zorra Township retained Ecosystem Recovery to prepare a Class Environmental Assessment for Harrington Dam and Embro Dam;

AND WHEREAS in June 2017, Ecosystem Recovery filed a Draft Class Environmental Assessment for Harrington Dam and Embro Dam;

NOW THEREFORE BE IT RESOLVED that Council direct Township Staff to report back to Council at the July 25, 2017 Council meeting on the Capital costs, operating costs, maintenance costs, potential fines and funding opportunities and potential economic impact for each of the three options of:

- 1) Do nothing**
- 2) Replacement of dams**
- 3) Identified preferred Alternatives.”**

This report reviews and summarizes data from the respective Class Environmental Assessment draft reports.

Embro

The following table summarizes three alternatives for Embro Dam; do nothing, replacement of dam and identified preferred alternative.

Corporation of the Township of Zorra

P.O. Box 306, Ingersoll, Ontario N5C 3K5

Tel. (519) 485-2490 • Toll Free 1-888-699-3868 • Fax (519) 485-2520 • E-mail: zorra@zorra.on.ca

Alternative	Initial Costs (1 -5 Years)	Operation and Maintenance Costs
Do Nothing	\$3,000 - \$15,000	\$1,500 - \$5,000
Dam Repair	\$150,000 - \$200,000	\$1,500 - \$20,000
Preferred Alternative	\$250,000 - \$320,000	\$1,500 - \$3,000

Harrington

The following table summarizes three alternatives for Harrington Dam; do nothing, replacement of dam and identified preferred alternative.

Alternative	Initial Costs (1 -5 Years)	Operation and Maintenance Costs
Do Nothing	\$20,000 - \$500,000	\$5,000 - \$20,000
Dam Replacement (downstream location)	\$1,200,000 - \$1,600,000	\$5,000 - \$35,000
Dam Replacement (current location)	\$1,800,000 - \$2,100,000	\$5,000 - \$35,000
Preferred Alternative	\$800,000 - \$1,000,000	\$1,500 - \$5,000

Funding Opportunities

Upper Thames River Conservation Authority have provided following information on funding sources which they have been successful in receiving funding for these types of projects:

Dam Removal

- Environmental Damages Fund
 - Funded by Environment Canada
 - 100% costs covered on approved projects
- Fisheries and Oceans Recreational Fisheries Community Partnership Fund
 - 50% project costs covered on approved projects
- UTRCA has also partnered with EcoAction in the past
 - Up to \$100,000
 - Requires matching cash/in-kind contributions
 - Would fund dam removal/decommissioning or bypass and naturalization (not repair/replacement)
- Great Lakes Guardian Community fund
 - Through MOECC
 - Provided 25,000 for dam decommissioning project
 - Had to find matching funding

- WECI (MNRF Water and Erosion Control Infrastructure)
 - adds an additional 5 points out of 80 to the project score for removal projects
- Local and environmental foundations are options depending on the project
- Potential for application to multiple funding sources

Dam Replacement

- WECI (MNRF Water and Erosion Control Infrastructure Funding)
 - New structure construction is not eligible under WECI
 - Repairs are eligible for 50% funding but must compete with higher priority structures
 - Must have local share secured prior to application
 - Must be completed in one year (by Mar 31) or reapply for the following year and risk not getting funding info that part of the project

Potential Fines

Internet searches did not yield any results where municipalities and/or Conservation Authorities were fined for dam failures. It was therefore not reasonable to include any of these potential fines in any analysis. The Authority is responsible for maintenance and operations while the Township contributes 100% of the costs. Should a failure occur, UTRCA would be responsible for cleanup and restoration. However, the Authority would pass on these costs to the Township as the benefitting municipality.

Economic Impact

This too was difficult to assess as the preferred alternatives will offer similar activities to those that are currently occurring. The preferred option would allow water flow to the mill and could be incorporated as part of the living museum. The only potential loss may be the annual Harrington fishing derby if the proposed off-line pond is not of sufficient size or capacity to host the derby. It should be noted that MNRF did not issue a stocking permit for the derby in 2017 and it is unlikely that future permits will be issued.

COMMENTS:

Do Nothing Alternative

With any Environmental Assessment one of the alternatives that is reviewed is the “do nothing alternative”. In this instance, the Environmental Assessments have identified structural deficiencies with both structures. These deficiencies were also noted in two previous assessments (Acres 2007 and Naylor 2008).

Based on discussions with UTRCA staff, it was suggested this alternative would not be recommended to the Board of Directors due to the know deficiencies and the risk of failure. The EA scored this option lowest in the preferred option ranking.

As noted above, the Authority is responsible for maintenance and operations while the Township contributes 100% of the costs. Should a failure occur, UTRCA would pass on these costs to the Township as the benefitting municipality.

Dam Repair/Replacement

The Township's potential costs differ between repair and replacement. Under a replacement scenario, there would not be any funding available and full costs would be borne by the municipality. The costs outlined in the EA and noted above would be at full cost to the Township and would range between \$1,800,000 and \$2,100,000 for Harrington. Replacement of the structure was not identified as an option for Embro. With respect to repairs to the structures, this is eligible for 50% funding but must compete with higher priority structures. A list of approved WECl projects for the past three years is attached and provides a sample of the types of projects the Township would be in competition with for future funding. Repair was only identified for Embro and not for Harrington.

Preferred Alternatives

As noted by UTRCA staff, removal of dams offers the greatest potential for funding assistance. Given the various sources available, it is likely that the preferred options would be funded between 60% - 70%. This would mean the Township's estimated costs for the preferred option would be as follows:

Funding %	Township's Estimated Costs			
	Harrington		Embro	
	Low Estimate \$800,000	High Estimate \$1,000,000	Low Estimate \$250,000	High Estimate \$320,000
60%	\$320,000	\$400,000	\$100,000	\$128,000
70%	\$240,000	\$300,000	\$75,000	\$96,000

FINANCIAL IMPLICATIONS

To be determined.

LINK TO STRATEGIC PLAN

N/A

ATTACHMENTS

- WECl Approved Projects 2015/16, 2016/17 and 2017/18

2015-16 WECl Project Ranking List

ProjectID	CA	ProjectName	Est Total	*Est Provincial	TotalScore
Safety			*Note the estimated Provincial \$ to be refined		
R.15.008	Ganaraska Region Conservation Authority	Safety Signage	\$3,200.00	\$1,600.00	85
R.15.041	Grand River Conservation Authority	Woolwich Dam - Downstream Wingwall Safety Railings	\$6,000.00	\$3,000.00	140
R.15.060	Grand River Conservation Authority	Laurel Creek Dam - Railing installation	\$10,000.00	\$5,000.00	140
R.15.062	Grand River Conservation Authority	Luther Dam - Dam Gate House - Stairway and Operations Platform	\$25,000.00	\$12,500.00	120
R.15.076	Grand River Conservation Authority	Caledonia Dam - Railing replacement	\$40,000.00	\$20,000.00	100
R.15.080	Grand River Conservation Authority	Wellington Street Dam - Railing Replacement	\$14,000.00	\$7,000.00	65
R.15.087	Grand River Conservation Authority	Drimmie Dam - Safety Railings	\$10,000.00	\$5,000.00	95
R.15.088	Grand River Conservation Authority	Parkhill Dam - Railings	\$14,000.00	\$7,000.00	55
R.15.063	Grey Sauble Conservation Authority	Inglis Falls Dam - Safety Railing and Retaining Wall Removal	\$20,000.00	\$10,000.00	15
R.15.056	Long Point Region Conservation Authority	Hay Creek Dam - Fence Upgrade & Replacement	\$15,000.00	\$7,500.00	80
R.15.057	Long Point Region Conservation Authority	Various Structure - Signage	\$10,000.00	\$5,000.00	130
R.15.064	South Nation Conservation	Plantagenet Weir – New Boom and Anchor	\$15,000.00	\$7,500.00	85
R.15.093	South Nation Conservation	Crysler Dam – New Boom	\$7,000.00	\$3,500.00	110
			\$189,200.00	\$94,600.00	
Repairs					
R.15.042	Grand River Conservation Authority	Multiple Dams -TSSA electrical compliance modifications	\$50,000.00	\$25,000.00	170
R.15.046	Grand River Conservation Authority	Laurel Creek Dam - Replace Rotork Gate Operators	\$35,000.00	\$17,500.00	160
R.15.067	Grand River Conservation Authority	Shand Dam - Implement Gain Heaters	\$200,000.00	\$100,000.00	160
R.15.011	Quinte Conservation	Third Depot Lake Dam - Approvals for embankment upgrade	\$20,000.00	\$10,000.00	160
R.15.077	Upper Thames River Conservation Authority	London Earth Dykes Hazard Trees Removal	\$15,000.00	\$7,500.00	160
R.15.022	Upper Thames River Conservation Authority	Fanshawe Dam Transformer Station and Standby Gen Replacement	\$675,000.00	\$337,500.00	160
R.15.035	Grand River Conservation Authority	Brantford Dyke - Concrete Slabs Repair	\$150,000.00	\$75,000.00	155
R.15.037	Grand River Conservation Authority	Bridgeport Dyke - DSR implementation - Vegetation Removal	\$30,000.00	\$15,000.00	150
R.15.045	Grand River Conservation Authority	Guelph Dam - Inspect and maintain gate	\$20,000.00	\$10,000.00	150
R.15.066	Grand River Conservation Authority	Shand Dam - Valve Chamber Ladder replacement.	\$12,000.00	\$6,000.00	150
R.15.068	Grand River Conservation Authority	Woolwich Dam - Crest Sealing Roadway Cracks	\$50,000.00	\$25,000.00	150
R.15.089	Grand River Conservation Authority	Multiple Dams - Lighting Fixture Upgrades	\$34,000.00	\$17,000.00	150
R.15.053	Raisin Region Conservation Authority	Fly Creek SCADA System Upgrade	\$39,300.00	\$19,650.00	150
R.15.018	Upper Thames River Conservation Authority	Wildwood Dam Gantry Crane Painting	\$50,000.00	\$25,000.00	150
R.15.023	Upper Thames River Conservation Authority	Fanshawe Dam Structure Painting Ph3	\$470,000.00	\$235,000.00	150
R.15.024	Upper Thames River Conservation Authority	Fanshawe Dam Gate Roller Refurbishment Ph 2	\$140,000.00	\$70,000.00	150
R.15.101	Conservation Halton	Kelso Dam, data logger	\$10,000.00	\$5,000.00	145
R.15.025	Credit Valley Conservation	Island Lake South Dam Riser Structure Modification	\$40,000.00	\$20,000.00	145
R.15.090	Essex Region Conservation Authority	Belle River Flood Control - River Shorewall Repair	\$170,000.00	\$85,000.00	145
R.15.036	Grand River Conservation Authority	Brantford Dyke - Vegetation Removal DSR Implementation	\$50,000.00	\$25,000.00	145
R.15.039	Grand River Conservation Authority	Cambridge Dyke - Floodwall Repair Completion	\$10,000.00	\$5,000.00	145
R.15.081	South Nation Conservation	Crysler Dyke Tree Removal	\$25,000.00	\$12,500.00	145
R.15.019	Toronto and Region Conservation Authority	G. Ross Lord Dam Low Level Gate Back-up System	\$25,000.00	\$12,500.00	145
R.15.029	Grand River Conservation Authority	Woolwich Dam - Control Panel Electrical Equipment Replacement	\$10,000.00	\$5,000.00	140
R.15.044	Grand River Conservation Authority	Conestogo Dam - Roadway repaving and shoulder stabilization	\$30,000.00	\$15,000.00	140
R.15.059	Grand River Conservation Authority	Laurel Creek Dam - Rip Rap Placement	\$10,000.00	\$5,000.00	140
R.15.097	Hamilton Conservation Authority	Christie Lake Dam Concrete Surface Repairs and Drainage Repairs	\$40,000.00	\$20,000.00	140
R.15.099	Hamilton Conservation Authority	Christie Lake Dam Low Flow Valve Repairs / Servicing	\$10,000.00	\$5,000.00	140
R.15.010	Quinte Conservation	Colebrook Dam - Concrete Repairs	\$400,000.00	\$200,000.00	140
R.15.096	Conservation Halton	Milton Channel Slabs Replacement	\$366,700.00	\$183,350.00	135
R.15.098	Conservation Halton	Hager-Rambo Channel Slabs Replacement	\$265,400.00	\$132,700.00	135
R.15.100	Conservation Halton	Mountsberg Dam, data logger	\$10,000.00	\$5,000.00	135
R.15.061	Grand River Conservation Authority	Luther Dam - Boil area drain installation	\$25,000.00	\$12,500.00	130
R.15.058	Kettle Creek Conservation Authority	Union Dam Erosion Repair, Vegetation Removal and Low Flow Valve Inspection	\$21,350.00	\$10,675.00	130
R.15.017	Niagara Peninsula Conservation Authority	Binbrook Dam Control Building Repairs	\$50,000.00	\$25,000.00	130
R.15.092	South Nation Conservation	Crysler Dam Removal of Logs, Cleaning and Inspection of the Bays	\$40,000.00	\$20,000.00	130
R.15.004	North Bay-Mattawa Conservation Authority	Chippewa Creek Erosion Control Works Repair and Remediation - Phase I	\$40,000.00	\$20,000.00	125
R.15.026	Credit Valley Conservation	Island Lake South Dam West Embankment Data Loggers	\$5,000.00	\$2,500.00	125
R.15.007	Lakehead Region Conservation Authority	Neebing/McIntyre Floodway Dredging - Phase III - Part III - Confluence with Lake Super	\$1,000,000.00	\$500,000.00	125
R.15.013	Quinte Conservation	Belleville Ice Control Dams - Booms replacement	\$250,000.00	\$125,000.00	125
R.15.040	Grand River Conservation Authority	Drayton Dyke and Channel Restoration	\$200,000.00	\$100,000.00	120
R.15.048	Raisin Region Conservation Authority	Loch Garry Remote Sensor Relocation and Upgrade	\$16,750.00	\$8,375.00	120
R.15.065	Essex Region Conservation Authority	Central Avenue Flood Control - Downstream Channel Improvements through Lafarge S	\$105,000.00	\$52,500.00	115
R.15.083	Essex Region Conservation Authority	Grand Marais Drain Flood Control Channel Improvements - South Cameron to EC Row	\$875,000.00	\$437,500.00	115
R.15.086	Essex Region Conservation Authority	Grand Marais Drain Flood Control Channel Improvements - Turner Road to Byng Road	\$395,000.00	\$197,500.00	115
R.15.078	South Nation Conservation	Chesterville Dam - Purchase Stop Logs	\$15,500.00	\$7,750.00	115
R.15.052	St. Clair Region Conservation Authority	Mckeough floodway Berm / Culvert repair	\$200,000.00	\$100,000.00	115
R.15.054	St. Clair Region Conservation Authority	ARDA - Hazard Tree Removal	\$24,000.00	\$12,000.00	115
R.15.070	Toronto and Region Conservation Authority	Denison Major Erosion Control Maintenance (HR15)	\$500,000.00	\$250,000.00	110
R.15.084	Toronto and Region Conservation Authority	1025 Scarlett Road Major Erosion Control Maintenance Project	\$500,000.00	\$250,000.00	110
R.15.028	Upper Thames River Conservation Authority	Mitchell Dam Gains Concrete Repair	\$160,000.00	\$80,000.00	110
			\$7,885,000.00	\$3,942,500.00	
R.15.055	Grey Sauble Conservation Authority	Owen Sound Mill Dam Repair	\$280,000.00	\$140,000.00	105
R.15.030	Grey Sauble Conservation Authority	Haines Dam Decommissioning Study	\$280,000.00	\$140,000.00	105
R.15.094	Kettle Creek Conservation Authority	Southwold Retaining Wall Gabion Wall Repair	\$185,000.00	\$92,500.00	105
R.15.012	Quinte Conservation	Harry Smith Dam repairs Phase 2	\$30,000.00	\$15,000.00	105
R.15.006	Ausable Bayfield Conservation Authority	Armstrong West Repair	\$60,000.00	\$30,000.00	100

R.15.031	Ausable Bayfield Conservation Authority	Ausable River Cut Dredge- Phase 1	\$250,000.00	\$125,000.00	100
R.15.075	Grand River Conservation Authority	Caledonia dam - Stop Log replacement	\$75,000.00	\$37,500.00	100
R.15.072	Grand River Conservation Authority	Baden Dam - Embankment Repair	\$50,000.00	\$25,000.00	95
R.15.073	Grand River Conservation Authority	Baden Dam - Replace Wooden gates	\$20,000.00	\$10,000.00	95
R.15.034	Saugeen Valley Conservation Authority	Walkerton Dyke - Tree Removal	\$50,000.00	\$25,000.00	95
R.15.091	South Nation Conservation	Paint Log Lifter	\$40,000.00	\$20,000.00	95
R.15.079	Grand River Conservation Authority	St.Jacobs Dam - Embankment erosion and concrete repair	\$40,000.00	\$20,000.00	90
S.15.046	Rideau Valley Conservation Authority	Haggart Island Dams decommissioning/rocky ramp	\$20,000.00	\$10,000.00	90
R.15.049	St. Clair Region Conservation Authority	Sarnia Shoreline Protection Repair- Phase 1	\$600,000.00	\$300,000.00	90
R.15.108	Mattagami Region Conservation Authority	Town Creek Major Maintenance Culvert and Channel Dredging - Vimy to Waterloo	\$49,000.00	\$24,500.00	85
R.15.082	Grand River Conservation Authority	Wellesley Dam - spillway crest concrete repair	\$25,000.00	\$12,500.00	80
R.15.014	Quinte Conservation	Demorestville Dam	\$20,000.00	\$10,000.00	80
R.15.016	Quinte Conservation	Whitney Dam - embankment design	\$25,000.00	\$12,500.00	75
R.15.038	Toronto and Region Conservation Authority	Sheppard Channel Maintenance	\$350,000.00	\$175,000.00	75
R.15.021	Upper Thames River Conservation Authority	John St Weir Stop Log Fabrication	\$95,000.00	\$47,500.00	75
R.15.047	Crowe Valley Conservation Authority	Wollaston Dam Rock Anchors	\$83,000.00	\$41,500.00	70
R.15.009	Cataraqui Region Conservation Authority	Marsh Bridge Dam - Rip Rap Repair/Extension	\$20,000.00	\$10,000.00	65
R.15.020	Saugeen Valley Conservation Authority	Lockerby Dam - Elderslie Twp Decommissioning	\$129,000.00	\$64,500.00	60
R.15.032	Saugeen Valley Conservation Authority	Riggins Repair - Kincardine - Penetangore	\$40,000.00	\$20,000.00	60
R.15.051	St. Clair Region Conservation Authority	LCHP - Outfall Erosion Control	\$30,000.00	\$15,000.00	60
R.15.074	Grand River Conservation Authority	Bissel Dam - Sluice plate inspection and maintenance	\$8,000.00	\$4,000.00	55
R.15.015	Quinte Conservation	Roblin lake dam sediment removal	\$7,500.00	\$3,750.00	55
R.15.005	Rideau Valley Conservation Authority	Motts Mills Dam Rehabilitation - Phase 2: Construction	\$40,000.00	\$20,000.00	55
R.15.050	St. Clair Region Conservation Authority	Esli Dodge Repair Project	\$15,000.00	\$7,500.00	55
R.15.027	Credit Valley Conservation	Spring Pond Outlet Structure Decomission	\$15,000.00	\$7,500.00	50

Studies

S.15.037	Grand River Conservation Authority	Shand Dam - discharge tube engineering inspection	\$5,000.00	\$2,500.00	120
S.15.041	Grand River Conservation Authority	Shand and Guelph Dam - OMS procedures	\$27,000.00	\$13,500.00	120
S.15.029	Grand River Conservation Authority	Conestogo Dam - emergency spillway Study	\$30,000.00	\$15,000.00	110
S.15.030	Grand River Conservation Authority	Laurel Creek DSR Phase 1 - HPC	\$100,000.00	\$50,000.00	110
S.15.047	Grand River Conservation Authority	Woolwich Dam - Radial Gates Inpsection and Maintenance Solution	\$26,000.00	\$13,000.00	100
S.15.010	Upper Thames River Conservation Authority	Wildwood Dam OMS Manual	\$12,000.00	\$6,000.00	100
S.15.017	Upper Thames River Conservation Authority	Fanshawe Dam Reservoir Storage Pt 3	\$5,000.00	\$2,500.00	100
S.15.018	Credit Valley Conservation	Island Lake North and South Dam DSR Update	\$85,000.00	\$42,500.00	95
S.15.025	Grand River Conservation Authority	Brantford Dyke - Landfill Area Dyke Slope Repair Study	\$20,000.00	\$10,000.00	95
S.15.045	Grand River Conservation Authority	Brantford Dyke - Slab area fluvial investigation	\$40,000.00	\$20,000.00	95
S.15.013	Upper Thames River Conservation Authority	Pittock Dam Control Hut Replacement Design Pt2	\$20,000.00	\$10,000.00	95
S.15.026	Grand River Conservation Authority	Bridgeport Dyke - DSR update - Seepage and Stability Remediation Study	\$25,000.00	\$12,500.00	90
S.15.054	Hamilton Conservation Authority	Christie Lake Dam Low Flow Valve Inspection	\$5,000.00	\$2,500.00	90
S.15.011	Upper Thames River Conservation Authority	West London Dyke MRP EA Approach 2 Update Pt2	\$20,000.00	\$10,000.00	90
S.15.015	Upper Thames River Conservation Authority	West London Dyke Ph3-9 Concept Plan,Ph3 Design Pt 2	\$350,000.00	\$175,000.00	90
SR.15.103	Conservation Halton	Mountsberg Dam, gate inspection	\$8,000.00	\$4,000.00	85
SR.15.104	Conservation Halton	Kelso Dam valves inspection	\$8,000.00	\$4,000.00	85
SR.15.105	Conservation Halton	Hilton Falls Dam, valves inspection	\$8,000.00	\$4,000.00	85
S.15.050	Conservation Halton	Hilton Falls Dam, Public Safety Assessment	\$10,000.00	\$5,000.00	85
S.15.052	Conservation Halton	Mountsberg Dam, Public Safety Assessment	\$10,000.00	\$5,000.00	85
S.15.053	Conservation Halton	Kelso Dam, Public Safety Assessment	\$10,000.00	\$5,000.00	85
S.15.028	Grand River Conservation Authority	Cambridge Dyke - Dyke Safety Review - Channel inspection and hydraulics	\$30,000.00	\$15,000.00	85
S.15.012	Toronto and Region Conservation Authority	Stouffville Dam Deficiency Repair Design Phase I	\$150,000.00	\$75,000.00	85
S.15.035	Toronto and Region Conservation Authority	Claireville Dam Safety Review	\$120,000.00	\$60,000.00	85
SR.15.106	Conservation Halton	Scotch Block Dam, valves inspection	\$3,500.00	\$1,750.00	75
S.15.051	Conservation Halton	Scotch Block Dam, Public Safety Assessment	\$10,000.00	\$5,000.00	75
S.15.002	Ausable Bayfield Conservation Authority	Dam Safety Review - Parkhill Dam Phase 1	\$40,000.00	\$20,000.00	70
S.15.039	Long Point Region Conservation Authority	Vittoria Dam – Dam Safety Review – Phase 2	\$20,000.00	\$10,000.00	70
S.15.034	Toronto and Region Conservation Authority	Milne Dam Safety Review	\$80,000.00	\$40,000.00	70
S.15.014	Upper Thames River Conservation Authority	London Earth Dykes Preliminary Engineering Pt 2	\$245,000.00	\$122,500.00	70
S.15.055	Conservation Halton	Morrison Wedgewood Channel, topographic survey	\$10,000.00	\$5,000.00	65
S.15.031	Crowe Valley Conservation Authority	Allan's Mills Safety Assessment	\$6,780.00	\$3,390.00	65
S.15.005	Ganaraska Region Conservation Authority	Phase 1 - Dam Safety Reviews	\$10,000.00	\$5,000.00	65
S.15.049	Otonabee Region Conservation Authority	Millbrook Dam Class Environmental Assessment Revision	\$5,317.44	\$2,658.72	65
S.15.044	St. Clair Region Conservation Authority	McKeough slope Stability investigation	\$15,000.00	\$7,500.00	65
S.15.042	Crowe Valley Conservation Authority	Belmont Dam Safety Assessment	\$16,000.00	\$8,000.00	60
S.15.036	Long Point Region Conservation Authority	Backus Mill Dam - Bridge Inspection	\$8,000.00	\$4,000.00	60
S.15.038	Long Point Region Conservation Authority	Hay Creek Dam - Hydraulic Impact Assessment	\$10,000.00	\$5,000.00	60
S.15.040	Long Point Region Conservation Authority	Teeterville Dam - Stability and Condition Assessment	\$60,000.00	\$30,000.00	60
S.15.043	St. Clair Region Conservation Authority	Wallaceburg retaining wall inspection	\$25,000.00	\$12,500.00	60
S.15.048	Mississippi Valley Conservation	Shabomeka Lake Dam Geotechnical Assessment	\$30,000.00	\$15,000.00	55
S.15.003	Ausable Bayfield Conservation Authority	Dam Safety Review - Morrison Dam Phase 1	\$20,000.00	\$10,000.00	50
S.15.024	Lake Simcoe Region Conservation Authority	Fairy Lake Dam - Newmarket - Dam Stability Review and Detailed Design	\$50,000.00	\$25,000.00	45
SR.15.033	Mississippi Valley Conservation	*Bennett Lake Dam and Kashwakamak Lake Dam Structural Assessment	\$55,000.00	\$27,500.00	45

\$1,843,597.44 \$921,798.72

S.15.016	Upper Thames River Conservation Authority	Harrington Dam EA Pt2	\$90,000.00	\$45,000.00	45
S.15.032	Crowe Valley Conservation Authority	Oak Lake Safety Assessment	\$5,650.00	\$2,825.00	40
S.15.021	Upper Thames River Conservation Authority	Ingersoll Channel Capacity Survey & Review	\$40,000.00	\$20,000.00	35

S.15.006	Cataraqui Region Conservation Authority	Potters Dam - Replacement Design Study	\$30,000.00	\$15,000.00	30
S.15.009	Credit Valley Conservation	Belfountain Dam and Headpond Class EA	\$197,000.00	\$98,500.00	25
S.15.057	Nickel District Conservation Authority	Lakel Laurentian Dam DSI Report and Survey	\$25,000.00	\$12,500.00	25
S.15.004	Grand River Conservation Authority	Wellesley Dam - Embankment repair design	\$25,000.00	\$12,500.00	20
S.15.020	South Nation Conservation	Russell Weir Safety Assessment	\$25,000.00	\$12,500.00	20
S.15.008	Credit Valley Conservation	Muskrat Pond Dam - Decommissioning Design	\$54,000.00	\$27,000.00	10
S.15.027	Crowe Valley Conservation Authority	Wollaston Dam Safety Assessment	\$21,000.00	\$10,500.00	10
S.15.022	Upper Thames River Conservation Authority	Embro Dam EA	\$70,000.00	\$35,000.00	10
S.15.033	Crowe Valley Conservation Authority	Crowe Bridge Safety Assessment	\$6,780.00	\$3,390.00	5

*Note the estimated Provincial costs to be refined further through discussions between MNRF and CA

Repairs \$3,942,500.00

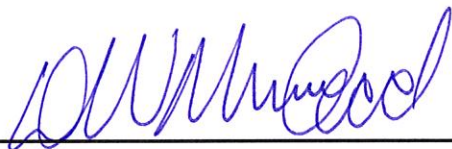
Safety \$94,600.00

Studies \$921,798.72

Total **\$4,958,898.72**

\$41,101.28

Respectfully submitted by:



Don MacLeod
Chief Administrative Officer

2016-2017 WECl Project Listing					
ID	CA	Project Name	Total Est	Prov Share	Score
SAFETY					
R.16.020	Ausable Bayfield Conser	Morrison Dam Guard Rail Replacement	\$44,500.00	\$22,250.00	
R.16.077	Cataraqui Region Conse	Safety Buoy Replacements	\$5,000.00	\$2,500.00	
R.16.090	Conservation Halton	Milton Channel (at WI Dick School) fence installation	\$20,000.00	\$10,000.00	
R.16.067	Credit Valley Conservatic	Monora Dam Outlet Grate	\$15,000.00	\$7,500.00	
R.16.054	Grand River Conservatio	Safety Railings - Wellington and Drimmie Dams	\$25,000.00	\$12,500.00	
R.16.050	Grand River Conservatio	Shades Mill Dam - Spillway Fencing Replacement	\$45,000.00	\$22,500.00	
R.16.016	Grand River Conservatio	New Dundee Dam - Hoist Covers	\$45,000.00	\$22,500.00	
S.16.040	Hamilton Conservation A	Valens Dam Safety Measures	\$1,500.00	\$750.00	
S.16.039	Hamilton Conservation A	Christie Lake Dam Safety Measures	\$16,000.00	\$8,000.00	
R.16.042	Long Point Region Cons	Vittoria Dam - Platform Cover Repairs	\$7,500.00	\$3,750.00	
R.16.041	Long Point Region Cons	Vittoria Dam - Fall Arrest Anchor Installation	\$3,000.00	\$1,500.00	
R.16.039	Long Point Region Cons	Teeterville Dam - Operator Harness Point Installation	\$5,000.00	\$2,500.00	
R.16.038	Long Point Region Cons	Teeterville Dam - Operator Bridge Repairs	\$15,000.00	\$7,500.00	
R.16.037	Long Point Region Cons	Teeterville Dam - Fencing Repairs	\$5,000.00	\$2,500.00	
R.16.035	Long Point Region Cons	Lehman Dam - Pile Repair	\$4,000.00	\$2,000.00	
R.16.015	Long Point Region Cons	Backus Mill Dam – Vehicle and Pedestrian Bridge Rehabilitation	\$15,500.00	\$7,750.00	
R.16.075	Mississippi Valley Conse	Big Gull Lake Dam and Shabomeka Lake Dam Deck Replaceme	\$19,500.00	\$9,750.00	
R.16.087	Otonabee Region Conse	Hope Dam Gain Cover Replacement	\$11,937.00	\$5,968.50	
R.16.040	Raisin Region Conservat	North Glengarry Dam Gantry Systems	\$25,950.00	\$12,975.00	
R.16.031	Toronto and Region Con	Scarlett Road Channel Guardrail Installation	\$60,000.00	\$30,000.00	
			\$389,387.00	\$194,693.50	
REPAIRS					
R.16.048	Grand River Conservatio	Conestogo Dam - Trailer Generator	\$50,000.00	\$25,000.00	170
R.16.047	Grand River Conservatio	Electrical transfer switch upgrade	\$20,000.00	\$10,000.00	170
R.16.043	Grand River Conservatio	Electrical Generator and Boiler Code Upgrade - multiple dams	\$180,000.00	\$90,000.00	170
R.16.028	Upper Thames River Co	Fanshawe Dam Motor Control Cabinet Replacement	\$260,000.00	\$130,000.00	170
R.16.065	Credit Valley Conservatic	Island Lake Dam Wall Stabilization	\$117,000.00	\$58,500.00	165
R.16.034	Grand River Conservatio	Brantford Dyke - Landfill Area Dyke Slope Repair	\$150,000.00	\$75,000.00	165
R.16.078	Quinte Conservation	Third Depot Lake Dam Embankment Improvements	\$400,000.00	\$200,000.00	160
R.16.085	Upper Thames River Co	Fanshawe Dam Transformer Station and Standby Gen Replacem	\$180,000.00	\$90,000.00	160
R.16.006	Upper Thames River Co	West London Dyke Ph 3 Reconstruction	\$3,600,000.00	\$1,800,000.00	160
R.16.082	Grand River Conservatio	Guelph Dam - Inspect and maintain gate	\$15,000.00	\$7,500.00	150
R.16.051	Grand River Conservatio	Shand Dam - Valve Chamber Ladder replacement.	\$15,000.00	\$7,500.00	150
R.16.045	Grand River Conservatio	Bridgeport Dyke - DSR implmentation - Vegetation Removal	\$50,000.00	\$25,000.00	150
R.16.083	Hamilton Conservation A	Christie Lake Dam Surface Corrosion Repairs	\$16,000.00	\$8,000.00	150
R.16.066	Credit Valley Conservatic	Island Lake Dam Riser Outlet Improvement	\$120,000.00	\$60,000.00	145
R.16.059	Grand River Conservatio	Cambridge Dyke - Block Wall Rehabilitation	\$50,000.00	\$25,000.00	145
R.16.029	Upper Thames River Co	Pittock Dam Control Hut Construction	\$210,000.00	\$105,000.00	145
R.16.027	Upper Thames River Co	Wildwood Dam Control Buildings Exterior Rehabilitation	\$25,000.00	\$12,500.00	140
R.16.060	Grand River Conservatio	Cambridge Dyke - Pump Room Upgrades	\$30,000.00	\$15,000.00	135
R.16.017	Grand River Conservatio	Luther Dam - Boil area drain installation	\$25,000.00	\$12,500.00	130
R.16.091	Conservation Halton	Hilton Falls Dam, Data Logger Upgrades	\$10,000.00	\$5,000.00	125
R.16.046	Grand River Conservatio	Cambridge Dyke - Floodwall completion at 8 Main Street	\$100,000.00	\$50,000.00	125
R.16.055	Otonabee Region Conse	Hope Dam Concrete Repair	\$179,112.00	\$89,556.00	125
R.16.068	South Nation Conservati	Concrete Repair at Chesterville Dam	\$40,000.00	\$20,000.00	125
S.16.041	Hamilton Conservation A	Valens Dam Piezometers Installation	\$32,000.00	\$16,000.00	120
R.16.061	Essex Region Conservat	Grand Marais Drain Flood Control Channel Improvements - Sout	\$980,000.00	\$490,000.00	115
R.16.026	St. Clair Region Conserv	McKD-Berm Slope Erosion Control	\$100,000.00	\$50,000.00	115
R.16.072	Toronto and Region Con	Malton Channel Maintenance Project	\$400,000.00	\$200,000.00	115
R.16.018	Upper Thames River Co	Interim Repairs-Broughdale Dyke, Clarence Nelson Dyke	\$25,000.00	\$12,500.00	110
R.16.073	Toronto and Region Con	1025 Scarlett Road Major Erosion Control Maintenance Project	\$231,501.00	\$115,750.50	110
			\$7,610,613.00	\$3,805,306.50	

R.16.073	Toronto and Region Con	1025 Scarlett Road Major Erosion Control Maintenance Project	\$368,499.00	\$184,249.50	110
R.16.074	Toronto and Region Con	Denison Major Erosion Control Maintenance (HR15) (Phase 2)	\$1,134,000.00	\$567,000.00	110
R.16.089	Conservation Halton	Hager Rambo Channel- triple pond sediment removal	\$75,000.00	\$37,500.00	105
R.16.063	Crowe Valley Conservati	Marmora Dam Power Gate	\$12,000.00	\$6,000.00	105
R.16.019	Grey Sauble Conservatic	Haines Dam Decomissioning	\$600,000.00	\$300,000.00	105
R.16.033	Kettle Creek Conservatic	Southwold Retaining Wall Gabion Wall Repair	\$215,030.00	\$107,515.00	105
R.16.086	Nickel District Conservat	Gabion Retaining Wall Rehabilitation	\$118,982.00	\$59,491.00	105
R.16.069	St. Clair Region Conserv	McKD - Channel Repairs	\$30,000.00	\$15,000.00	105
R.16.036	Ausable Bayfield Conser	Ausable River Cut Dredge- Phase 1	\$250,000.00	\$125,000.00	100
R.16.053	Grand River Conservatio	Baden Dam - Replace Wooden gates	\$20,000.00	\$10,000.00	95
R.16.052	Grand River Conservatio	Baden Dam - Toe Drain Installation	\$40,000.00	\$20,000.00	95
R.16.049	Grand River Conservatio	Shades Mill Dam - Roadway crack Sealing	\$10,000.00	\$5,000.00	95
R.16.070	Saugeen Valley Conserv	Walkerton Dyke - Tree Removal	\$50,000.00	\$25,000.00	95
R.16.032	Toronto and Region Con	Albion Hills Dam Decommissioning	\$620,000.00	\$310,000.00	95
R.16.058	Grand River Conservatio	St.Jacobs Dam - Embankment erosion repair	\$100,000.00	\$50,000.00	90
R.16.021	St. Clair Region Conserv	Sarnia Shoreline Protection Repair- Phase 1	\$600,000.00	\$300,000.00	90
R.16.084	Quinte Conservation	Lower Arden Dam Design of Anchoring for Dam Stability	\$15,000.00	\$7,500.00	85
R.16.081	Quinte Conservation	Demorestville Dam	\$20,000.00	\$10,000.00	80

R.16.071	St. Clair Region Conserv Courtright Shoreline Rehabilitation	\$600,000.00	\$300,000.00	80
R.16.025	St. Clair Region Conserv PetD-Stop Log Replacement	\$25,000.00	\$12,500.00	80
R.16.057	Grand River Conservatio New Dundee Dam - Replace Stilling well isolation valve	\$15,000.00	\$7,500.00	75
R.16.080	Quinte Conservation Whitney Dam - embankment design	\$25,000.00	\$12,500.00	75
R.16.064	Crowe Valley Conservati Wollaston Dam Rock Anchors	\$82,000.00	\$41,000.00	70
R.16.024	St. Clair Region Conserv HSD-Stop Log Replacement	\$25,000.00	\$12,500.00	70
R.16.076	Cataraqui Region Conse Marsh Bridge Dam - Rip Rap Repair/Extension	\$20,000.00	\$10,000.00	65
R.16.030	Saugeen Valley Conserv Riggins Repair - Kincardine - Penetangore	\$40,000.00	\$20,000.00	60
R.16.079	Quinte Conservation Roblin lake dam sediment removal	\$7,500.00	\$3,750.00	55
R.16.022	St. Clair Region Conserv Esli Dodge Repair Project	\$20,000.00	\$10,000.00	55
R.16.023	St. Clair Region Conserv LCHP - Outfall Erosion Control	\$30,000.00	\$15,000.00	50
R.16.056	Grand River Conservatio Floradale Dam - replace sluice	\$15,000.00	\$7,500.00	40

STUDIES				
S.16.042	Grand River Conservatio WECl Database Migration and Major Maintenance	\$20,000.00	\$10,000.00	120
S.16.029	Grand River Conservatio Laurel Dam DSR Phase 1 and 2	\$100,000.00	\$50,000.00	110
S.16.028	Grand River Conservatio Conestogo Dam - DSR Recommendations Implementation	\$135,000.00	\$67,500.00	110
S.16.015	Upper Thames River Coi Fanshawe Dam Design Painting Phase 4	\$10,000.00	\$5,000.00	110
S.16.014	Upper Thames River Coi Fanshawe Dam OMS Manual	\$25,000.00	\$12,500.00	110
RS.16.088	Conservation Halton Kelso Dam, Class EA/ESR and preliminary design of preferred op	\$215,000.00	\$107,500.00	105
S.16.005	Grand River Conservatio Woolwich Dam - DSR update	\$50,000.00	\$25,000.00	100
S.16.023	Grand River Conservatio Woolwich Dam - Radial Gates Rehabilitation Specification	\$25,000.00	\$12,500.00	100
S.16.018	Upper Thames River Coi Multidam MCC Electrical Infrared Testing	\$15,000.00	\$7,500.00	100
S.16.035	Credit Valley Conservatic Island Lake Dam Seepage Study	\$84,500.00	\$42,250.00	95
S.16.025	Grand River Conservatio Brantford Dyke - Concrete Slabs Repair	\$60,000.00	\$30,000.00	95
S.16.026	Grand River Conservatio Bridgeport Dyke - Seepage and Stability Remediation Study	\$50,000.00	\$25,000.00	90
S.16.021	Long Point Region Consr Lehman Dam - Embankment Topographic Survey and Rehabilitat	\$15,000.00	\$7,500.00	90
S.16.006	Niagara Peninsula Consr Binbrook Dam Safety Review	\$50,000.00	\$25,000.00	90
S.16.002	Upper Thames River Coi West London Dyke Ph 3 - 9 Concept Plan, Ph 3 Design Pt 3	\$50,000.00	\$25,000.00	90
S.16.049	Conservation Halton Scotch Block Dam, risk management guideline and risk assessme	\$40,000.00	\$20,000.00	75
S.16.048	Nickel District Conservat Nickeldale Dam Geotechnical Assessment	\$33,002.00	\$16,501.00	75
S.16.046	Nickel District Conservat Maley Dam AAR Testing	\$50,000.00	\$25,000.00	75
S.16.017	Upper Thames River Coi St. Marys Flood Wall – Foundation Repairs	\$15,000.00	\$7,500.00	75
S.16.022	Long Point Region Consr Vittoria Dam - Environmental Assessment	\$100,000.00	\$50,000.00	70
S.16.043	Quinte Conservation Upper Arden Dam - Dam Classification and Dam Break Analysis	\$40,000.00	\$20,000.00	70
S.16.012	Upper Thames River Coi Broughdale Dyke EA	\$80,000.00	\$40,000.00	70
S.16.011	Upper Thames River Coi Riverview Dyke EA	\$80,000.00	\$40,000.00	70
S.16.004	Upper Thames River Coi London Earth Dykes Preliminary Engineering Pt 3	\$60,000.00	\$30,000.00	70
S.16.044	Quinte Conservation Lingham Lake Dam - Dam Safety Update and Public Safety Asse	\$75,000.00	\$37,500.00	65
S.16.009	St. Clair Region Conserv MckD-Dam Safety Review	\$40,000.00	\$20,000.00	65
S.16.024	Long Point Region Consr Backus Mill – Design for Remedial Repairs of Embankment Erosi	\$20,000.00	\$10,000.00	60
S.16.047	Quinte Conservation Belleville Ice Control Dams - HPC Update and Public Safety Asse	\$120,000.00	\$60,000.00	60
S.16.008	Niagara Peninsula Consr St. John's Dam Safety Review	\$30,000.00	\$15,000.00	55
S.16.045	Grand River Conservatio Stop Log Replacement Design - Caledonia and Byng Weir 4	\$50,000.00	\$25,000.00	50
S.16.010	Mississippi Valley Conse Big Gull Lake Dam Geotechnical Assessment	\$10,500.00	\$5,250.00	45
S.16.037	South Nation Conservatic Casselman Weir Dam Safety Assessment and Public Safety Asse	\$51,600.00	\$25,800.00	45
S.16.019	Upper Thames River Coi Orr Dam Wingwall Stability Monitoring	\$15,000.00	\$7,500.00	45
S.16.030	Grand River Conservatio St Jacobs Dam and Millrace DSR	\$40,000.00	\$20,000.00	40
S.16.020	Long Point Region Consr Deer Creek Dam - Embankment Topographic Survey and Rehabi	\$15,000.00	\$7,500.00	35
S.16.016	Upper Thames River Coi Ingersoll Channel Capacity Survey & Review	\$40,000.00	\$20,000.00	35
S.16.036	Credit Valley Conservatic Belfountain Dam and Headpond - CO Class EA - Phase II	\$90,398.00	\$45,199.00	25
		\$2,000,000.00	\$1,000,000.00	

S.16.036	Credit Valley Conservatic Belfountain Dam and Headpond - CO Class EA - Phase II	\$99,602.00	\$49,801.00	25
S.16.007	Niagara Peninsula Consr Dil's Lake Dam Safety Review	\$40,000.00	\$20,000.00	20
S.16.027	Toronto and Region Con Black Creek Dam Safety Review	\$90,000.00	\$45,000.00	20
S.16.034	Crowe Valley Conservati Wollaston Dam Safety Assessment	\$21,000.00	\$10,500.00	10
S.16.033	Rideau Valley Conservat Modelling study - Ashton Dam	\$9,500.00	\$4,750.00	10
S.16.032	Rideau Valley Conservat Modelling study - Hearts Desire Dam	\$9,500.00	\$4,750.00	10

Ineligible		Total Estimate	Provincial Share
S.16.038	Safety	\$389,387.00	\$194,693.50
S.16.054	Repairs	\$7,610,613.00	\$3,805,306.50
S.16.053	Studies	\$2,000,000.00	\$1,000,000.00
S.16.052	Total	\$10,000,000.00	\$5,000,000.00
S.16.051			
S.16.050			
R.16.044			
S.16.055			
S.16.031			
R.16.062			
S.16.013			

2017/18 WECL Projects

ID	CA	Project Name	Total Est	Prov Share	Score
Safety Projects					
R.17.079	Quinte Conservation	Second Lake Dam - Fall Arrest and Log Lifting Device	\$50,000.00	\$25,000.00	
R.17.037	Cataraqui Region Conserv	Sydenham Lake Dam Safety Railing Repairs	\$5,000.00	\$2,500.00	
R.17.015	Toronto and Region Conserv	Milne Dam Security Upgrade Project	\$25,000.00	\$12,500.00	
R.17.078	Quinte Conservation	Laraby Rapids Dam - Fall Arrest System and Gain Ext	\$35,000.00	\$17,500.00	
R.17.043	Crowe Valley Conservator	Allan Mills Dam Safety Boom	\$69,500.00	\$34,750.00	
R.17.044	Crowe Valley Conservator	Allan Mills Dam Signage	\$2,000.00	\$1,000.00	
R.17.042	Crowe Valley Conservator	Belmont Dam Safety Boom Re-installation	\$42,000.00	\$21,000.00	
R.17.075	Quinte Conservation	Lingham Lake Dam - Gain Extensions	\$20,000.00	\$10,000.00	
R.17.005	Mississippi Valley Conserv	Mazinaw Lake Dam Overhead Gantry System	\$35,000.00	\$17,500.00	
R.17.073	Grand River Conservation	Drimmie Dam Safety Railings	\$5,000.00	\$2,500.00	
R.17.074	Otonabee Region Conserv	Warsaw Dam Signage and Railings	\$15,264.00	\$7,632.00	
Total			\$303,764.00	\$151,882.00	
Repairs Projects					
R.17.038	Grand River Conservation	Shand and Laurel Dams - emergency backup generato	\$60,000.00	\$30,000.00	180
R.17.082	Conservation Halton	Kelso Dam, Rehabilitation Project	\$834,000.00	\$417,000.00	175
R.17.083	Conservation Halton	Kelso Dam, 60-inch Sluice Gate	\$71,830.00	\$35,915.00	175
R.17.062	Upper Thames River Cons	Fanshawe Dam Electrical Rewiring	\$100,000.00	\$50,000.00	170
R.17.084	Conservation Halton	Hilton Falls Dam, 96-in Sluice Gate	\$8,800.00	\$4,400.00	165
R.17.047	Grand River Conservation	Shand Dam - Gate Operator Controls Indicator Upgrad	\$5,000.00	\$2,500.00	160
R.17.050	Grand River Conservation	Woolwich Dam - Replace controller in MCC panel	\$15,000.00	\$7,500.00	160
R.17.057	Upper Thames River Cons	Fanshawe Dam Paint and Concrete Repairs Ph4	\$820,000.00	\$410,000.00	160
R.17.072	Grand River Conservation	Laurel Creek Dam - Rotork Operator Upgrade	\$50,000.00	\$25,000.00	160
R.17.051	Credit Valley Conservation	Island Lake South Dam Seepage Study Implementation	\$55,895.00	\$27,947.50	155
R.17.059	Credit Valley Conservation	Island Lake South Dam Retaining Wall Stabilization Ph	\$186,550.00	\$93,275.00	155
R.17.063	Upper Thames River Cons	St Marys Floodwall Repairs Ph1	\$145,000.00	\$72,500.00	155
R.17.006	Grand River Conservation	Woolwich Dam - Gate Painting	\$350,000.00	\$175,000.00	150
R.17.029	Grand River Conservation	Conestogo Dam - Concrete Repair Study	\$50,000.00	\$25,000.00	150
R.17.039	Grand River Conservation	Laurel Dam - Flashboard Replacement	\$5,000.00	\$2,500.00	150
R.17.048	Grand River Conservation	Shand Dam - Wingwall Concrete Construction Joint Cl	\$15,000.00	\$7,500.00	150
R.17.049	Grand River Conservation	Shand Dam - maintenance of reservoir stilling well intal	\$10,000.00	\$5,000.00	150
R.17.009	Lakehead Region Conserv	Neebing McIntyre Floodway Diversion Channel - Lip Se	\$75,000.00	\$37,500.00	145
R.17.013	Credit Valley Conservation	Island Lake Riser Outlet Improvement Implementation	\$129,921.00	\$64,960.50	145
R.17.014	Grand River Conservation	Brantford Dyke - Concrete Slabs Repair	\$10,000.00	\$5,000.00	145
R.17.055	Essex Region Conservatio	Little River Flood Control Dykes – Brushing	\$85,000.00	\$42,500.00	145
R.17.064	Upper Thames River Cons	Pittock Dam Control HutWork Extension Pt2 & Hoist Sy	\$60,000.00	\$30,000.00	145
R.17.065	Upper Thames River Cons	Pittock Dam Embankment Restoration Ph1	\$100,000.00	\$50,000.00	145
R.17.067	Upper Thames River Cons	Wildwood Dam Buildings Masonry Ph2	\$35,000.00	\$17,500.00	145
R.17.070	Otonabee Region Conserv	Millbrook Dam Construction Management / Administrat	\$101,760.00	\$50,880.00	145
R.17.017	Grand River Conservation	Bridgeport Dyke - DSR implementation phase 4	\$5,000.00	\$2,500.00	140
R.17.030	Grand River Conservation	Guelph and Shades Mill Dam - dam crest crack sealing	\$20,000.00	\$10,000.00	140
R.17.046	Long Point Region Conser	Teeterville Dam - Tree Removal	\$20,000.00	\$10,000.00	140
R.17.058a	Upper Thames River Cons	London Dykes Hazard Trees Removal Ph3	\$20,000.00	\$10,000.00	140
R.17.060	Grand River Conservation	Guelph Dam - Gate Hoist and Diesel tank drip hood	\$20,000.00	\$10,000.00	140

R.17.071	Hamilton Conservation Au Christie Lake Dam Low Flow Valves Replacement	\$60,000.00	\$30,000.00	140
R.17.077	Otonabee Region Conserv Jackson Creek near Jackson Heights Ice /Debris Boor	\$20,352.00	\$10,176.00	140
R.17.010	Essex Region Conservatio Belle River Flood Control - River Shorewall Repairs - Pl	\$155,000.00	\$77,500.00	135
R.17.025	Grand River Conservation Cambridge Dyke - Block Wall Rehabilitation	\$30,000.00	\$15,000.00	135
R.17.041	Grand River Conservation Shades Mill - Manometer Room Rehabilitation	\$45,000.00	\$22,500.00	135
R.17.001	Upper Thames River Cons Wildwood Drain Valve Actuator, Gate and Valve Pos S	\$40,000.00	\$20,000.00	130
R.17.003	Ausable Bayfield Conserv: Parkhill Dam Concrete Repairs	\$9,600.00	\$4,800.00	130
R.17.066	Upper Thames River Cons Wildwood Dam Valves Casing Corrosion Protection	\$100,000.00	\$50,000.00	130
R.17.004	Mattagami Region Conser TOWN CREEK MAJOR MAINTENANCE / CHANNEL I	\$50,000.00	\$25,000.00	125
R.17.024	Grand River Conservation Cambridge Dyke - Floodwall completion at Main and W	\$80,000.00	\$40,000.00	125
R.17.081	Nickel District Conservatio Junction Creek Box Culvert Rehabilitation	\$484,000.00	\$242,000.00	125
R.17.045	Long Point Region Conser Backus Mill Dam - Repair	\$110,000.00	\$55,000.00	120
R.17.027	St. Clair Region Conservat McKeough Wing wall repair	\$30,000.00	\$15,000.00	115
R.17.011	Toronto and Region Conser 1025 Scarlett Road Major Erosion Control Maintenance	\$795,000.00	\$397,500.00	110
R.17.018	St. Clair Region Conservat Sarnia Shoreline Protection Repair- Phase 1	\$600,000.00	\$300,000.00	110
R.17.023	St. Clair Region Conservat McKeough Sill Repair	\$30,000.00	\$15,000.00	105
R.17.028	St. Clair Region Conservat McKD - Drop Structure Downstream Erosion Control	\$80,000.00	\$40,000.00	105
R.17.035	Crowe Valley Conservator Marmora Dam Power Gate	\$14,500.00	\$7,250.00	105
R.17.022	St. Clair Region Conservat Courtright Shoreline Rehabilitation	\$600,000.00	\$300,000.00	100
R.17.052	Grand River Conservation Caledonia Dam - Stop Log Replacement	\$50,000.00	\$25,000.00	100
R.17.058b	Upper Thames River Cons London Dykes Hazard Trees Removal Ph3	\$5,000.00	\$2,500.00	100
R.17.016	Credit Valley Conservation Monora Dam Outlet Rip-Rap Protection	\$15,300.00	\$7,650.00	95
R.17.021	St. Clair Region Conservat McKD-Watercourse Obstruction Removal	\$16,000.00	\$8,000.00	95
R.17.040	Cataraqui Region Conserv Expansion Joint Repair/Replace	\$13,500.00	\$6,750.00	90
R.17.053	Grand River Conservation New Dundee Dam - stilling well isolation valve replacen	\$12,000.00	\$6,000.00	90
R.17.054	Grand River Conservation New Dundee Dam - Backup Generator	\$45,000.00	\$22,500.00	90
R.17.080	Quinte Conservation Demorestville Dam	\$20,000.00	\$10,000.00	90
R.17.012	Toronto and Region Conser Beaucourt Road Retaining Wall Maintenance (MC02)	\$150,000.00	\$75,000.00	85
R.17.032	Cataraqui Region Conserv Fred Grant Dam - RipRap Repairs	\$5,000.00	\$2,500.00	85
R.17.068	South Nation Conservator Casselman Weir – Bay Closure and Erosion Repair	\$58,000.00	\$29,000.00	85
R.17.026	Grand River Conservation New Hamburg Dyke Rehabilitation	\$80,000.00	\$40,000.00	80
R.17.056	Grand River Conservation Wellesley Dam - Gate Repairs	\$35,000.00	\$17,500.00	80
R.17.076	Quinte Conservation Flinton Dam - Rip-Rap Improvements	\$15,000.00	\$7,500.00	80
R.17.033	Cataraqui Region Conserv Sill Plate Corrosion Repair	\$5,000.00	\$2,500.00	75
R.17.034	Cataraqui Region Conserv Marsh Bridge Dam - Rip Rap Repair/Extension	\$20,000.00	\$10,000.00	65
R.17.036	Cataraqui Region Conserv Temperance Lake Dam Concrete Repairs	\$5,000.00	\$2,500.00	65
R.17.019	St. Clair Region Conservat Esli Dodge Repair Project	\$20,000.00	\$10,000.00	60
R.17.020	St. Clair Region Conservat LCHP - Outfall Erosion Control	\$30,000.00	\$15,000.00	60
R.17.007	Credit Valley Conservation Muskrat Pond Decommissioning	\$240,000.00	\$120,000.00	15
Total		\$7,637,008.00	\$3,818,504.00	
Studies				
S.17.020	Grand River Conservation Laurel Creek DSR Phase 3	\$60,000.00	\$30,000.00	110
S.17.028	Upper Thames River Cons Dam Safety Studies Ph1 - Scoping	\$75,000.00	\$37,500.00	110
S.17.017	Grand River Conservation Conestogo Dam - Gate Control and gate gain heater de	\$85,000.00	\$42,500.00	110
S.17.018	Grand River Conservation Conestogo Dam - DSR implementation - Dambreak Me	\$10,000.00	\$5,000.00	110
S.17.019	Grand River Conservation Guelph Dam - Isolation Bulkhead Design for Low Level	\$40,000.00	\$20,000.00	110

S.17.039	Quinte Conservation	Dam Inspections and Capital Maintenance Plan	\$90,000.00	\$45,000.00	105
S.17.024	Grand River Conservation	Woolwich Dam - HPC, OMS, EPP	\$60,000.00	\$30,000.00	100
S.17.013	Grand River Conservation	Brantford Dyke - Stop Log Closures Design	\$35,000.00	\$17,500.00	95
S.17.014	Grand River Conservation	Bridgeport Dyke - Seepage and Stability Remediation	\$50,000.00	\$25,000.00	90
S.17.029	Upper Thames River Cons	West London Dyke Ph 4 Design	\$180,000.00	\$90,000.00	90
S.17.030	Upper Thames River Cons	West London Dyke Erosion Control EA	\$90,000.00	\$45,000.00	90
S.17.006	Toronto and Region Cons	Stouffville Dam Liquefaction Study	\$65,000.00	\$32,500.00	85
S.17.016	Grand River Conservation	Cambridge Dyke - OMS manual	\$25,000.00	\$12,500.00	85
S.17.009	Lower Trent Conservation	Warkworth Dam Safety Review	\$110,000.00	\$55,000.00	75
S.16.027	Toronto and Region Cons	Black Creek Dam Safety Review	\$72,000.00	\$36,000.00	70
S.17.021	Long Point Region Conser	Teeterville Dam – Sediment Management Plan	\$30,000.00	\$15,000.00	70
S.17.022	Long Point Region Conser	Vittoria Dam – Hazard Classification Refinement	\$20,000.00	\$10,000.00	70
S.17.023	Long Point Region Conser	Vittoria Dam - Sediment Management Plan	\$20,000.00	\$10,000.00	70
S.17.034	Upper Thames River Cons	Broughdale Dyke EA	\$100,000.00	\$50,000.00	70
S.17.035	Upper Thames River Cons	Riverview Dyke EA	\$100,000.00	\$50,000.00	70
S.17.038	South Nation Conservator	Seguinbourg Berm – Vegetation Assessment	\$5,000.00	\$2,500.00	70
S.17.015	St. Clair Region Conservat	McKD-Vegetation Management Plan	\$20,000.00	\$10,000.00	65
S.17.040	Conservation Halton	Milton Channel	\$82,500.00	\$41,250.00	60
S.17.041	Conservation Halton	Morrison-Wedgewood Channel	\$55,000.00	\$27,500.00	60
S.17.008	Niagara Peninsula Conser	St. John's Dam Safety Review	\$80,000.00	\$40,000.00	55
S.17.032	Mississippi Valley Conserv	Shabomeka Lake Dam DDesign study	\$80,000.00	\$40,000.00	55
S.17.001	Credit Valley Conservation	Belfountain Dam and Headpond - CO Class EA - Phas	\$190,000.00	\$95,000.00	50
S.17.005	Ausable Bayfield Conserv	Morrison Dam Geotechnical Stability Study	\$11,500.00	\$5,750.00	50
S.17.036	Upper Thames River Cons	Orr Dam Wingwalls Stability Review	\$40,000.00	\$20,000.00	45
S.17.025	Grand River Conservation	St.Jacobs Dam - Embankment and Outlet Design	\$25,000.00	\$12,500.00	40
S.17.026	Grand River Conservation	Wellesley Dam - Concrete Repair	\$20,000.00	\$10,000.00	40
S.17.027	Grand River Conservation	Wellington Street Dam	\$30,000.00	\$15,000.00	40
S.17.031	Mississippi Valley Conserv	Widow Lake Dam pre-engineering study for retrofit	\$20,000.00	\$10,000.00	35
S.17.039b	Quinte Conservation	Dam Inspections and Capital Maintenance Plan	\$13,000.00	\$6,500.00	35
S.17.033	Rideau Valley Conservatio	Gabion basket inspection - Graham creek	\$10,100.00	\$5,050.00	30
S.17.011	Toronto and Region Cons	Gwendolen Crescent (100-104) Slope Stability Study	\$40,000.00	\$20,000.00	25
S.17.039c	Quinte Conservation	Dam Inspections and Capital Maintenance Plan	\$20,128.00	\$10,064.00	25
Total			\$2,059,228.00	\$1,029,614.00	
S.17.039c	Quinte Conservation	Dam Inspections and Capital Maintenance Plan	\$35,872.00	\$18,436.00	25
S.17.010	Credit Valley Conservation	Armstrong Property Slope Stability Study	\$20,000.00	\$10,000.00	15
S.17.012	Toronto and Region Cons	Palgrave Dam Safety Review	\$70,000.00	\$35,000.00	10

Ineligible Projects

R.17.008

R.17.031

R.17.061

R.17.069

S.17.037

R.05.14

Summary

Safety Projects	\$303,764.00	\$151,882.00
Repair Projects	\$7,637,008.00	\$3,818,504.00
Studies	\$2,059,228.00	\$1,029,614.00
Total	\$10,000,000.00	\$5,000,000.00

Embro Dam and Harrington Dam

Background

- Upper Thames River Conservation Authority (UTRCA) in conjunction with the Township retained Ecosystem Recovery to prepare a Class Environmental Assessment (EA) for the Embro Dam and the Harrington Dam.
- Ecosystem Recovery filed a draft Class EA and UTRCA presented the findings in presentation to Council at June 20, 2017 Council meeting.
- Township staff presented Memo 2017-110 to Council on July 25, 2017 which reviewed and summarized the data from the draft report on the several points; including capital costs relating to various alternatives; potential funding opportunities and operating and maintenance costs associated with each alternative.
- At the July 25, 2017, Council directed staff to investigate and report back to Council with an analysis on impact on Township's finances; cash flow; capital budgets and tax levy; and debenture room on the following alternatives.
 1. Embro Dam – Preferred Alternative #3 – Remove dam and construct natural channel.
 2. Harrington Dam – Preferred Alternative #4 – remove dam, construct offline pond and channel.
 3. Harrington Dam – Alternative #7 – reconstruct dam in current location.

EMBRO DAM

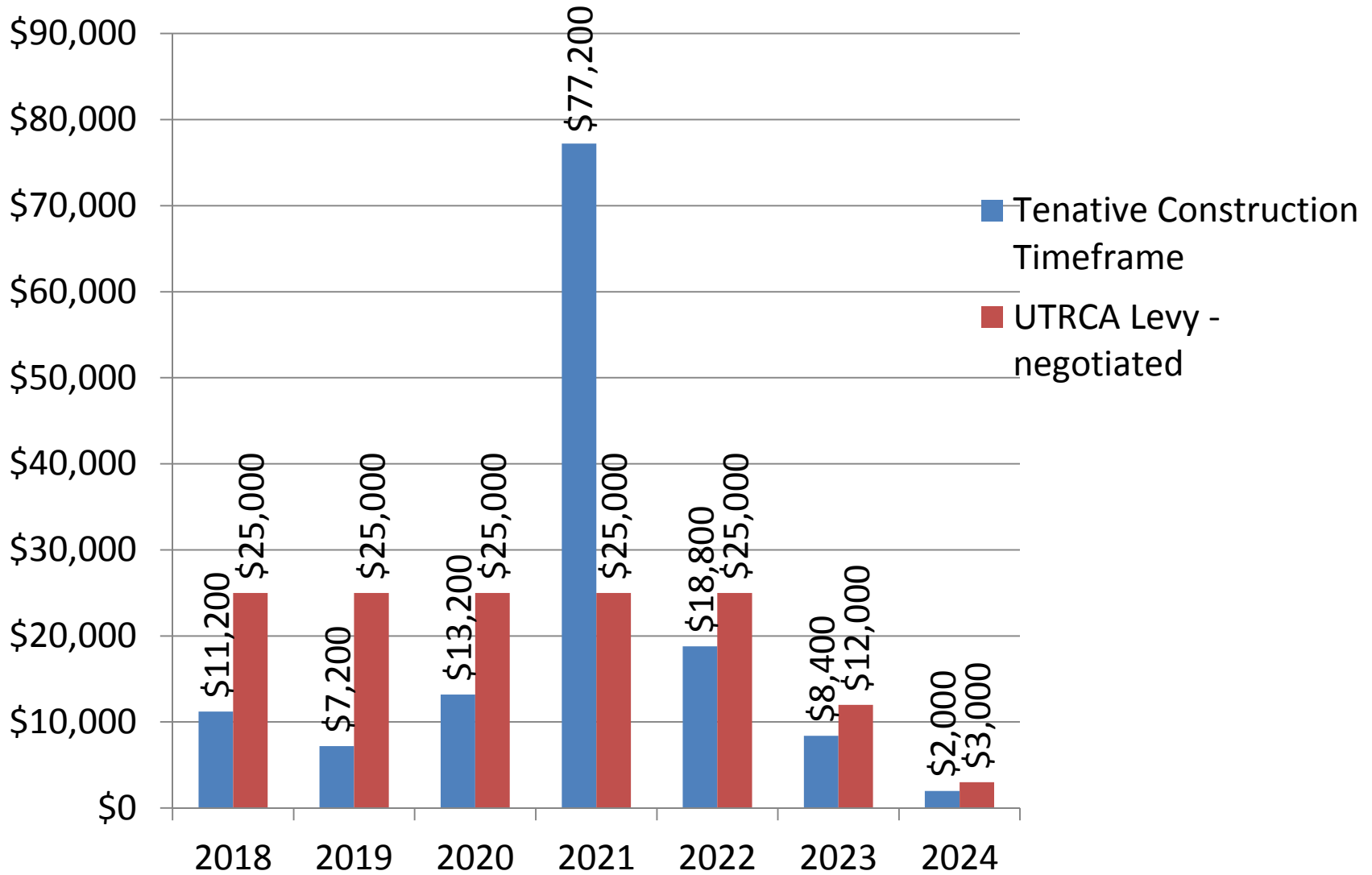
Preferred Alternative 3 – Remove Dam, Natural Channel



Parameters: (developed in consultation with UTRCA staff)

- Township supports to include in the 2018 UTRCA levy approximately \$4,000.00 to deal with the shortfall in the Embro Dam Reserve as a result of unfunded expenditures including the work relating to the Ecosystem Recovery EA assessment.
- Ecosystem Recovery draft EA construction estimates will be used. For Alternative #3 – \$250,000 - \$320,000. For this analysis we are using \$300,000.00.
- Assuming Zorra and UTRCA are successful in grant applications to fund 60% of the estimated construction costs for dam removal. Therefore Township share of this capital project is \$120,000.00.
- The assumed project schedule would have the preliminary design commencing in 2018 with the construction planned in 2021/22.
- In consultation; Township and UTRCA staff would propose to the Board of Directors of UTRCA to levy to the Township \$25,000.00 beginning 2018 to 2022; and then re-assess the annual UTRCA levy in 2023 to fund any short-fall and future maintenance.

Emburo Dam – Cash Flow

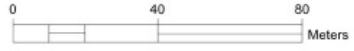
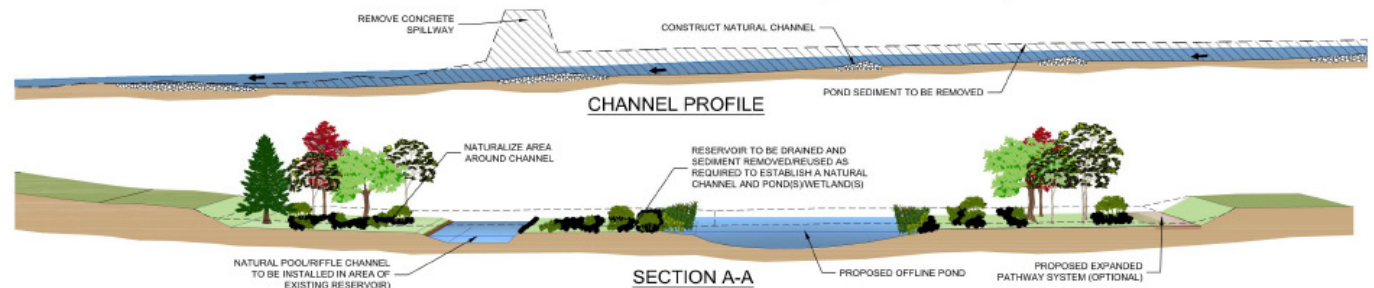


Harrington Dam Preferred Alternative . 4 – Remove Dam, Natural Channel, Off-line Pond

- FEATURES:**
- NEW PATHWAYS
 - NATURAL CHANNEL
 - SAFE SLOPES
 - EMBANKMENTS
 - SHOALS
 - SHORELINE ENHANCEMENTS
 - POTENTIAL FOR HISTORICAL STRUCTURES TO BE REFLECTED IN REMOVAL OPTIONS
- OPTIONAL FEATURES:**
(subject to funding)
- PEDESTRIAN BRIDGE
 - EXPANDED TRAIL
 - LOOKOUT
 - SLUICE BYPASS CHANNEL



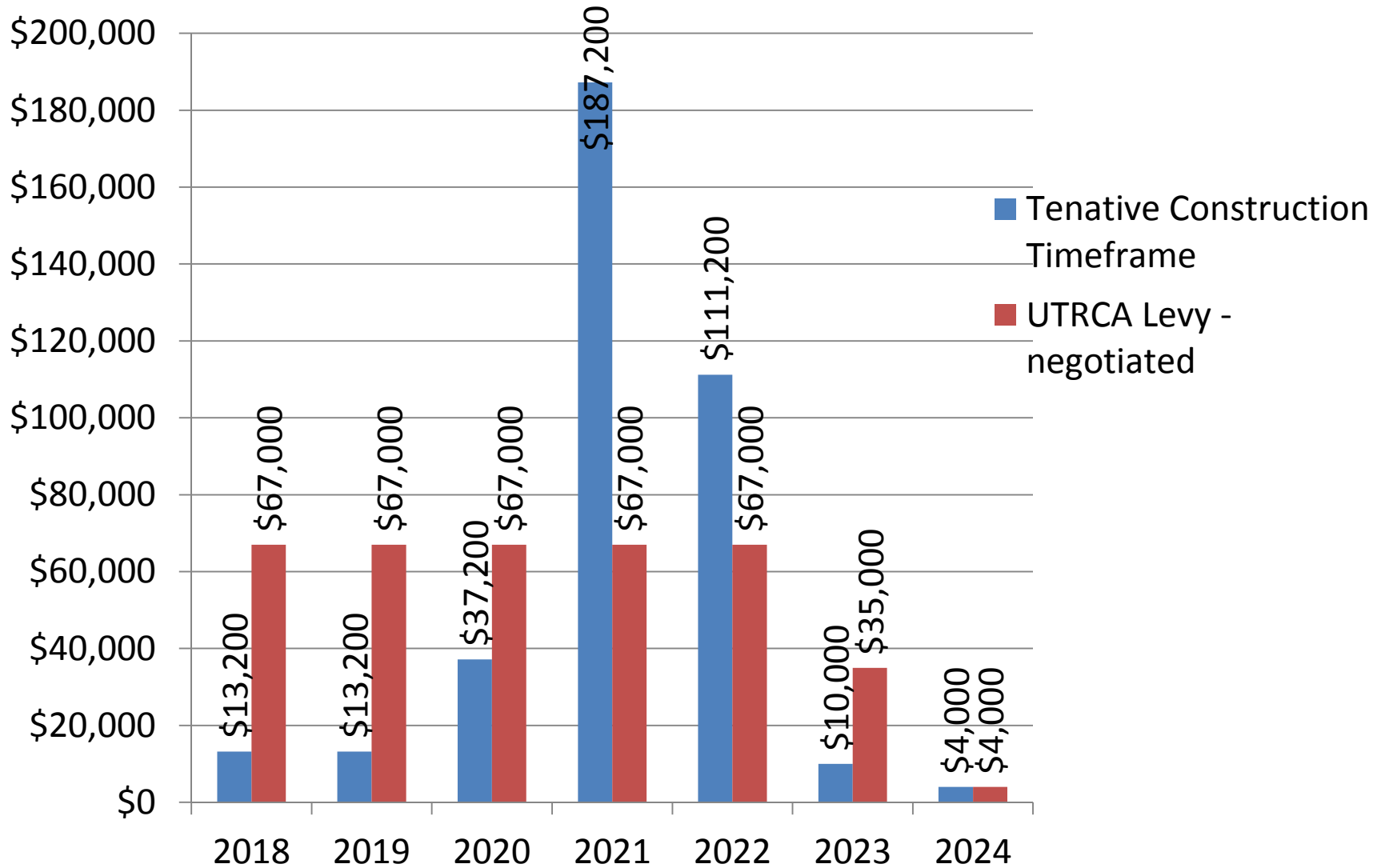
POND WITH CREEK



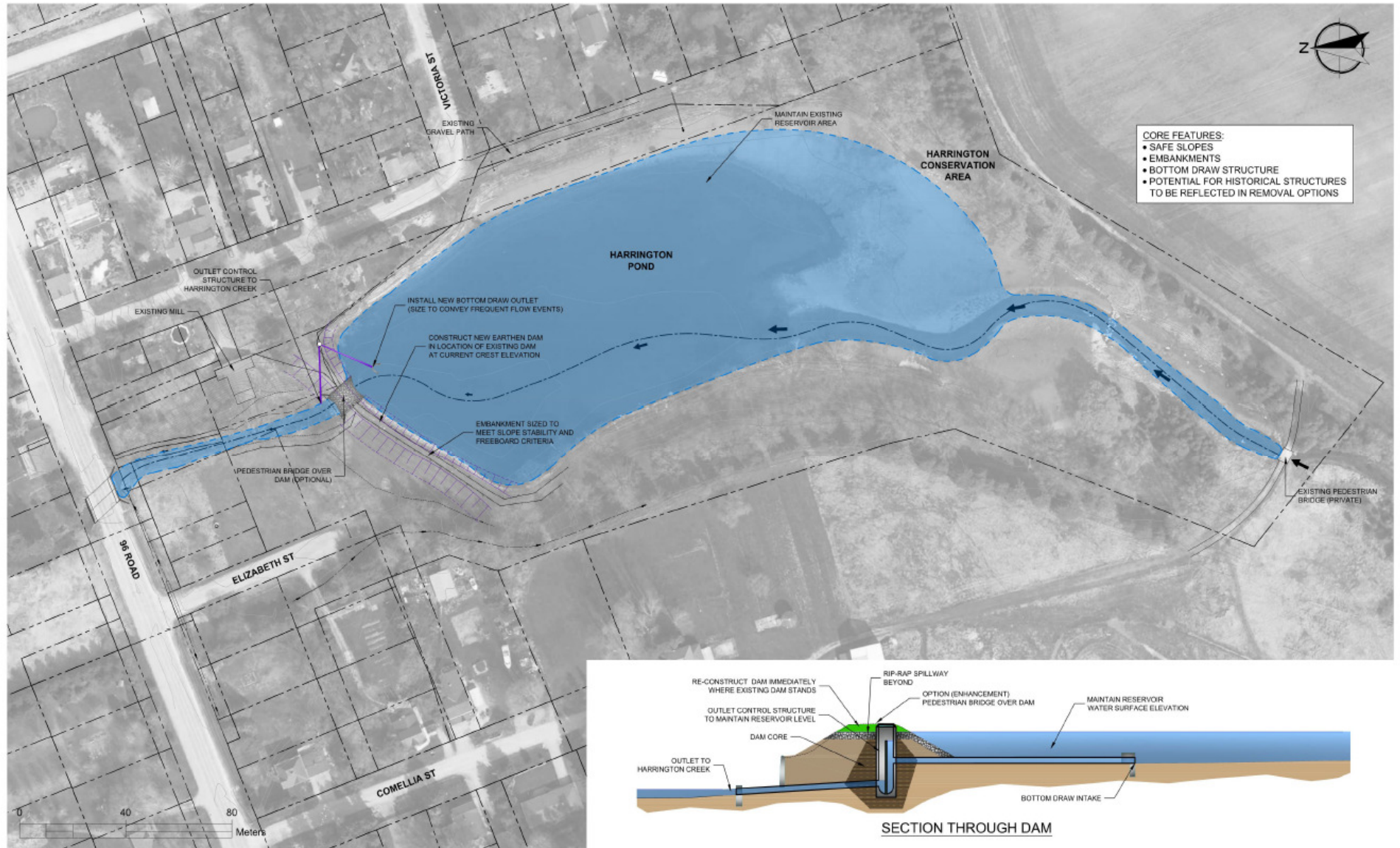
Parameters: (developed in consultation with UTRCA staff)

- The UTRCA staff are forecasting that the Harrington Dam Reserve will be have a small surplus of \$2500.00 and the end of 2017; after funding costs associated with Ecosystem Recovery EA assessment.
- Ecosystem Recovery draft EA construction estimates will be used. For Alternative #4 – \$800,000 - \$1,000,000. For this analysis we are using \$900,000.00.
- Assuming Zorra and UTRCA Are successful in grant applications to fund 60% of the estimated construction costs for dam removal. Therefore Township share of this capital project is \$360,000.00.
- The assumed project schedule would have preliminary design commencing in 2018 with the construction planned in 2021/22.
- In consultation; Township and UTRCA staff would propose to the Board of Directors of UTRCA to levy to the Township \$67,000.00 beginning 2018 to 2022; and then re-assessed the annual UTRCA levy in 2023 to confirm the reserve and future maintenance costs.

Harrington Dam – Alternative # 4 Cash Flow



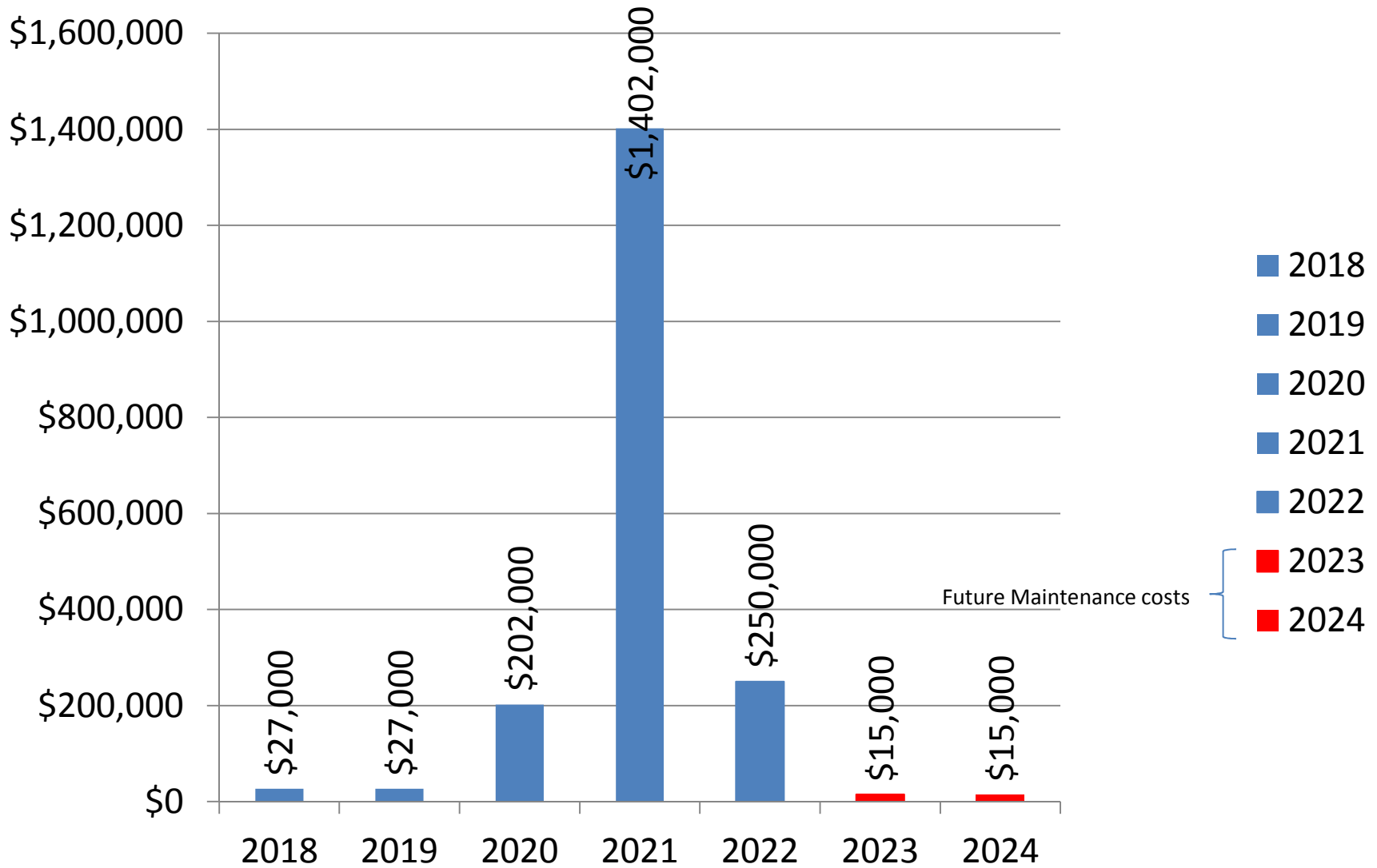
Harrington Dam - Alternative 7 – Reconstruct Existing Dam

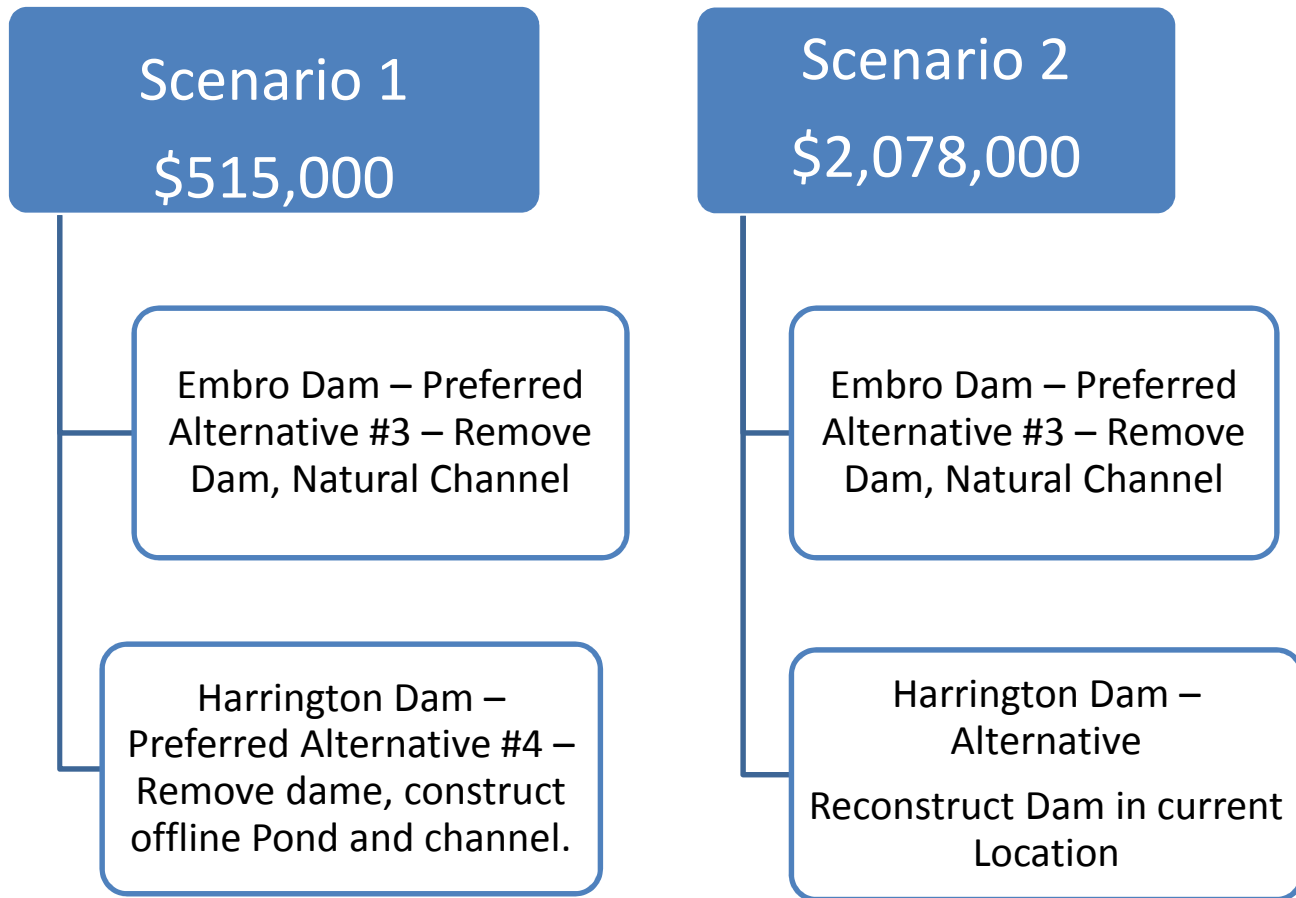


Parameters: (developed in consultation with UTRCA staff)

- The UTRCA staff are forecasting that the Harrington Dam Reserve will be have a small surplus of \$2500.00 and the end of 2017; after funding costs associated with Ecosystem Recovery EA assessment.
- Ecosystem Recovery draft EA construction estimates will be used. For Reconstruction Alternative(s) - \$1,100,000 - \$2,100,000. For this analysis we are using \$1,900,000.00
- As reported to Council in Memo 2017-110; UTRCA advised that it is unlikely that there are funding programs that would provide funding for Dam replacement; subsequently the Township share would of this capital project would be the \$1,900,000.00.
- The assumed project schedule would have preliminary design commencing in 2019 and construction planned for 2021/22. While costs would be spread over 2018 to 2023 approximately \$1.4M would be required in 2021. The UTRCA levy for 2022 would be determined based on reserve balances at the end with a goal to establish a sufficient reserve for ongoing operation and maintenance costs associated with a reconstructed dam and pond.
- Due to the sufficient cost of this project; the Township would have to reimburse the UTRCA 100% of the costs in the year(s) in which the work was completed.

Harrington Dam – Alternative # 7 Cash Flow





There is a \$1,563,000.00 funding differential between Scenario 1 and Scenario 2

Zorra's Financial and Debt Indicators

The Ministry of Municipal Affairs annually provides the following reports:

- Financial Indicator Review (attached) dated November 3, 2016. The Township level of challenge in majority of the indicators is low to moderate EXCEPT for the Township's "Debt Servicing Cost as a total Operating revenue" which is HIGH at 10.9%, the average for South Western Ontario is 3.4%.
- Annual Repayment Limit. (attached) dated August 4, 2017. This limit represents the maximum amount which the Township had available to commit to payments relating to new debt.
- The other slides illustrates the current listing of Long Term debentures; the annual debt repayments amounts; changes to the debenture schedule based on proposed new debenture to begin 2020 for the Public works building.

Based on this all this information; it is felt that the Township's financial position would be compromised if additional debt is taken on prior to the construction of the Public Works shop.

FINANCIAL INDICATOR REVIEW

(Based on 2015 Financial Information Return)

Zorra Tp (Oxford Co)

Date Prepared:	03-Nov-16	Tier:	Lower Tier
MSO Office:	Western Ontario	MAH Code:	37605
Prepared By:	Michael Schnare	MUNID:	32027
		REV Code:	3227

FINANCIAL INDICATORS

Indicator	Ranges	Actuals	South - LT - Regions - Rural		Level of Challenge	
			Median	Average		
Net Financial Assets or Net Debt as a % of Own Purpose Taxation Plus User Fees	Low: > -50% Mod: -50% to -100% High: < -100%	2011	-69.9%	58.4%	54.3%	MODERATE
		2012	-53.5%	26.6%	53.9%	MODERATE
		2013	-35.4%	41.5%	62.0%	LOW
		2014	-19.8%	43.7%	66.5%	LOW
		2015	-40.7%	51.4%	71.0%	LOW
Total Reserves and Discretionary Reserve Funds as a % of Operating Expenses	Low: > 20% Mod: 10% to 20% High: < 10%	2011	47.4%	43.2%	45.2%	LOW
		2012	54.8%	47.7%	47.2%	LOW
		2013	52.8%	47.7%	47.7%	LOW
		2014	47.6%	46.1%	47.9%	LOW
		2015	47.1%	47.8%	49.5%	LOW
Debt Servicing Cost as a % of Total Operating Revenue	Low: < 5% Mod: 5% to 10% High: > 10%	2011	12.6%	2.9%	3.4%	HIGH
		2012	11.6%	3.3%	3.7%	HIGH
		2013	12.0%	3.1%	4.0%	HIGH
		2014	14.4%	2.9%	3.6%	HIGH
		2015	10.9%	2.9%	3.4%	HIGH
Total Taxes Receivable less Allowance for Uncollectables as a % of Total Taxes Levied	Low: < 10% Mod: 10% to 15% High: > 15%	2011	7.0%	9.0%	9.1%	LOW
		2012	5.3%	9.4%	9.0%	LOW
		2013	6.1%	8.6%	9.1%	LOW
		2014	5.9%	9.2%	9.3%	LOW
		2015	6.6%	8.7%	8.6%	LOW
Total Cash and Cash Equivalents as a % of Operating Expenses	Low: > 10% Mod: 5% to 10% High: < 5%	2011	33.5%	31.5%	36.6%	LOW
		2012	50.0%	36.7%	40.4%	LOW
		2013	41.7%	42.8%	45.5%	LOW
		2014	38.1%	41.4%	46.2%	LOW
		2015	42.1%	47.8%	51.5%	LOW
Net Working Capital as a % of Total Municipal Operating Expenses	Low: > 10% Mod: 10% to -10% High: < -10%	2011	51.9%	42.6%	52.1%	LOW
		2012	60.8%	46.4%	54.1%	LOW
		2013	62.6%	51.8%	60.0%	LOW
		2014	55.9%	59.4%	58.6%	LOW
		2015	58.5%	62.8%	62.9%	LOW
* Asset Consumption Ratio	Low: < 25% Mod: 26% to 75% High: > 75%	2011	33.9%	41.0%	41.2%	MODERATE
		2012	33.6%	41.6%	42.0%	MODERATE
		2013	34.5%	42.9%	43.3%	MODERATE
		2014	35.2%	44.6%	44.9%	MODERATE
		2015	36.6%	46.2%	45.7%	MODERATE

 The data and information contained in this document is for informational purposes only. Any use of the data and information in this document should be done by qualified individuals. This information is not intended to be used on its own and should be used in conjunction with other financial information and resources available.

September 5, 2016

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Ministry of Municipal Affairs
777 Bay Street,
Toronto, Ontario M5G 2E5

Ministère des affaires municipales
777 rue Bay,
Toronto (Ontario) M5G 2E5

2017 ANNUAL REPAYMENT LIMIT

(UNDER ONTARIO REGULATION 403 / 02)

MMAH CODE:	37605	FIR CLEAN FLAG:	Accepted Clean
MUNID:	32027		
MUNICIPALITY:	Zorra Tp		
UPPER TIER:	Oxford Co		
REPAYMENT LIMIT:		\$	930,788

The repayment limit has been calculated based on data contained in the 2015 Financial Information Return, as submitted to the Ministry. This limit represents the maximum amount which the municipality had available as of December 31, 2015 to commit to payments relating to debt and financial obligation. Prior to the authorization by Council of a long term debt or financial obligation, this limit must be adjusted by the Treasurer in the prescribed manner. The limit is effective January 01, 2017

FOR ILLUSTRATION PURPOSES ONLY,

The additional long-term borrowing which a municipality could undertake over a 5-year, a 10-year, a 15-year and a 20-year period is shown.

If the municipalities could borrow at 5% or 7% annually, the annual repayment limits shown above would allow it to undertake additional long-term borrowing as follows:

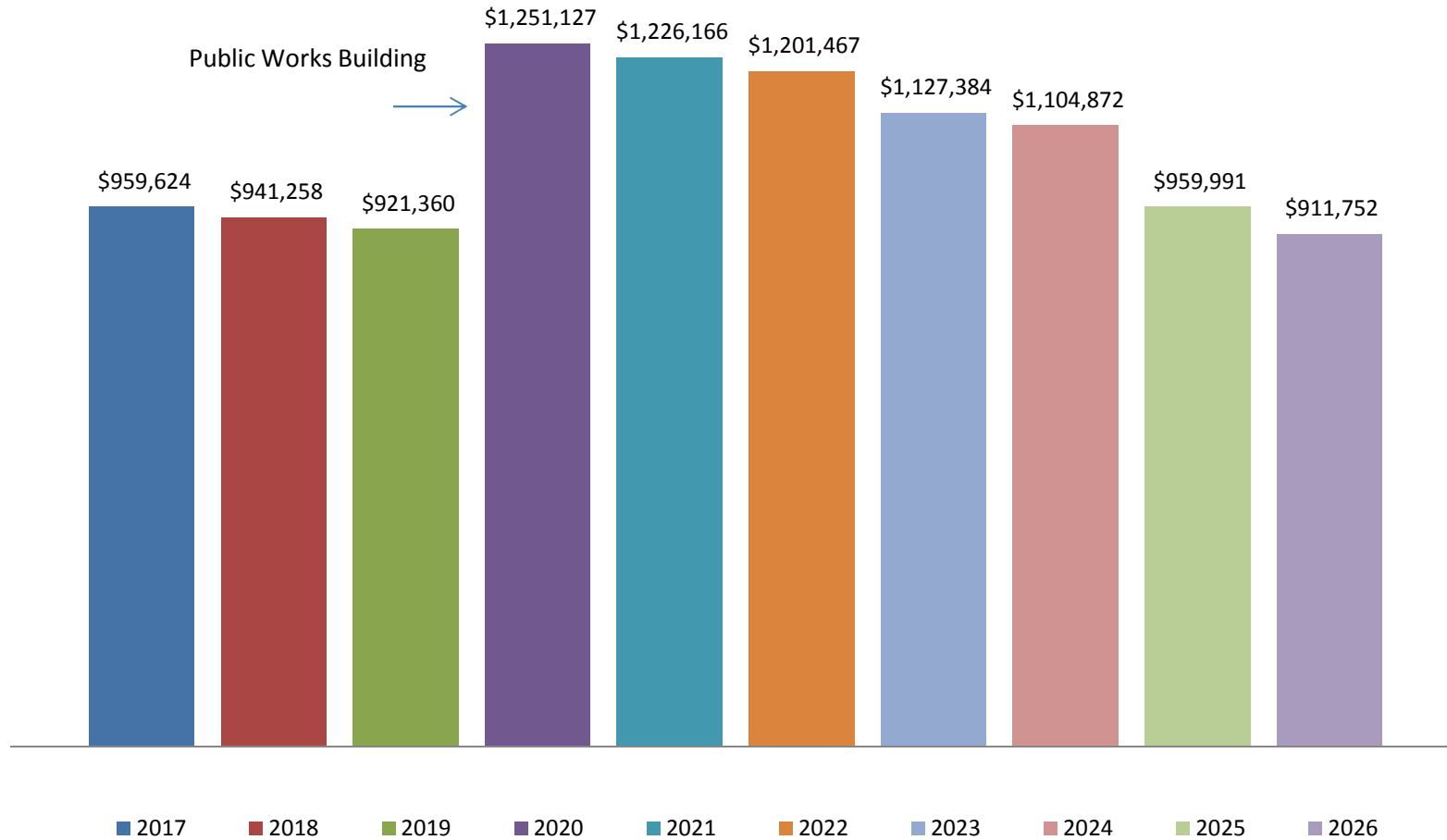
5% Interest Rate		
(a)	20 years @ 5% p.a.	\$ 11,599,670
(a)	15 years @ 5% p.a.	\$ 9,661,256
(a)	10 years @ 5% p.a.	\$ 7,187,294
(a)	5 years @ 5% p.a.	\$ 4,029,823
7% Interest Rate		
(a)	20 years @ 7% p.a.	\$ 9,860,776
(a)	15 years @ 7% p.a.	\$ 8,477,533
(a)	10 years @ 7% p.a.	\$ 6,537,462
(a)	5 years @ 7% p.a.	\$ 3,816,413

Current Township Debentures

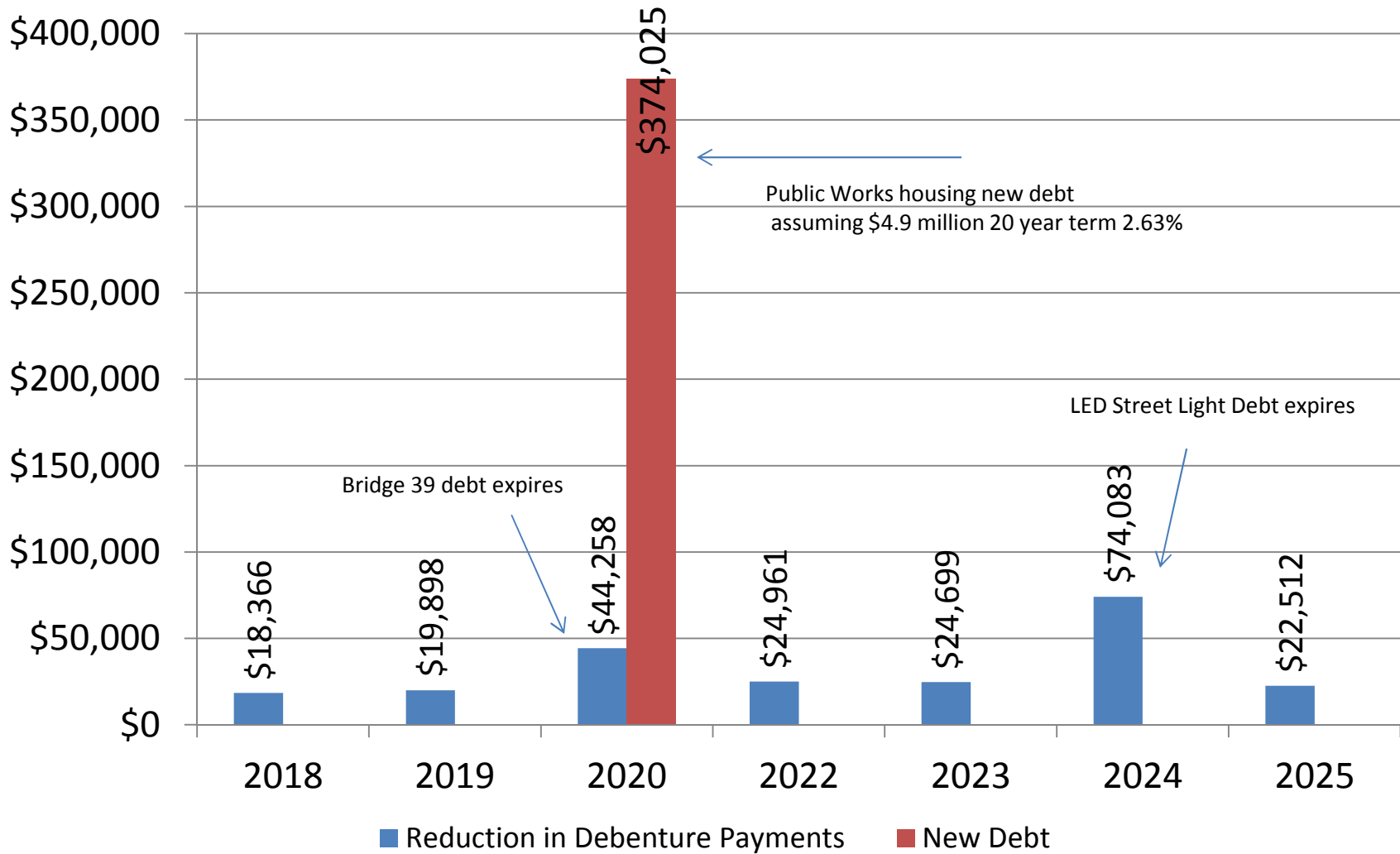
Project	Original Debt	Term & interest rate	Expiry year
Bridge 39	\$390,000.00	2005- 15 years 2.67%	2019
Thamesford Phase 3	\$965,543.00	2006- 20 years 4.66%	2026
Thamesford Phase 4	\$1,100,000.00	2007 20 years 4.72%	2027
Thamesford Phase 5	\$2,600,000.00	2008 20 years 4.85%	2027
Thamesford Phase 6	\$1,119,962.00	2009 20 years 5.49%	2028
Embro Phase 1	\$1,350,000.00	2010 15 years 3.97%	2024
Embro Phase 2	\$2,000,000.00	2012 15 years 3.72%	2026
LED Street Light	\$496,000.00	2012 10 years 2.64%	2022
Thamesford Firehall	\$1,700,000.00	2016 20 years 3.23%	2035

Annual Debt Repayments on Tax Levy

Current Debt load and new debenture in 2019



Annual Debenture Room Available at 2017 Taxing Levels Plus Proposed new debenture payments



Financial Impact on Taxation

The 2017 Township tax levy requirement was \$7,328,339.00 and attributed to:

- Operating expenditures \$4,871,539.00
- Capital expenditures \$2,456,800.00 *
- Capital expenditures include major renovations, improvements or replacement of all assets & infrastructure, transfer to capital reserves and debenture repayments.

The capital levy requirement of \$2,456,800.00 was based on 2017-2021 five year capital infrastructure plan; which Council adopted May, 2017. This plan is revisited every year during budget deliberations to confirm the proposed yearly projects priorities; review projected costs and determine if there is any proposed new funding government programs.

At August 8, 2017 Council, Memo 2017-113 from the Director of Public Works; updated Council on proposed asphalt rehabilitation schedule and costs associated with such plan. What was evident was that the several major roads are deteriorating faster than the original May 2017 budget report; requiring the need to change the scope of the work from Hot mix overlay to the need to pulverize and then hot mix pave; thus increase costs.

Financial Impact on Taxation – Cont'd

To illustrate the impact of this recent memo on Asphalt rehabilitation and the two Scenarios regarding the Embro Dam and Harrington Dam; staff prepared four spreadsheets for discussion purposes on the financial impact on taxation for capital infrastructure.

1. 2017-2021 Capital Budget and Financing as adopted by Council on May 2, 2017.
2. 2018-2022 Capital Budget and Financing; accounting for the proposed increase in revenues from MNR Aggregate royals to begin in 2019; and the increase in construction costs for asphalt rehabilitation.
3. 2018-2022 Capital Budget and Financing; accounting for the proposed increase in revenues from MNR Aggregate royals to begin in 2019; and the increase in construction costs for asphalt rehabilitation **plus financing scenario 1 for Embro Dam and Harrington Dam.**
4. 2018-2022 Capital Budget and Financing; accounting for the proposed increase in revenues from MNR Aggregate royals to begin in 2019; and the increase in construction costs for asphalt rehabilitation **plus financing scenario 2 for Embro Dam and Harrington Dam.**

2017-2021 CAPITAL BUDGET APPROVED BY COUNCIL MAY 2, 2017

TOWNSHIP OF ZORRA	2017	2018	2019	2020	2021	Total
Expenditures						
Debenture Payments	\$ 959,624.00	\$ 941,258.00	\$ 929,360.00	\$ 1,251,127.00	\$ 1,226,167.00	\$ 5,307,536.00
Transfer to Reserves- Tax levy - base level	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 3,325,000.00
Capital Expenditures - from detail Listing						
General Department -Building	\$ 36,800.00	\$ -	\$ -	\$ -		\$ 36,800.00
General Department -Equipment	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 50,000.00
Multiple buildings - Keypad entry	\$ 39,200.00	\$ -	\$ -	\$ -	\$ -	\$ 39,200.00
Fire Department -Building	\$ 52,500.00	\$ -	\$ -	\$ -	\$ -	\$ 52,500.00
Fire Department -Vehicles	\$ 40,250.00	\$ 397,000.00	\$ -	\$ -	\$ -	\$ 437,250.00
Fire Department - Equipment	\$ 185,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 685,000.00
Recreation -Buildings	\$ 505,000.00	\$ 160,000.00	\$ 5,000.00	\$ 130,000.00	\$ -	\$ 800,000.00
Recreation - Machinery/Equipment	\$ 178,500.00	\$ 70,000.00	\$ -	\$ -	\$ -	\$ 248,500.00
Recreation - New Infrastructure	\$ 70,000.00	\$ 80,000.00	\$ -	\$ -	\$ -	\$ 150,000.00
Roads- Buildings	\$ -	\$ -	\$ 6,000,000.00	\$ -	\$ -	\$ 6,000,000.00
Roads - Vehicles	\$ 675,000.00	\$ 260,000.00	\$ 320,000.00	\$ 510,000.00	\$ 522,000.00	\$ 2,287,000.00
Roads - Sidewalks	\$ 19,000.00	\$ -	\$ -	\$ -	\$ -	\$ 19,000.00
Road Construction	\$ 1,012,500.00	\$ 1,518,200.00	\$ 881,000.00	\$ 634,925.00	\$ 422,000.00	\$ 4,468,625.00
Bridges and Culvert Construction	\$ 488,500.00	\$ 480,000.00	\$ 419,000.00	\$ 666,000.00	\$ 337,000.00	\$ 2,390,500.00
Total Capital Expenditures	\$ 4,936,874.00	\$ 4,706,458.00	\$ 9,354,360.00	\$ 3,992,052.00	\$ 3,307,167.00	\$ 26,296,911.00
Funding Sources						
- OCIF annual grant - Road infrastructure	\$ (50,000.00)	\$ (58,520.00)	\$ (92,604.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (301,124.00)
- Canada 150 Grant - Recreation Soccer Field	\$ (37,500.00)	\$ -	\$ -	\$ -	\$ -	\$ (37,500.00)
- Ontario 150 Grant - Thamesford Pool	\$ (100,000.00)	\$ -	\$ -	\$ -	\$ -	\$ (100,000.00)
- Ontario 150 Grant - Embro Townhall	\$ (160,000.00)	\$ -	\$ -	\$ -	\$ -	\$ (160,000.00)
- Other Revenues - Community	\$ (27,000.00)	\$ -	\$ -	\$ -	\$ -	\$ (27,000.00)
- Contributions from Reserves	\$ (997,750.00)	\$ (887,000.00)	\$ (1,401,715.00)	\$ (640,000.00)	\$ (522,000.00)	\$ (4,448,465.00)
- Contributions from Reserve Funds		\$ (322,500.00)				\$ (322,500.00)
- Other Revenues MNR/Federal Gas Tax	\$ (530,000.00)	\$ (530,000.00)	\$ (570,000.00)	\$ (570,000.00)	\$ (570,000.00)	\$ (2,770,000.00)
- Other Revenues -Erie Thames Interest	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (295,000.00)
- New Long Term Debenture	\$ -	\$ -	\$ (4,923,285.00)	\$ -	\$ -	\$ (4,923,285.00)
	\$ (1,961,250.00)	\$ (1,857,020.00)	\$ (7,046,604.00)	\$ (1,319,000.00)	\$ (1,201,000.00)	\$ (13,384,874.00)
CAPITAL TAX LEVY REQUIREMENT	\$ (2,975,624.00)	\$ (2,849,438.00)	\$ (2,307,756.00)	\$ (2,673,052.00)	\$ (2,106,167.00)	\$ (10,805,870.00)
AVERAGE CAPITAL LEVY (5 YEARS)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (12,284,000.00)
Opening balance: \$593001						
TRANSFER TO/FROM INFRASTRUCTURE RESERVE	\$ 518,824.00	\$ 392,638.00	\$ (149,044.00)	\$ 216,252.00	\$ (350,633.00)	\$ (35,036.00)

2018-2022 CAPITAL BUDGET UPDATED ROAD CONSTRUCTION COSTS/AGGREGATE ROYALTIES						
TOWNSHIP OF ZORRA	2018	2019	2020	2021	2022	Total
Expenditures						
Debenture Payments	\$ 941,258.00	\$ 929,360.00	\$ 1,251,127.00	\$ 1,226,167.00	\$ 1,201,467.00	\$ 5,549,379.00
Transfer to Reserves- Tax levy - base level	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 3,325,000.00
Capital Expenditures - from detail Listing						
General Department - Equipment	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 50,000.00
Fire Department - Vehicles	\$ 397,000.00	\$ -	\$ -	\$ -	\$ -	\$ 397,000.00
Fire Department - Equipment	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 625,000.00
Recreation - Buildings	\$ 160,000.00	\$ 5,000.00	\$ 130,000.00	\$ -	\$ -	\$ 295,000.00
Recreation - Machinery/Equipment	\$ 70,000.00	\$ -	\$ -	\$ -	\$ -	\$ 70,000.00
Recreation - New Infrastructure	\$ 80,000.00	\$ -	\$ -	\$ -	\$ -	\$ 80,000.00
Roads- Buildings	\$ -	\$ 6,000,000.00	\$ -	\$ -	\$ -	\$ 6,000,000.00
Roads - Vehicles	\$ 260,000.00	\$ 320,000.00	\$ 510,000.00	\$ 522,000.00	\$ 350,000.00	\$ 1,962,000.00
Road Construction	\$ 1,608,650.00	\$ 1,411,500.00	\$ 1,451,108.00	\$ 805,000.00	\$ 1,659,690.00	\$ 6,935,948.00
Bridges and Culvert Construction	\$ 480,000.00	\$ 419,000.00	\$ 666,000.00	\$ 337,000.00	\$ 692,000.00	\$ 2,594,000.00
Total Capital Expenditures	\$ 4,796,908.00	\$ 9,884,860.00	\$ 4,808,235.00	\$ 3,690,167.00	\$ 4,703,157.00	\$ 27,883,327.00
Funding Sources						
- OCIF annual grant - Road infrastructure	\$ (58,520.00)	\$ (92,604.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (301,124.00)
- Contributions from Reserves	\$ (887,000.00)	\$ (1,401,715.00)	\$ (640,000.00)	\$ (522,000.00)	\$ (350,000.00)	\$ (3,800,715.00)
- Contributions from Reserve Funds	\$ (322,500.00)	\$ -	\$ -	\$ -	\$ -	\$ (322,500.00)
- Other Revenues - Federal Gas Tax	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (1,225,000.00)
- Other Revenues MNR Aggregate Royalties	\$ (285,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (2,085,000.00)
- Other Revenues -Erie Thames Interest	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (295,000.00)
- New Long Term Debenture	\$ -	\$ (4,923,285.00)	\$ -	\$ -	\$ -	\$ (4,923,285.00)
	\$(1,857,020.00)	\$ (7,171,604.00)	\$ (1,444,000.00)	\$ (1,326,000.00)	\$ (1,154,000.00)	\$ (12,952,624.00)
CAPITAL TAX LEVY REQUIREMENT	\$ (2,939,888.00)	\$ (2,713,256.00)	\$ (3,364,235.00)	\$ (2,364,167.00)	\$ (3,549,157.00)	\$ (14,930,703.00)
AVERAGE CAPITAL LEVY (5 YEARS)	\$(2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (12,284,000.00)
TRANSFER TO/FROM INFRASTRUCTURE RESERVE	\$ 483,088.00	\$ 256,456.00	\$ 907,435.00	\$ (92,633.00)	\$ 1,092,357.00	\$ 2,646,703.00

2018-2022 CAPITAL BUDGET UPDATED ROAD CONSTRUCTION COSTS/AGGREGATE ROYALTIES AND ADDING SCENARIO 1 FOR DAMS						
TOWNSHIP OF ZORRA	2018	2019	2020	2021	2022	Total
Expenditures						
Debenture Payments	\$ 941,258.00	\$ 929,360.00	\$ 1,251,127.00	\$ 1,226,167.00	\$ 1,201,467.00	\$ 5,549,379.00
Transfer to Reserves- Tax levy - base level	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 3,325,000.00
Capital Expenditures - from detail Listing						
General Department -Equipment	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 50,000.00
Fire Department -Vehicles	\$ 397,000.00	\$ -	\$ -	\$ -	\$ -	\$ 397,000.00
Fire Department - Equipment	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 625,000.00
Recreation -Buildings	\$ 160,000.00	\$ 5,000.00	\$ 130,000.00	\$ -	\$ -	\$ 295,000.00
Recreation - Machinery/Equipment	\$ 70,000.00	\$ -	\$ -	\$ -	\$ -	\$ 70,000.00
Recreation - New Infrastructure	\$ 80,000.00	\$ -	\$ -	\$ -	\$ -	\$ 80,000.00
Roads- Buildings	\$ -	\$ 6,000,000.00	\$ -	\$ -	\$ -	\$ 6,000,000.00
Roads - Vehicles	\$ 260,000.00	\$ 320,000.00	\$ 510,000.00	\$ 522,000.00	\$ 350,000.00	\$ 1,962,000.00
Road Construction	\$ 1,608,650.00	\$ 1,411,500.00	\$ 1,451,108.00	\$ 805,000.00	\$ 1,659,690.00	\$ 6,935,948.00
Bridges and Culvert Construction	\$ 480,000.00	\$ 419,000.00	\$ 666,000.00	\$ 337,000.00	\$ 692,000.00	\$ 2,594,000.00
UTRCA - Embro Dam	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 125,000.00
UTRCA - Harrington Dam	\$ 67,000.00	\$ 67,000.00	\$ 67,000.00	\$ 67,000.00	\$ 67,000.00	\$ 335,000.00
Total Capital Expenditures	\$ 4,888,908.00	\$ 9,976,860.00	\$ 4,900,235.00	\$ 3,782,167.00	\$ 4,795,157.00	\$ 28,343,327.00
Funding Sources						
- OCIF annual grant - Road infrastructure	\$ (58,520.00)	\$ (92,604.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (301,124.00)
- Contributions from Reserves	\$ (887,000.00)	\$ (1,401,715.00)	\$ (640,000.00)	\$ (522,000.00)	\$ (350,000.00)	\$ (3,800,715.00)
- Contributions from Reserve Funds	\$ (322,500.00)	\$ -	\$ -	\$ -	\$ -	\$ (322,500.00)
- Other Revenues - Federal Gas Tax	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (1,225,000.00)
- Other Revenues MNR Aggregate Royalties	\$ (285,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (2,085,000.00)
- Other Revenues -Erie Thames Interest	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (295,000.00)
- New Long Term Debenture	\$ -	\$ (4,923,285.00)	\$ -	\$ -	\$ -	\$ (4,923,285.00)
	\$ (1,857,020.00)	\$ (7,171,604.00)	\$ (1,444,000.00)	\$ (1,326,000.00)	\$ (1,154,000.00)	\$ (12,952,624.00)
CAPITAL TAX LEVY REQUIREMENT	\$ (3,031,888.00)	\$ (2,805,256.00)	\$ (3,456,235.00)	\$ (2,456,167.00)	\$ (3,641,157.00)	\$ (15,390,703.00)
AVERAGE CAPITAL LEVY (5 YEARS)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (2,456,800.00)	\$ (12,284,000.00)
TRANSFER TO/FROM INFRASTRUCTURE RESERVE	\$ 575,088.00	\$ 348,456.00	\$ 999,435.00	\$ (633.00)	\$ 1,184,357.00	\$ 3,106,703.00

2018-2022 CAPITAL BUDGET UPDATED ROAD CONSTRUCTION COSTS/AGGREGATE ROYALTIES AND ADDING SCENARIO 2 FOR DAMS						
TOWNSHIP OF ZORRA	2018	2019	2020	2021	2022	Total
Expenditures						
Debenture Payments	\$ 941,258.00	\$ 929,360.00	\$ 1,251,127.00	\$ 1,226,167.00	\$ 1,201,467.00	\$ 5,549,379.00
Transfer to Reserves- Tax levy - base level	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 665,000.00	\$ 3,325,000.00
Capital Expenditures - from detail Listing						
General Department -Equipment	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 50,000.00
Fire Department -Vehicles	\$ 397,000.00	\$ -	\$ -	\$ -	\$ -	\$ 397,000.00
Fire Department - Equipment	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 125,000.00	\$ 625,000.00
Recreation -Buildings	\$ 160,000.00	\$ 5,000.00	\$ 130,000.00	\$ -	\$ -	\$ 295,000.00
Recreation - Machinery/Equipment	\$ 70,000.00	\$ -	\$ -	\$ -	\$ -	\$ 70,000.00
Recreation - New Infrastructure	\$ 80,000.00	\$ -	\$ -	\$ -	\$ -	\$ 80,000.00
Roads- Buildings	\$ -	\$ 6,000,000.00	\$ -	\$ -	\$ -	\$ 6,000,000.00
Roads - Vehicles	\$ 260,000.00	\$ 320,000.00	\$ 510,000.00	\$ 522,000.00	\$ 350,000.00	\$ 1,962,000.00
Road Construction	\$ 1,608,650.00	\$ 1,411,500.00	\$ 1,451,108.00	\$ 805,000.00	\$ 1,659,690.00	\$ 6,935,948.00
Bridges and Culvert Construction	\$ 480,000.00	\$ 419,000.00	\$ 666,000.00	\$ 337,000.00	\$ 692,000.00	\$ 2,594,000.00
UTRCA - Embro Dam	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00	\$ 125,000.00
UTRCA - Harrington Dam	\$ 27,000.00	\$ 27,000.00	\$ 202,000.00	\$ 1,402,000.00	\$ 250,000.00	\$ 1,908,000.00
Total Capital Expenditures	\$ 4,848,908.00	\$ 9,936,860.00	\$ 5,035,235.00	\$ 5,117,167.00	\$ 4,978,157.00	\$ 29,916,327.00
Funding Sources						
- OCIF annual grant - Road infrastructure	\$ (58,520.00)	\$ (92,604.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (50,000.00)	\$ (301,124.00)
- Contributions from Reserves	\$ (887,000.00)	\$ (1,401,715.00)	\$ (640,000.00)	\$ (522,000.00)	\$ (350,000.00)	\$ (3,800,715.00)
- Contributions from Reserve Funds	\$ (322,500.00)	\$ -	\$ -	\$ -	\$ -	\$ (322,500.00)
- Other Revenues - Federal Gas Tax	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (245,000.00)	\$ (1,225,000.00)
- Other Revenues MNR Aggregate Royalties	\$ (285,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (450,000.00)	\$ (2,085,000.00)
- Other Revenues -Erie Thames Interest	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (59,000.00)	\$ (295,000.00)
- New Long Term Debenture	\$ -	\$ (4,923,285.00)	\$ -	\$ -	\$ -	\$ (4,923,285.00)
	\$(1,857,020.00)	\$(7,171,604.00)	\$(1,444,000.00)	\$(1,326,000.00)	\$(1,154,000.00)	\$(12,952,624.00)
CAPITAL TAX LEVY REQUIREMENT	\$ (2,991,888.00)	\$ (2,765,256.00)	\$ (3,591,235.00)	\$ (3,791,167.00)	\$ (3,824,157.00)	\$ (16,963,703.00)
AVERAGE CAPITAL LEVY (5 YEARS)	\$(2,456,800.00)	\$(2,456,800.00)	\$(2,456,800.00)	\$(2,456,800.00)	\$(2,456,800.00)	\$(12,284,000.00)
TRANSFER TO/FROM INFRASTRUCTURE RESERVE	\$ 535,088.00	\$ 308,456.00	\$ 1,134,435.00	\$ 1,334,367.00	\$ 1,367,357.00	\$ 4,679,703.00

Financial Impact on Taxation – Cont'd

The findings and observations:

- That the increase costs due to changes to the scope of the work on a majority of roads scheduled to be reconstructed starting in 2019 has caused a financial deficit of approximately \$2.6 million dollars over five years. This deficit will exist if Council maintains a capital tax levy of \$2,456,800.00 per year.
- For Council to maintain the 5 year capital budget and fund the changes to the scope of the work; the Township would need to increase the capital levy by \$520,000 or 21% (\$2.6 million divided by 5 years)
- For Council to maintain the 5 year capital budget and fund the changes to the scope of the work; plus fund **Scenario 1** for Embro Dam and Harrington Dam; the Township would need to increase the capital levy by \$620,000 or 25% (\$3.1 million divided by 5 years)
- For Council to maintain the 5 year capital budget and fund the changes to the scope of the work; plus fund **Scenario 2** for Embro Dam and Harrington Dam; the Township would need to increase the capital levy by \$940,000 or 38% (\$4.7 million divided by 5 years)

Financial Impact on Taxation – Cont’d

Recommendations for Council consideration in the 2018 budget deliberations:

1. At **minimum** for Council to increase the annual capital levy by \$92,000.00 to fund the preferred alternatives scope of work to the Embro Dam and Harrington Dam. It is anticipated that the UTRCA Board of Directors will be making a decision on the EA report by the end of 2017.
2. That Council and staff re-visit the 2018-2022 capital road construction capital projects and consider a combination of increasing the annual capital levy and deferring road projects to come up with a reasonable compromise to fund a projected \$2.6 million dollar shortfall over the next five years.
3. If Council is to entertain a recommendation to UTRCA to consider Reconstruction Alternative for the Harrington Dam; then a more aggressive approach to deferring 2018-2022 capital road construction capital projects and increasing the annual capital levy would need to be considered to fund \$4.7 million dollar shortfall over the next five years.

Township of Zorra 2018-2022 Road Construction Projects					
Road Name	Description	Budget Year	Replacement Cost	Updated August 2017 Replacement Cost	2017-2022 Description of Roads Capital Construction
5000 North Town Line	From 33RD LINE To 31ST LINE	2017	\$ 277,500.00	\$ 277,500.00	50% of Ingersoll Projection over 2017 and 2018
782325Gravel Road 78	From 23rd line to 25th Line	2017	\$ 327,400.00	\$ 327,400.00	
782527Gravel Road 78	From 25th Line to 27th Line	2017	\$ 407,600.00	\$ 407,600.00	
			\$ 1,012,500.00	\$ 1,012,500.00	
782931Gravel Road 78	From 29th Line to 31st Line	2018	\$ 163,700.00	\$ 163,700.00	
5000 North Town Line	From 33RD LINE To 31ST LINE	2018	\$ 262,500.00	\$ 262,500.00	50% of Ingersoll Projection over 2017 and 2018
5000 North Town Line	Sheldon to 119	2018	\$ 60,000.00	\$ 60,000.00	Zorra Share of balance of NTL not proposed by Ingersoll
317884 31ST LINE	From ROAD 78 To ROAD 84	2018	\$ 439,500.00	\$ 439,500.00	3200 m 5200 t Binder Surface Pulverizing Shouldering
318488 31st Line	From Road 84 to Road 88	2018	\$ 439,500.00	\$ 439,500.00	
602731H ROAD 60	From 27 line to 31st Line	2018	\$ 82,000.00	\$ 172,450.00	
337884Gravel Road 33	From road 78 to Road 84	2018	\$ 71,000.00	\$ 71,000.00	
			\$ 1,518,200.00	\$ 1,608,650.00	
641115 Road 64	From Hunt Road to CR45	2019	\$ 102,000.00	\$ 102,000.00	HM Overlay - 3050 metres 2450 t single lift HM plus shouldering
641517 Road 64	From Hunt Road to CR45	2019	\$ 102,000.00	\$ 102,000.00	
961113H ROAD 96	From COBBLE HILLS ROAD To 13T	2019	\$ 100,000.00	\$ 201,250.00	Hot Mix Asphalt Overlay changed scope of work to deal with deterioration. Need to Pulverize and then hot mix pave.
961315H ROAD 96	From 13TH LINE To 15TH LINE	2019	\$ 100,000.00	\$ 201,250.00	
741113H ROAD 74	From COBBLE HILLS ROAD To 13T	2019	\$ 124,000.00	\$ 201,250.00	Hot Mix Asphalt Overlay changed scope of work to deal with deterioration. Need to Pulverize and then hot mix pave.
741315H ROAD 74	From 13TH LINE To 15TH LINE	2019	\$ 124,000.00	\$ 201,250.00	
741519H ROAD 74	From 15TH LINE To 19TH LINE	2019	\$ 124,000.00	\$ 201,250.00	
741923H ROAD 74	From 19TH LINE To 23RD LINE	2019	\$ 105,000.00	\$ 201,250.00	
			\$ 881,000.00	\$ 1,411,500.00	
601721H ROAD 60	From 17th line to 21st Line	2020	\$ 45,600.00	\$ 353,820.00	Hot Mix Asphalt Overlay changed scope of work to deal with deterioration. Need to Pulverize and then hot mix pave.
602125H ROAD 60	From 21st line to 25th line	2020	\$ 128,000.00	\$ 235,880.00	
602527H ROAD 60	From 25th Line to 27th Line	2020	\$ 128,000.00	\$ 280,108.00	
317478H 31ST LINE	From ROAD 74 To ROAD 78	2020	\$ 197,625.00	\$ 445,600.00	Hot Mix Asphalt Overlay changed scope of work to deal with deterioration. Need to Pulverize and then hot mix pave.
882931Gravel Road 88	From 29th Line to 31st Line	2020	\$ 135,700.00	\$ 135,700.00	
			\$ 634,925.00	\$ 1,451,108.00	
843741H ROAD 84	From 37TH LINE To 41ST LINE	2021	\$ 105,500.00	\$ 201,250.00	Hot Mix Asphalt Overlay changed scope of work to deal with deterioration. Need to Pulverize and then hot mix pave.
844143H ROAD 84	From 41ST LINE To 43RD LINE	2021	\$ 105,500.00	\$ 201,250.00	
844345H ROAD 84	From 43RD LINE To 45TH LINE	2021	\$ 105,500.00	\$ 201,250.00	Rebuild, new road alignment, property acquisition
844547H ROAD 84	From 45TH LINE To 47ST LINE	2021	\$ 105,500.00	\$ 201,250.00	
			\$ 422,000.00	\$ 805,000.00	
921923H Road 92	From 19th line to 23rd line	2022	\$ 120,000.00	\$ 487,355.00	Hot Mix Asphalt Overlay changed scope of work, to include a realignment between Lines 26 and 27 and include curbing and stormwater catchment system
922325H Road 92	From 22nd line to 25th Line	2022	\$ 120,000.00	\$ 487,355.00	
922527H ROAD 92	From 25TH LINE To 27TH LINE	2022	\$ 89,250.00	\$ 487,355.00	
783537H Road 78	From 35th line the 37th Line	2022	\$ 197,625.00	\$ 197,625.00	
			\$ 526,875.00	\$ 1,659,690.00	Plus 500 metres west of 78 and 35 - 2100 m total - 3400 t asphalt

Asset Name	Description	Location	Budget Year	Capital Cost	2018-2022 Description of Bridges Construction Projects
Bridge 0470	Thames Middle Br.	Road 74	2018	\$100,000.00	Misc concrete repairs, WP & P
Bridge 0130	Wildwood Lake Bridge East	31st Line	2018	\$380,000.00	O'Lay, x-joints. Brgs
				\$480,000.00	
Bridge 0540	Thames Middle Br.	Road 64	2019	\$394,000.00	Misc concrete repairs. Deck Drains; Rip Rap approach GR
Bridge 0070	Rigid Frame Bridge	Cobble Hills Road	2019	\$25,000.00	Misc concrete repairs. Deck Drains; Rip Rap approach GR - Boundary Road 50%
				\$419,000.00	
Bridge 0640	John N. Meathrell Bridge	25th Line	2020	\$575,000.00	Overlay, approach GR, WP&P; X-joints; drains
Bridge 0420	Thames R Mid Br. 3	35th Line	2020	\$31,000.00	Approach GR
Bridge 0160	Bridge Culvert	33rd Line	2020	\$60,000.00	Overlay, approach GR
				\$666,000.00	
Bridge 0180	Concrete Rigid Frame Bridge	Road 92 (Cassel Side Rd)	2021	\$100,000.00	Overlay, approach GR
Bridge 0230	Rigid Frame Bridge	Road 88 (Oliver Dr)	2021	\$146,000.00	Misc concrete repairs. Overlay, WP &P approach GR
Bridge 0360	Rigid Frame Culvert	Cobble Hills Road	2021	\$69,500.00	O'Lay WP&P, deck drains - Thames Centre 50%
Bridge 0040	Bridge Culvert	Zorra-Tavistock Line	2021	\$21,500.00	Approach GR - EZT 50%
				\$337,000.00	
Bridge 0130	Wildwood Lake Bridge West	29th Line	2022	\$512,000.00	O'Lay, x-joints. Brgs
Bridge 0330	Concrete Rigid Frame Bridge	Road 78	2022	\$180,000.00	Bridge wall, deck drains
				\$692,000.00	