Appendix D
Consultation Record

Mailing List

Stakeholder Mailing List

Project Name: Lake Huron Primary Water Supply System Disinfection and Storage Upgrades Class Environmental Assessment

Project Manager: Ray Yu (Jacobs) [Previously Lee Anne Jones], Marcy McKillop (RWS) [Previously Brittany Bryans]

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Federal	Environment and Climate Change Canada	Rob Dobos	Manager, Environmental Assessment Section	PO Box 5050 867 Lakeshore Road Burlington, Ontario L7R 4A6	rob.dobos@canada.ca	905 336 4953	Email	Contact removed from list part way through EA as they are no longer with ECCC.	Not applicable	Not applicable
Federal	Environment and Climate Change Canada	Wesley Plant	Manager, Environmental Assessment Section - Ontario	4905 Dufferin Street Second Floor Toronto, Ontario M3H 5T4	wesley.plant@canada.ca	416 739 4272	Email	Replacement contact for ECCC (due to undeliverable to Rob Dobos)	Email	Email
Federal	Environment and Climate Change Canada	Michael Goffin	Regional Director General (Ontario)	4905 Dufferin Street Second Floor Toronto, Ontario M3H 5T4	Michael.goffin@ec.gc.ca	416 739 4936	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Provincial	Ministry of Environment, Conservation and Parks	Regional Office (Southwest)	Southwestern MOECC Region	733 Exeter Road London, Ontario N6E 1L3	eanotification.swregion@ontario.ca	Not available	Email	Notice of Commencement and Project Information Form (PIF) sent together.	Email	Email
Provincial	Ministry of Environment, Conservation and Parks	Barbara Slattery	EA/Planning Coordinator	135 Saint Clair Avenue West Seventh Floor Toronto, Ontario M4V 1P5	Barbara.slattery@ontario.ca	365 366 8185	Email with PIF (Refer to 'Comments' under Southwest Regional Office contact row)	Response 02/26/2021 via email, included attachments: Acknowledgement Letter, Notice of Completion Wording, MOECC Guide to Climate Change in EA, Client Guide to Preliminary Screening, Proponent Guide to the Delegated Aspects of Consultation. Response 03/19/2021 via email included updated attachment: Acknowledgement Letter.	Not applicable (refer to 'Comments' under Mark Badali contact row)	Not applicable (refer to 'Comments' under Mark Badali contact row)
Provincial	Ministry of Environment, Conservation and Parks	Mark Badali	Regional Environmental Planner & EA Coordinator	135 Saint Clair Avenue West Seventh Floor Toronto, Ontario M4V 1P5	mark.badali1@ontario.ca	416 457 2155	Email with PIF (Refer to 'Comments' under Southwest Regional Office contact row)	Replaced Barbara Slattery. Response 03.31/2021 confirming role and updated attachments. Confirmation that MECP will review the draft Project File. Response 04/06/2021 via email confirming Mark will coordinate review on MECP's side and confirming mandatory notification procedures.	Email	Email
Provincial	Ministry of Heritage, Sport, Tourism and Culture Industries	Karla Barboza	Team Lead - Heritage (Acting)	401 Bay Street Toronto, Ontario M7A 0A7	karla.barboza@ontario.ca	416 314 7120	Email	Karla Barboza original contact; project assigned to Joseph Harvey, Heritage Planner	Email	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Provincial	Ministry of Heritage, Sport, Tourism and Culture Industries	Joseph Harvey	Heritage Planner	401 Bay Street Seventeenth Floor Suite 1700 Toronto, Ontario M7A 0A7	joseph.harvey@ontario.ca	613 242 3743	Sent to Karla Barboza by email	Provided letter requesting the Criteria for Evaluating Archaeological Potential and Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Landscapes be completed. Provide MHSTCI with any studies prior to issuing a Notice of Completion or commencing any work. Include checklists of reports with the EA. Stage 1 AA received by MHSTCI.	Email	Email
Provincial	Ministry of Natural Resources and Forestry (Guelph District)	Ken Cornelisse	Resource Management Coordinator	Ontario Government Building 1 Stone Road West Guelph, Ontario N1G 4Y2	ken.cornelisse@ontario.ca	519 830 0842	Email	Not applicable	Email	Email
Provincial	Ministry of Natural Resources and Forestry (Aylmer District)	Karina Černiavskaja	District Planner	615 John Street North Aylmer, Ontario N5H 2S8	MNRF.Ayl.Planners@ontario.ca	519 200 2276	Email	Responded to Notice of Commencement and provided NH Guide to be used.	Email	Email
Provincial	Ministry of Transportation (District Office)	Malvika Rudra	Manager, Policies & Programs (Acting)	301 St. Paul Street Fourth Floor Saint Catharines, Ontario L2R 7R4	malvika.rudra@ontario.ca	519 200 4704	Email	Not applicable	Email	Not applicable
Provincial	Ministry of Transportation (District Office)	Kara McKellar	Manager, Policies & Programs	Not available	kara.mckellar@ontario.ca	Not available	Not applicable	Contact added after sending out Notice of PIC and delivery to previous contact (Malvika Rudra) was unsuccessful. Contact sent Notice of PIC on May 31, 2022	Email	Email
Provincial	Ministry of Transportation (Ontario)	Ryan Mentley	Contracts and Operations Office	659 Exeter Road 2nd Floor London, Ontario N6E 1L3	Ryan.Mentley@ontario.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Provincial	Ministry of Transportation (Ontario)	Jessica Pegelo	Corridor Management Planner	659 Exeter Road 2nd Floor London, Ontario N6E 1L3	jessica.pegelo@ontario.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Provincial	Ministry of Transportation (Ontario)	Paul Santos	Senior Project Manager, Corridor Management	659 Exeter Road 2nd Floor London, Ontario N6E 1L3	paul.santos@ontario.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Provincial	Ministry of Indigenous Affairs	Abigail Veerasingham	Senior Policy Advisor (Acting)	160 Bloor Street East Fourth Floor Toronto, Ontario M7A 2E6	abigail.veerasingham@ontario.ca	437 688 4245	Email	Message from contact saying that she believes she was mistakenly sent the email. Removed from further communications.	Not applicable	Not applicable
Provincial	Ministry of Indigenous Affairs	Ayn Cooney	Executive Advisor	160 Bloor Street East Suite 400 Toronto, Ontario M7A 2E6	ayn.cooney@ontario.ca	416 325 1067	Email	Not applicable	Email	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Conservation Authority	Ausable Bayfield Conservation	Meghan Tydd-Hrynyk	Planning and Regulations Officer	71108 Morrison Line R.R. # 3 Exeter, Ontario N0M 1S5	mtydd-hrynyk@abca.ca	519 235 2610 extension 258	Email	Not applicable	Email	Email
Conservation Authority	Ausable Bayfield Conservation	Donna Clarkson	Drinking Water Source Protection Co-Program Supervisor and Risk Management Official	71108 Morrison Line R.R. # 3 Exeter, Ontario N0M 1S5	dclarkson@abca.ca	519 335 3557	Email	Not applicable	Email	Email
Conservation Authority	Ausable Bayfield Conservation	Mary Lynn MacDonald	Drinking Water Source Protection Co-Program Supervisor and Risk Management Official	71108 Morrison Line R.R. # 3 Exeter, Ontario N0M 1S5	mmacdonald@abca.ca	519 235 2610 extension 247	Email	Not applicable	Email	Email
Municipal	City of London	John Simon	Division Manager Water Operations	300 Dufferin Avenue London, Ontario N6B 1Z2	jsimon@london.ca;	519 661 2489 extension 4938	Email	Not applicable	Email	Email
Municipal	City of London	Aaron Rozentals	Division Manager Water Engineering	300 Dufferin Avenue London, Ontario N6B 1Z2	arozenta@london.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	City of London	Kelly Scherr	City of London Deputy City Manager - Environment and Infrastructure and CAO LHPWSS	300 Dufferin Avenue London, Ontario N6B 1Z2	kscherr@london.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	Regional Water Supply	Andrew Henry	Director, RWS – LHPWSS and EAPWSS	Not available	ahenry@huronelginwater.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	Regional Water Supply	Billy Haklander	Capital Projects Manager	Not available	bhakland@huronelginwater.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	Regional Water Supply	Erin McLeod	Quality Assurance and Compliance Manager	Not available	emcleod@huronelginwater.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	Municipality of Lambton Shores	Steven McAuley	(previous) Director of Community Services	9575 Port Franks Road RR #1 Thedford, Ontario N0M 2N0	smcauley@lambtonshores.ca	519 243 1400	Email	Not applicable	Email	Email
Municipal	Municipality of Lambton Shores	Ashley Farr	Director of Community Services	9575 Port Franks Road RR #1 Thedford, Ontario N0M 2N0	afarr@lambtonshores.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	Municipality of North Middlesex	Jonathan Graham	(previous) Director of Operations	229 Parkhill Main Street Parkhill, Ontario N0M 2K0	JonathonDG@northmiddlesex.on.ca	519 294 6244 extension 233	Email	Not applicable	Email	Email
Municipal	Municipality of North Middlesex	Jaden Hodgins	Manager of Infrastructure and Operations	229 Parkhill Main Street Parkhill, Ontario N0M 2K0	jadenh@northmiddlesex.on.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Municipal	Municipality of Middlesex Centre	Eric Joudrey	Water/Wastewater Operations Manager (Department of Public Works and Engineering	10227 Ilderton Road Ilderton, Ontario N0M 2A0	joudrey@middlesexcentre.on.ca	519 666 0190 extension 255	Email	Not applicable	Email	Email
Municipal	Municipality of Middlesex Centre	Rob Cascaden	Director of Public Works and Engineering	10227 Ilderton Road R.R. #2 Ilderton, Ontario N0M 2A0	cascaden@middlesexcentre.on.ca	519 666 0190 extension 245	Not applicable (refer to 'Comments' column)	Added to list by request; notice of commencement forwarded by internal contact	Email	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Municipal	Municipality of South Huron	Don Giberson	Director of Infrastructure and Development	PO Box 759 322 Main Street South Exeter, Ontario N0M 1S6	dgiberson@southhuron.ca	519 235 0310 extension 226	Email	Responded to Notice of Commencement. Request to keep him informed as there is a specific interest in Port Blake Park.	Email	Email
Municipal	Municipality of South Huron	Dan Best	Chief Administrative Officer/Deputy-Clerk	P.O. Box 759 322 Main Street South Exeter, Ontario N0M 1S6	cao@southhuron.ca	519 235 0310 extension 228	Not applicable (refer to 'Comments' column)	Added to list by request on May 20, 2021	Email	Email
Municipal	Municipality of Bluewater	Dave Kester	Manager of Public Works	14 Mill Avenue, Box 250 Zurich Ontario N0M 2T0	publicworks@municipalityofbluewater.ca	519 236 4351 extension 221	Email	Not applicable	Email	Email
Municipal	Township of Lucan-Biddulph	Jeff Little	Manager of Public Works	270 Main Street Lucan, Ontario N0M 2J0	jlittle@lucanbiddulph.on.ca	519 227 4491	Email	Not applicable	Email	Email
Municipal	Municipality of Strathroy-Caradoc	Jake Strauss	Manager of Public Works	52 Frank Street Strathroy, Ontario N7G 2R4	Not publicly available. Can email via this page: https://www.strathroy-caradoc.ca/Modules/contact/search.aspx?s=1rHd1bolcQUqP2leFTFuXweQuAleQuAl	519 245 1105 extension 247	Email via website	Added to replace George Elliott Jake Strauss email (jstraus@strathroy-caradoc.ca) added to mailing list on October 4, 2022	Email via website	Email
Municipal	LHPWSS	Cathy Burghardt-Jesson	Board Chair and Board Member - Lucan Biddulph Mayor of Lucan Biddulph	270 Main Street Lucan, Ontario N0M 2J0	cbjesson@lucanbiddulph.on.ca	519 227 4491	Email	Not applicable	Email	Email
Municipal	LHPWSS	Michael Van Holst	Vice Chair and Board Member - London Councillor Ward 1 (London)	300 Dufferin Avenue London, Ontario N6B 1Z2	mvanholst@london.ca	519 661 2489 extension 4001	Email	Not applicable	Email	Email
Municipal	LHPWSS	Steve Hillier	Board Member - London Councillor Ward 14 (London)	300 Dufferin Avenue London, Ontario N6B 1Z2	shillier@london.ca	519 661 2489 extension 4014	Email	Not applicable	Email	Email
Municipal	LHPWSS	Steve Lehman	Board Member - London Councillor Ward 8 (London)	300 Dufferin Avenue London, Ontario N6B 1Z2	slehman@london.ca	519 661 2489 extension 4008	Email	Not applicable	Email	Email
Municipal	LHPWSS	Paul Van Meerbergen	Board Member - London Councillor Ward 10 (London)	300 Dufferin Avenue London, Ontario N6B 1Z2	pvanmeerbergen@london.ca	519 661 2489 extension 4010	Email	Not applicable	Email	Email
Municipal	LHPWSS	Barb Willard	Board Member - South Huron Councillor Ward 2 (South Huron)	322 Main Street South P.O. Box 759 Exeter, Ontario N0M 1S6	Not publicly available. Can email via this page: https://www.southhuron.ca/Modules/contact/search.aspx?s=81jbLh58Lagq49tEmQNwpAeQuAleQuAl	519 520 7023	Email via website	Not applicable	Email via website	Email
Municipal	LHPWSS	Andrew Hemming	Board Member - North Middlesex Councillor Ward 5 (North Middlesex)	229 Parkhill Main Street Parkhill, Ontario N0M 2K0	andrewh@northmiddlesex.on.ca Previously email not publicly available. Previously emailed via this page: https://www.northmiddlesex.on.ca/Modules/contact/search.aspx?s=TKuD4yg4FrPlUsF46vrzpE5lA5HxQeQuAleQuAl	519 232 4879	Email via website	Not applicable	Email	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Municipal	LHPWSS	Jeff Wilcox	Board Member - Lambton Shores Councillor Ward 7 (Lambton Shores)	8211 Ravenswood Line P.O. Box 181 Thedford, Ontario N0M 2N0	Not publicly available. Can email via this page: https://www.lambtonshores.ca/en/our-government/mayor-and-council.aspx#Ward-7-Jeff-Wilcox-	519 520 8163	Email via website	Not applicable	Email via website	Email via website
Municipal	LHPWSS	Jim Fergusson	Board Member - Bluewater Deputy Mayor (Bluewater)	14 Mill Avenue Box 250 Zurich, Ontario N0M 2T0	jfergusson@municipalityofbluewater.ca	519 955 9246	Email	Not applicable	Email	Email
Municipal	LHPWSS	Aina DeViet	Board Member - Middlesex Centre Mayor (Middlesex Centre)	10227 Ilderton Road Ilderton, Ontario N0M 2A0	deviet@middlesexcentre.on.ca	519 666 0190 extension 234	Email	Not applicable	Email	Email
Municipal	LHPWSS	Joanne Vanderheyden	Board Member - Strathroy-Caradoc Mayor (Strathroy-Caradoc)	52 Frank Street Strathroy, Ontario N7G 2R4	Not publicly available. Can email via this page: https://www.strathroy-caradoc.ca/en/city-hall/Mayor.aspx	519 245 1105 extension 251	Email via website	Joanne Vanderheyden email (jvanderheyden@strathroy-caradoc.ca) added to mailing list on October 4, 2022	Email via website	Email
Indigenous Community	Chippewas of Kettle and Stony Point	Jason Henry	Chief	6247 Indian Lane Kettle & Stony Point First Nation, Ontario N0N 1J0	jason.henry@kettlepoint.org	519 786 2125	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Email
Indigenous Community	Chippewas of Kettle and Stony Point	Waverly Birch	Consultation Advisor	6247 Indian Lane Kettle & Stony Point First Nation, Ontario N0N 1J0	consultation@kettlepoint.org	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Chippewas of Kettle and Stony Point	Claire Sault	First Nation Manager/CEO	6247 Indian Lane Kettle & Stony Point First Nation, Ontario N0N 1J0	Claire.Sault@kettlepoint.org	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Munsee-Delaware Nation	Mark Peters	(previous) Chief	289 Jubilee Road R.R. #1 Muncey, Ontario N0L 1Y0	chief.peters@munsee.ca	519 289 5396 extension 226	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Not applicable
Indigenous Community	Munsee-Delaware Nation	Roger Thomas	Chief	289 Jubilee Road R.R. #1 Muncey, Ontario N0L 1Y0	chief@munsee.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Munsee-Delaware Nation	Stacey Phillips	Consultation Coordinator	289 Jubilee Road R.R. #1 Muncey, Ontario N0L 1Y0	consultation@munsee.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Oneida Nation of the Thames	Adrian Chrisjohn	(previous) Chief	2210 Elm Ave. Southwold, Ontario N0L 2G0	adrian.chrisjohn@oneida.on.ca	519 318 4598	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Not applicable
Indigenous Community	Oneida Nation of the Thames	Todd Cornelius	Chief	2210 Elm Ave. Southwold, Ontario N0L 2G0	galah.antone@oneida.on.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Indigenous Community	Oneida Nation of the Thames	Pam Tobin	Chief Executive Officer	2210 Elm Ave. Southwold, Ontario N0L 2G0	Pam.tobin@oneida.on.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Oneida Nation of the Thames	Brandon Doxtator	Environment and Consultation Coordinator	2210 Elm Ave. Southwold, Ontario N0L 2G0	environment@oneida.on.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Chippewas of the Thames First Nations	Jacqueline French	Chief	320 Chippewa Road R.R. #1 Muncey, Ontario N0L 1Y0	jfrench@cottfn.com	519 289 5555	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Email
Indigenous Community	Aamjiwnaang First Nation	Chris Plain	Chief	978 Tashmoo Avenue Sarnia, Ontario N7T 7H5	chief.plain@aamjiwnaang.ca	519 338 8410	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Email
Indigenous Community	Aamjiwnaang First Nation	Courtney Jackson	Consultation Worker	978 Tashmoo Avenue Sarnia, Ontario N7T 7H5	cjackson@aamjiwnaang.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Aamjiwnaang First Nation	Cathleen O'Brien	Environmental Coordinator	978 Tashmoo Avenue Sarnia, Ontario N7T 7H5	cobrien@aamjiwnaang.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Bkejwanong Territory (Walpole Island)	Charles Sampson	Chief	117 Tahgahoning Road R.R. #3 Walpole Island, Ontario N84 4K9	Charles.sampson@wifn.org	519 628 5700	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Email
Indigenous Community	Bkejwanong Territory (Walpole Island)	Dean Jacobs	Consultation Manager	117 Tahgahoning Road R.R. #3 Walpole Island, Ontario N84 4K9	dean.jacobs@wifn.org	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Bkejwanong Territory (Walpole Island)	Janet Macbeth	Project Review Coordinator	117 Tahgahoning Road R.R. #3 Walpole Island, Ontario N84 4K9	janet.macbeth@wifn.org	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Indigenous Community	Caldwell First Nation	Mary Duckworth	Chief	14 Orange Street Leamington, Ontario N8H 1P5	chief@caldwellfirstnation.ca	519 322 1766	Email	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Email
Indigenous Community	Caldwell First Nation	Michelle McCormack	Consultation Coordinator	14 Orange Street Leamington, Ontario N8H 1P5	ecc@caldwellfirstnation.ca	Not available	Not applicable	Notice of Commencement issued via email on March 23, 2021, based on feedback from MECP (letter dated March 19, 2021)	Email	Email
Local	Ontario Clean Water Agency (OCWA)	Matt Bender	Regional Hub Manager, Huron Elgin Regional Hub	450 Sunset Drive Suite 370 St. Thomas, Ontario N5R 5V1	mbender@ocwa.com	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Local	Ontario Clean Water Agency (OCWA)	Austin Sherwin	Capital Projects Coordinator	Not available	ASherwin@ocwa.com	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Local	Ontario Clean Water Agency (OCWA)	Randy Lieber	Senior Operations Manager	Not available	RLieber@ocwa.com	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Local	Ontario Clean Water Agency (OCWA)	Denny Rodrigues	Senior Operations Manager, Huron Elgin	Not available	drodrigues@ocwa.com	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Local	Grand Bend Police and Emergency Services	Administration Department	Municipality of Lambton Shores	7883 Amtelecom Parkway Forest, Ontario N0N 1J0	Not applicable or complete "email this contact" form online at: https://www.lambtonshores.ca/en/living-here/fire-emergency-protectiveservices.aspx	519 243 1400 Press 4	Email via website	Not applicable	Email via website	Email via website
Local	Municipality of Lambton Shores	Community Services	Utilities	9575 Port Franks Road R.R. #1 Thedford, Ontario N0M 2N0	Not applicable or complete "email this contact" form online at: https://www.lambtonshores.ca/en/living-here/utilities.aspx	519 243 1400 Press 2	Email via website	Not applicable	Email via website	Email via website
Local	Middlesex London Public Health	Not applicable	Public Health	Not available	health@mlhu.on.ca	Not available	Not applicable	Added to mailing list on October 4, 2022	Not applicable	Email
Local	Lambton Public Health	County of Lambton Shores	Public Health	160 Exmouth Street Point Edward, Ontario N7T 7Z6	publichealth@county-lambton.on.ca	519 383 8331	Email	Not applicable	Email	Email
Local	Huron Perth Health Unit	Not applicable	Public Health	Huron Perth Public Health Huron Office 77722B London Road R.R. #5 Clinton, Ontario N0M 1L0	Contact through website: https://www.hpph.ca//Modules/email/emailattachment.aspx?CV2=yMcVFb4zNxkpE4QhM2iN5lA5HQeQuAleQuAl&ref=https://www.hpph.ca/en/about-us/newsletters.aspx&lang=en	Not available	Email via website	Not applicable	Email via website	Email via website
Local	Hydro One Networks	Dan White	Land Use Agent	6797 Falconbridge Drive Melbourne, Ontario N0L 1T0	Secondarylanduse@hydroone.com	519 643 6674	Email	Responded to the Notice of Commencement identifying an existing Hydro One high voltage transmission facility within the study area (refer to map included in letter). Further consultation with Hydro One is required to ensure avoidance and conflicts. Request to confirm Hydro One infrastructure and associated rights-of-way will be avoided.	Email	Email
Local	Lambton Area Water Supply System	Clinton Harper	General Manager	1215 Fort Street Sarnia, Ontario N7V 1M1	clinton.harper@lawss.org	519 344 7429	Email	Not applicable	Email	Email
Local	Waterfront Regeneration Trust (Great Lakes Waterfront Trail)	Marlaine Koehle	Executive Director	4195 Dundas Street West Suite 227 Toronto, Ontario M8X 1Y4	mk@wrtrust.com	416 520 4205	Email	Not applicable	Email	Email
Local	Lake Huron Pipeline Landowners Association	Ian Goudy	Not available	Not available	r.iangoudy@gmail.com	Not available	Email	Not applicable	Email	Email
Local	Highlands One Cottage Association	Gregory Klaver Peter Downs	Board Director	Not available	gregoryklaver@gmail.com peter.downs10@gmail.com	226 927 3636	Email	Peter followed-up via phone with Lee Anne Jones. An additional email was sent acknowledging the Notice.	Email	Email

Category	Agency/Organization	Contact Name	Title/Department	Address	Email	Phone	Notice of Commencement sent by:	Comments	Notice of PIC sent by:	Notice of Completion sent by:
Public	Confidential	Confidential	Confidential	Confidential	Confidential	Confidential	Not applicable (refer to 'Comments' column)	Added to list by request during PIC.	Not applicable	Email
Public	Confidential	Confidential	Confidential	Confidential	Confidential	Confidential	Not applicable (refer to 'Comments' column)	Added to list by request during PIC.	Not applicable	Email

Project Information Form

Streamlined EA Project Information Form

What to do:

Step 1: Look for the type of EA project in column B that applies to you.

Step 2: Complete columns C to J for that project.

Step 3: Send this form in Excel format to the MECP regional office email address where the project is located.

MECP regional office email addresses are listed at
www.ontario.ca/page/preparing-environmental-assessments

	Class EA/Streamlined EA	Proponent Name	Proponent Contact	Project Name	Project Schedule	Project Type	Project Location	MOECC Region	Project Initiation Date
1	CO - Remedial flood and erosion control projects								
2	GO Transit - Class EA								
3	Hydro One - Minor transmission facilities								
4	MEA - Class EA for municipal infrastructure projects	Regional Water Supply	Brittany Bryans; bbryans@huronelginwater.ca	Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment	Schedule B	Municipal water and wastewater projects	South Huron, Municipality of	Southwestern	2/1/2021
5	Ministry of Infrastructure - Public work								
6	MNDM - Activities of the Ministry of Northern Development and Mines under the Mining Act								
7	MNRF - Provincial parks and conservation reserves								
8	MNRF - Resource stewardship and facility development projects								
9	MTO - Provincial transportation facilities								
10	O. Reg. 101/07 - Waste management projects								
11	O. Reg. 116/01 - Electricity projects								
12	OWA - Waterpower projects								
		Enter the proponent's name.	Enter the name and email address of the person who the MECP should contact about your project. This should be the same contact person who is listed on the notice.	Enter the project name as it appears on the notice.	Select the project schedule from the drop-down menu.	Select the project type from the drop-down menu.	Select the name of the municipality or unorganized/ unsurveyed area where your project is located from the drop-down menu.	Select the MECP region from the drop-down menu. Read the "MECP regions" worksheet to find the MECP region where your project is located.	Enter the date that the streamlined EA process was initiated (e.g. notice of commencement). This date may be when the project notice was first published.

Notice of Commencement

Lake Huron
Primary Water Supply System

Lake Huron Primary Water Supply System
Lake Huron Water Treatment Plant Disinfection and Storage Upgrades
Class Environmental Assessment
Notice of Study Commencement

The Lake Huron Primary Water Supply System (LHPWSS) owns the 340 megaliters-per-day Lake Huron Water Treatment Plant (LHWTP), which supplies treated water to eight municipalities via a (partially twinned) 1,200-millimeter-diameter primary transmission main to reservoirs and secondary transmission systems. The LHPWSS Service Area includes the City of London, the Municipality of Bluewater, the Municipality of Lambton Shores, the Township of Lucan-Biddulph, the Municipality of Middlesex Centre, the Municipality of North Middlesex, the Municipality of South Huron, and the Municipality of Strathroy-Caradoc.

Figure 1. Proposed Local Study Area and LHPWSS Service Area

Aerial image ©2020 Google Earth, ©2020 TerraMetrics, Image NOAA. Annotation © 2020 Jacobs

The recently completed LHPWSS Master Water Plan Update (2020) identified the need to improve disinfection and increase water storage at the LHWTP, to meet water demands to the year 2038. The City of London's Regional Water Supply Division, on behalf of the LHPWSS, has

therefore initiated a Schedule B Municipal Class Environmental Assessment to confirm and refine the preferred alternative to enhance disinfection at the water treatment plant and meet the water storage requirements, while providing the plant with flexibility to implement energy management and other operational strategies. Potential upgrades would be located on the LHWTP project site, as shown in Figure 1.

The study represents an opportunity to develop alternative solutions, assess their technical viability, and conduct a comprehensive evaluation to select a preferred alternative within the framework of the Schedule B Municipal Class Environmental Assessment process. The assessment is being carried out in accordance with the planning and design process for Schedule B projects under the *Environmental Assessment Act, 1990* as outlined in the Municipal Engineers Association's *Municipal Class Environmental Assessment* document (2000, as amended in 2007, 2011, and 2015).

Public input and comments are encouraged throughout the study. The Project Team will consult with the public and review agencies throughout the Class Environmental Assessment study. A Public Information Centre (PIC) will be held to provide information on the study progress and to facilitate public input. Invitations to participate in the process will be published in local newspapers and on the Lake Huron and Elgin Area Primary Water Supply Systems website (https://huronelginwater.ca/) and distributed to those individuals expressing an interest in this project.

If you have comments, require further information, or would like to be added to the project mailing list, please contact a member of the Project Team:

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Personal information submitted (e.g., name, address, phone number) is collected, maintained, and disclosed under the authority of the *Environmental Assessment Act* and *Municipal Freedom of Information and Protection of Privacy Act* for transparency and consultation purposes. Personal information you submit will become part of the public record that is available to the general public, unless you request that your personal information remain confidential.

This Notice was issued on February 1, 2021.

Public Information Centre Summary Report

Public Information Centre Summary

Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment

Lake Huron Primary Water Supply System

FINAL

July 2022

Public Information Centre Summary

Client Name:	Lake Huron Primary Water Supply System
Project Name:	Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment
Document Number:	PPS0705220749KWO
Project Number:	CE801200
Project Manager:	Ray Yu
Prepared by:	Emma Henderson
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Document History and Status

Revision	Date	Description	Author	Checked	Reviewed	Approved
DRAFT	June 22, 2022	Draft	EH	CS	MW, RY	
FINAL	July 8, 2022	Final	EH			

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Appendices

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1. Introduction

The Lake Huron Primary Water Supply System (LHPWSS) owns the Lake Huron Water Treatment Plant, a the 340-megalitre-per-day facility that supplies treated water to eight municipalities via a (partially twinned) 1,200-millimeter-diameter primary transmission main to reservoirs and secondary transmission pipelines. A recently completed update to the Lake Huron Primary Water Supply System Master Water Plan (Jacobs 2020) identified the need to improve disinfection and increase water storage at the Lake Huron Water Treatment Plant (WTP) to meet water demands to the year 2038.

The LHPWSS has therefore initiated a Schedule B Municipal Class Environmental Assessment to confirm the recommendation for additional storage at the water treatment plant site and refine requirements for enhanced disinfection to provide operational flexibility to implement energy management and other strategies.

The study presents an opportunity to develop alternative solutions, assess their technical viability, and conduct a comprehensive evaluation to select a preferred alternative within the framework of the Schedule B Municipal Class Environmental Assessment process. The assessment is being carried out in accordance with the planning and design process for Schedule B projects under the *Environmental Assessment Act, 1990* as outlined in the Municipal Engineers Association's *Municipal Class Environmental Assessment* document (2000, as amended in 2007, 2011, and 2015).

The study will complete Phases 1 and 2 of the Class Environmental Assessment process as follows:

1. Phase 1: Problem Definition
2. Phase 2: Identification of Alternative Solutions and Public Consultation

As outlined in the Public, Review Agencies, and Indigenous Communities Consultation Plan prepared for the study, the stakeholders are as follows:

- Review Agencies
- Members of the Public
- Indigenous Communities, including First Nations
- Member Municipalities of the LHPWSS and associated Board members
- Others (for example, residents or businesses)

The purpose of this report is to summarize the Public Information Center (PIC) completed for the study. The PIC was held online from May 27 to June 10, 2022 and is the only PIC for the study.

2. Overview of the Public Information Centre

A variety of strategies and tools were used to promote widespread, accessible participation in the public engagement process for the Project.

The online PIC opened on May 27, 2022, and closed June 10, 2022. It was held virtually in a recorded video presentation format that was viewable and open for public comments during the PIC period via Microsoft Forms. A total of twelve users watched the video while open for viewing between May 27, 2022 and June 10, 2022. The video and PIC presentation boards remained posted on the website following June 10, 2022, with the survey disabled and no longer available.

2.1 Notice

The PIC notice was distributed to the project mailing list on May 27, 2022, and to additional contacts on May 31, 2022. The PIC notice is presented in Appendix A.

2.2 Webpage

The PIC was advertised on the Lake Huron and Elgin Area Primary Water Supply Systems webpage.

The Project website serves as the central online resource, hosting study-specific material including the PIC presentation slides and allowing users to participate in the PIC for the specified period.

2.3 Presentation Slides

Thirty-six slides were presented as part of the PIC, summarizing the background, objectives, alternative solutions and evaluation, identification of the preferred solution, and the additional or supplemental studies required. The presentation slides compiled for the PIC are presented in Appendix B and remain available for viewing on the Project website.

2.4 Recorded Presentation Video

The recorded presentation video is approximately 34 minutes long. It describes the PIC presentation slides and content and invites participants to complete the survey questions. The link remains available on the Project website. The recorded presentation video was viewed twelve times throughout the PIC period.

2.5 Survey

The PIC survey was designed to facilitate feedback from the public, specifically those who viewed or listened to the PIC content. The survey was closed to participants on June 10, 2022. There were two survey responses received. The survey is presented in Appendix C.

2.6 Social Media

The PIC was advertised on the Lake Huron and Elgin Area Water Supply Systems Facebook page May 27, 2022, and June 6, 2022. Social media advertisements are presented in Appendix D.

3. Feedback Received

Table 3-1 summarizes the two survey responses received.

Table 3-1. Summary of PIC Survey Responses

Survey Question	Participant Answer
1. Is the video presentation provided in the Microsoft Form clear? Is there any part of the Environmental Assessment process that is not clear or is there any part of the Environmental Assessment process that you would like explained further?	Yes: 2 No: 0
2. Is the problem and opportunity statement clear?	Yes: 2 No: 0
3. Is the short-list of alternatives clear?	Yes: 2 No: 0
4. Are the evaluation criteria clear?	Yes: 2 No: 0
5. Do you agree with the preliminary preferred solution?	Yes: 2 No: 0
6. Please share any additional comments that you have regarding the Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environment Assessment.	No comments received.
7. Was the information provided helpful to you?	Helpful: 2 Somewhat helpful: 0 Not helpful: 0
8. Was the information provided:	Too technical: 0 About right: 2 Not detailed enough: 0
9. Do you have any additional feedback that you think might be useful to the Project Team?	Yes: 0 No: 2

Responses were reviewed by the Project Team, and it was determined that no follow-up with survey participants is required. Feedback indicates a general support for the study, including the preliminary preferred solution identified.

No other PIC feedback has been received to date.

4. Summary and Next Steps

The Project File is currently being prepared and is anticipated to be available for public review in fall 2022 for 30 days at the Lake Huron and Elgin Area Primary Water Supply Systems webpage.

A baseline ecological field survey and impact assessment will be conducted during the preliminary design of the preferred alternative solution to confirm the baseline desktop assessment. A Stage 2 Archaeological Assessment using the Test Pit Survey Method will be completed during preliminary design of the preferred solution.

Appendix A
Public Information Centre Notice

Lake Huron
Primary Water Supply System

Lake Huron Primary Water Supply System
Lake Huron Water Treatment Plant Disinfection and Storage Upgrades
Class Environmental Assessment
Notice of Public Information Centre

The Lake Huron Primary Water Supply System (LHPWSS) owns the 340 megaliters-per-day Lake Huron Water Treatment Plant (LHWTP) in Grand Bend, which supplies treated water to eight municipalities via a (partially twinned) 1.2 m-diameter primary transmission main to reservoirs and secondary transmission systems. The LHPWSS Service Area has a serviced population of over 400,000 which includes the City of London, the Municipality of Bluewater, the Municipality of Lambton Shores, the Township of Lucan-Biddulph, the Municipality of Middlesex Centre, the Municipality of North Middlesex, the Municipality of South Huron, and the Municipality of Strathroy-Caradoc.

The recently completed LHPWSS Master Water Plan Update (2020) identified the need to improve disinfection and increase water storage at the LHWTP, to meet water demands to the year 2038. The LHPWSS has therefore initiated a Schedule B Municipal Class Environmental Assessment to confirm and refine the Master Plan's preferred solution to enhance disinfection at the LHWTP and meet the water storage requirements, while providing the plant with flexibility to implement energy management and other operational strategies. Potential infrastructure upgrades would be located on the LHWTP project site, as shown in Figure 1.

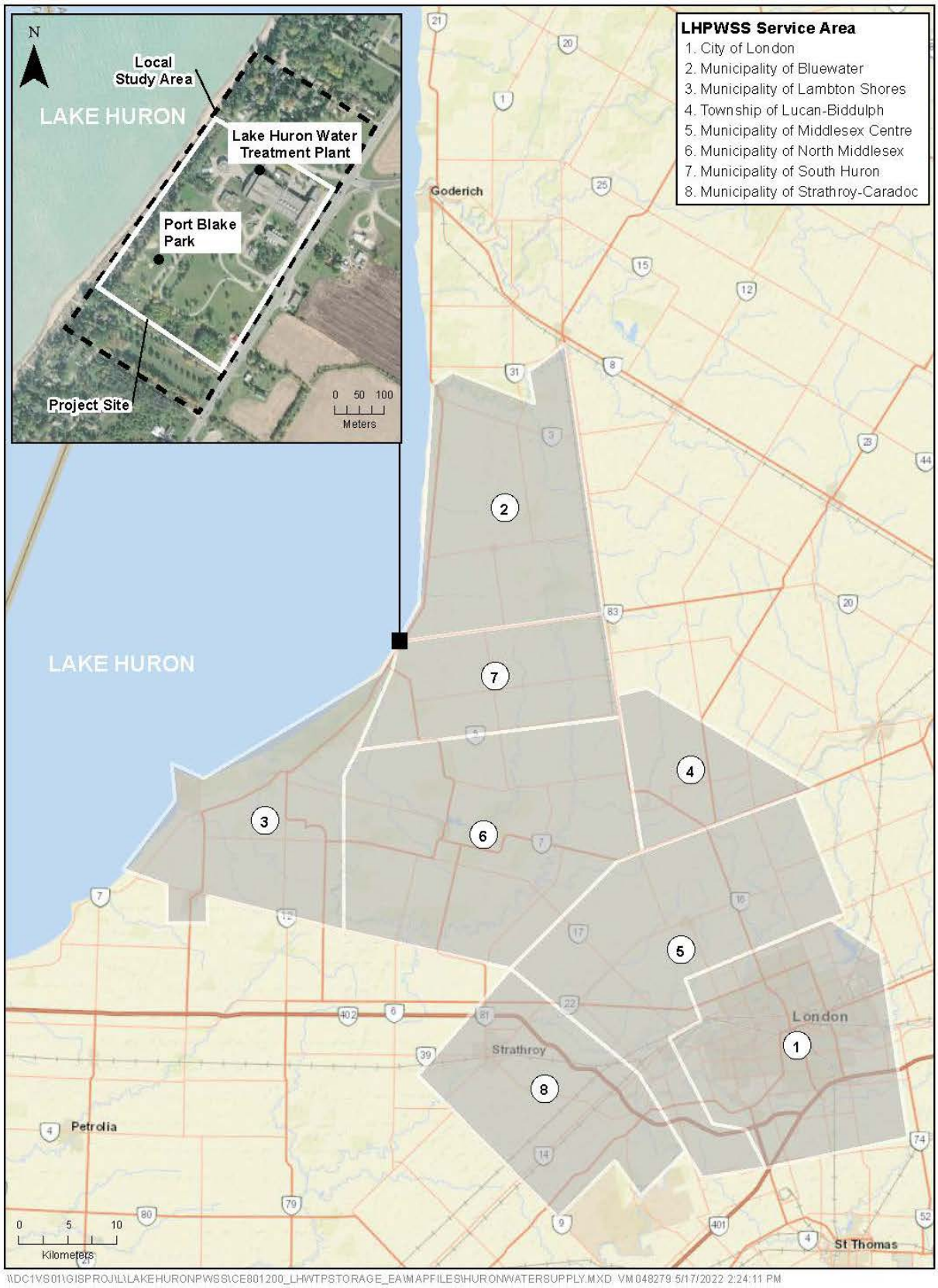

Figure 1. Proposed Local Study Area and LHPWSS Service Area

The study represents an opportunity to develop alternative solutions, assess their technical viability, and conduct a comprehensive evaluation to select a preferred alternative within the framework of the Schedule B Municipal Class Environmental Assessment process. The assessment is being carried out in accordance with the planning and design process for Schedule B projects under the *Environmental Assessment Act, 1990* as outlined in the Municipal Engineers Association's *Municipal Class Environmental Assessment* document (2000, as amended in 2007, 2011, and 2015).

Public input and comments are encouraged throughout the study. The Project Team will consult with the public and review agencies throughout the Class Environmental Assessment study. A Public Information Centre (PIC) is being held to present information about, and solicit the public's feedback on: the project's purpose, the EA process, the alternative solutions, and the evaluation undertaken to identify a preferred solution. Invitations to participate in the process will be emailed to recipients on the Project Mailing List, and published on the Lake Huron and Elgin Area Primary Water Supply Systems website (https://huronelginwater.ca/) and Facebook page (https://www.facebook.com/RegionalWaterSupply/) .

The PIC is being held virtually in a recorded video presentation format that is viewable and open for public comments during the following dates via the Microsoft Forms link as follows:

Dates/Duration: May 27 to June 10, 2022

Link: https://forms.office.com/r/sYQ7XDqADQ

If you have comments, require further information, or would like to be added to the project mailing list, please contact a member of the Project Team:

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Research and Process Optimization Engineer, Regional Water Supply
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ray.yu@jacobs.com

All personal information included in a submission, such as name, address, telephone number, and property location, is collected, maintained, and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in Section 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Project Officer or the Ministry of the Environment's Freedom of Information and Privacy Coordinator at 416 819 5148.

This Notice was issued on [May 27, 2022].

Appendix B
Public Information Centre Presentation Boards

Lake Huron
Primary Water Supply System

Jacobs
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Reinventing tomorrow.

Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment

Online Public Information Centre

May 27 to June 10, 2022

Welcome!

Welcome to the online Public Information Centre (PIC) for the Lake Huron Water Treatment Plant (WTP) Disinfection and Storage Upgrades Environmental Assessment (EA).

- Your feedback is an important part of the Class EA process. This PIC is being held to seek your feedback about this project, per provincial requirements for Schedule B Environmental Assessments.
- Please complete the survey questions and provide your comments after reviewing the PIC presentation at the end of this Microsoft Form.
- Any additional comments or questions that you have may be directed to the project team:

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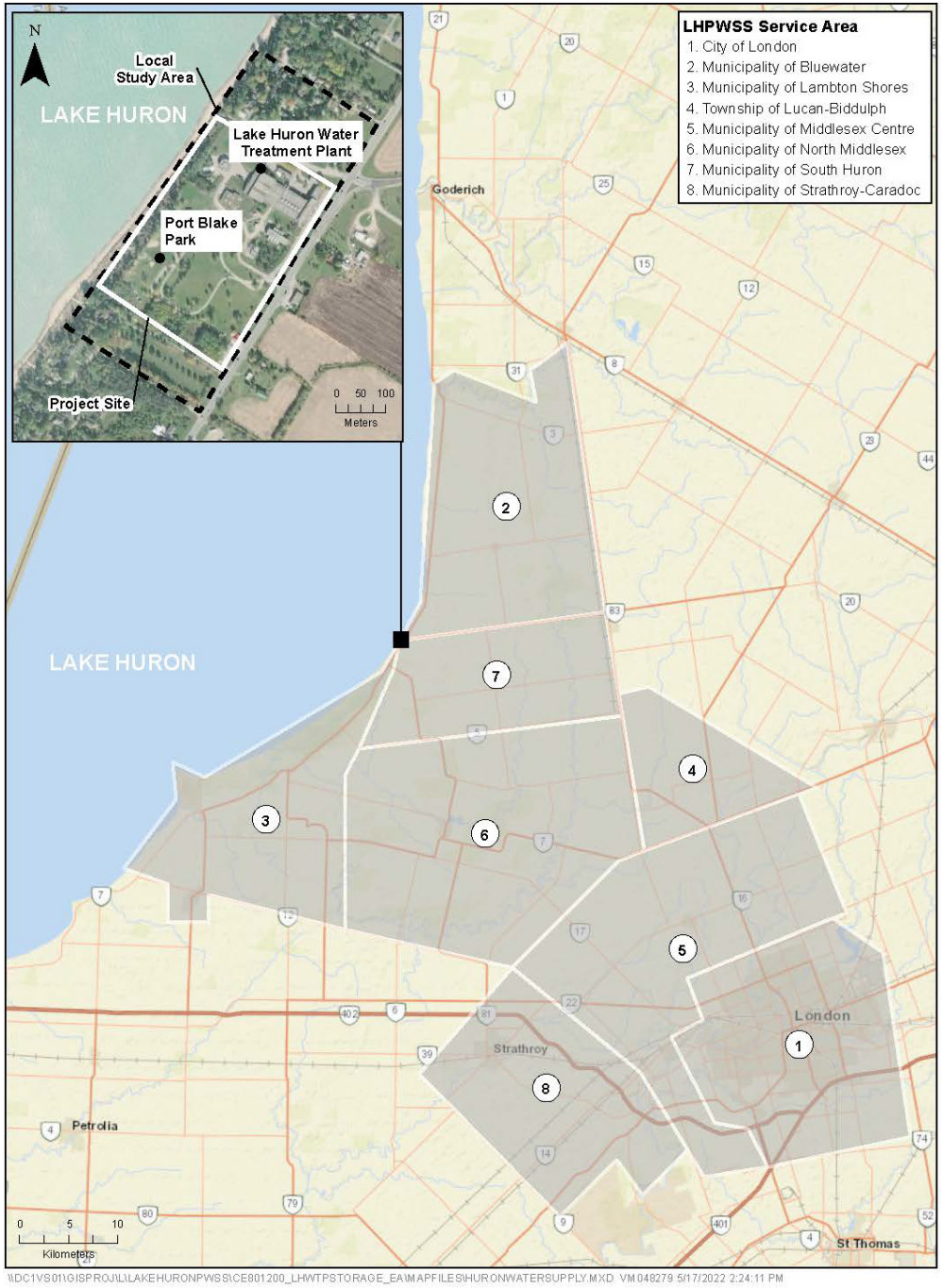
LHPWSS Land Acknowledgement

- It is acknowledged that the Lake Huron Primary Water Supply System (LHPWSS) serves communities and people within the traditional territories of the Anishinaabeg, the Haudenosaunee, and Métis peoples.
- It is acknowledged that members of the LHPWSS Board collectively meet from the areas covered by Treaty 2, Treaty 3, Treaty 6, Treaty 21, and Treaty 29. Accordingly, on behalf of the Project Team, we would like to pay respect to the First Nations who made it possible for others to settle and occupy these territories by signing the Treaties.
- The First Nations Communities closest in proximity to the LHPWSS service area are: Chippewas of the Thames First Nation (part of the Anishinabek); Oneida Nation of the Thames (part of the Haudenosaunee); Munsee-Delaware Nation (part of the Leni-Lunaape); and, Chippewas of the Kettle and Stoney Point First Nation (part of Anishinabek).

Background and Study Area

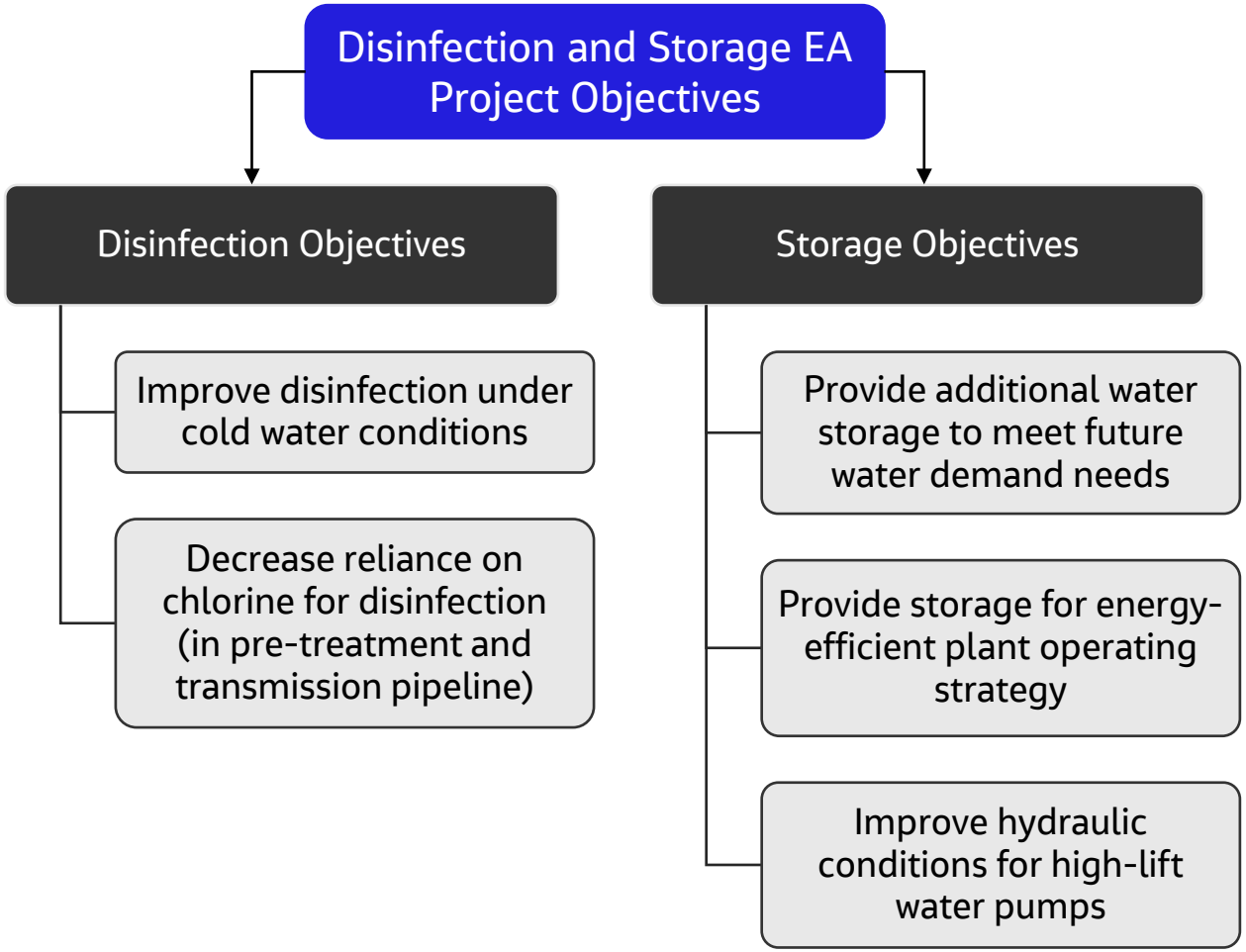
- The LHPWSS owns the 340 megalitre-per-day (ML/d) Lake Huron Water Treatment Plant (WTP), which supplies treated water to eight municipalities via a (partially twinned) 1.2-metre-diameter primary transmission main to reservoirs and secondary transmission systems that service the member municipalities.
- Study Area for the Class EA includes:
  - Project Site: Lake Huron WTP property, including Port Blake Park
  - Local Study Area: Project site extended to include Highlands Drive to the north and Gravelle Street to the south
  - LHPWSS Service Area: Area of municipalities serviced by the LHPWSS



Problem and Opportunity Statement, and Project Objectives

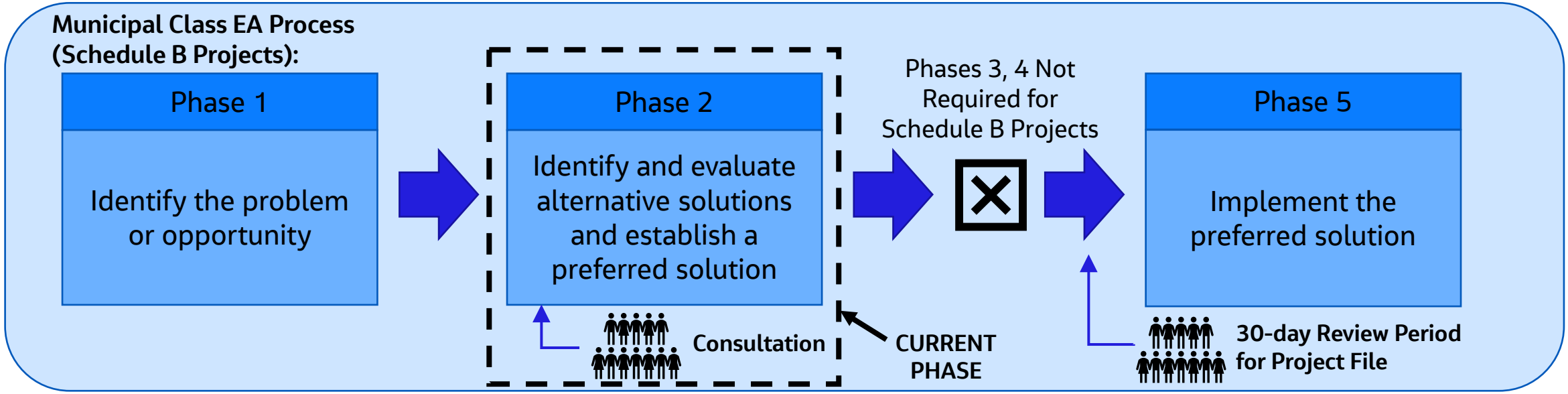
Problem and Opportunity Statement:

- A recently completed update to the LHPWSS Master Water Plan (Jacobs 2020) identified the need to **improve disinfection** and **increase water storage** at the Lake Huron WTP, to meet water demands to the year 2038.
- A Schedule B Municipal Class EA is being completed to **confirm the recommendation for additional storage** at the WTP site and **refine requirements for enhanced disinfection** to provide operational flexibility to implement energy management and other operating strategies.



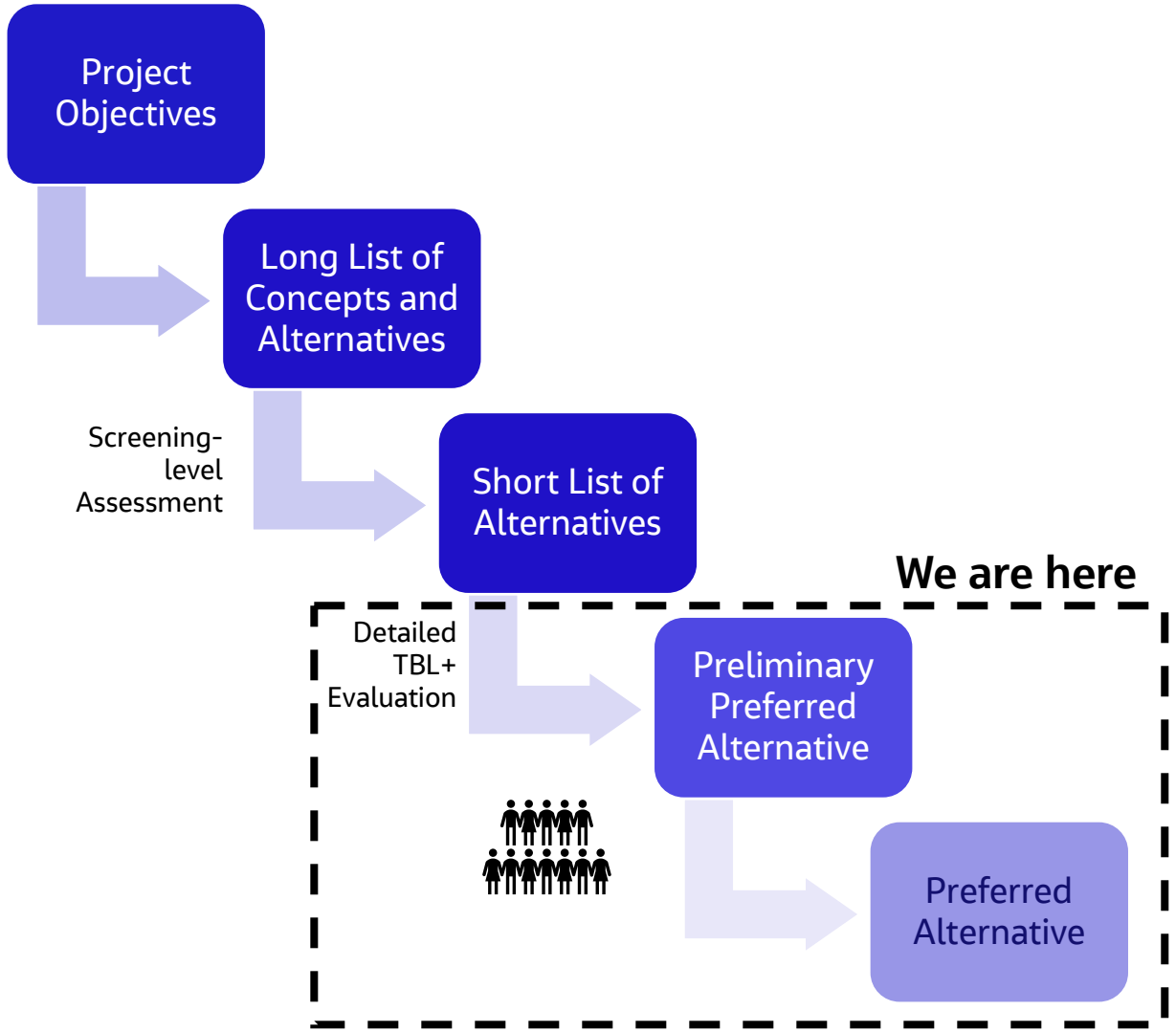
Class Environmental Assessments

- The Ontario Municipal Engineers Association's *Municipal Class Environmental Assessment* document (2000, as amended in 2007, 2011, and 2015) provides municipalities with a five-phase planning process approved under the *Environmental Assessment Act* to plan and undertake municipal projects.
- Projects are classified into different schedules (A, A+, B, or C), based on the anticipated environmental impact of the proposed development. Each classification requires a different level of review and public and stakeholder engagement to complete the Municipal Class EA.
- This project is classified as a Schedule B EA, as it will include upgrades to the existing municipal water infrastructure that have the potential for some adverse environmental impacts.
- The project is being carried out to satisfy the provincial requirements for the Municipal Class EA process.



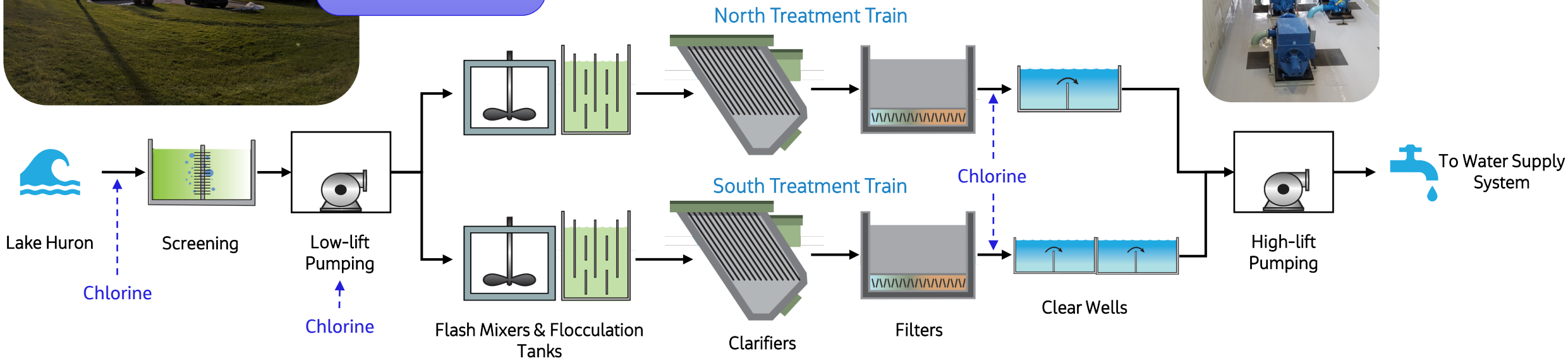
Phase 2: Alternative Development Process

- **Step 1:** Identify objectives for alternative solutions in alignment the with Problem and Opportunity Statement.
- **Step 2:** Identify and evaluate a long list of alternatives to meet project objectives, using a screening level assessment.
- **Step 3:** Develop a short list of alternatives and evaluate them using a detailed triple bottom line (TBL+) evaluation to identify a preliminary preferred alternative.
- **Step 4:** Consult and receive input to confirm the preferred alternative.



Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (1)

The Lake Huron WTP is a **chemically assisted, conventional filtration treatment plant**.



The water treatment process **begins with water being pumped from Lake Huron**. It then goes through the next treatment stages:

- Pretreatment: A chemical conditioning step to encourage clays, silts, organic material, and bacteria to stick together and settle out of the water.
- Filtration: A step to remove any remaining particles.
- Clear Wells: The stage where the water gets contact with chlorine.

The process **ends with treated water being sent out to customers** via the LHPWSS.

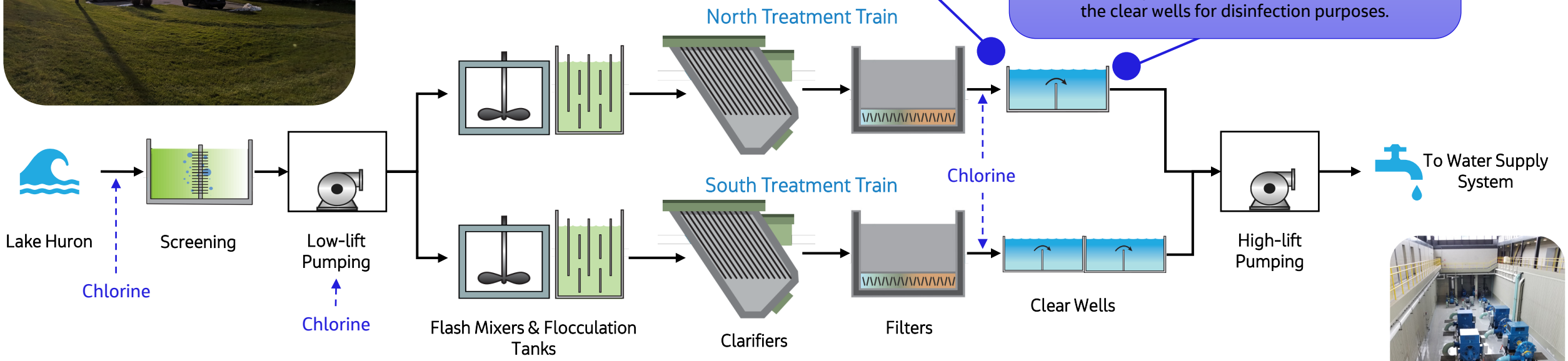
Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (2)

2018 – Disinfection Study Identified Primary Disinfection Deficiencies under Cold Water Conditions:

A study of the primary disinfection process determined that operational interventions would be required to meet the disinfection requirements under cold water conditions when operating at more than 200 ML/d (AECOM 2018). As the plant has a capacity of 340 ML/d, the need to mitigate the disinfection deficiencies was identified.

Limited Volume in North Clear Well:

The WTP's disinfection performance is limited by the north clear well, which is the smaller of the two clear wells at the plant. Access to the volume in the clear wells for water storage purposes is therefore constrained by the level that must be maintained in the clear wells for disinfection purposes.



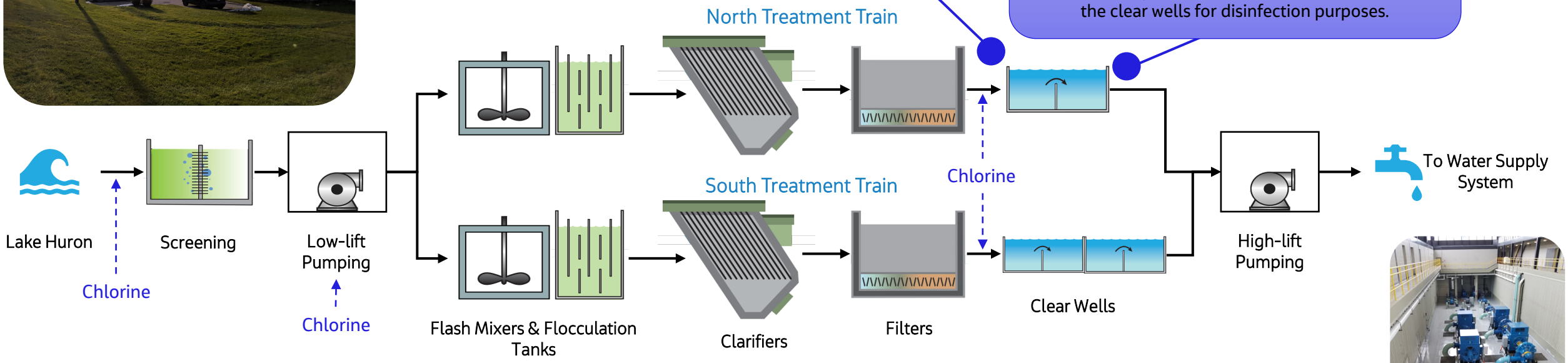
Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (3)

2018 – Disinfection Study Identified Primary Disinfection Deficiencies under Cold Water Conditions:

A study of the primary disinfection process determined that operational interventions would be required to meet the disinfection requirements under cold water conditions when operating at more than 200 ML/d (AECOM 2018). As the plant has a capacity of 340 ML/d, the need to mitigate the disinfection deficiencies was identified.

Limited Volume in North Clear Well:

The WTP's disinfection performance is limited by the north clear well, which is the smaller of the two clear wells at the plant. Access to the volume in the clear wells for water storage purposes is therefore constrained by the level that must be maintained in the clear wells for disinfection purposes.



2018 – Master Plan Update Identified Storage Deficiencies:

A storage capacity assessment was completed as part of the 2018 LHPWSS Master Plan Update. The assessment identified the need for additional storage to meet the regional equalization and emergency storage needs to supply member municipalities (Jacobs 2020).

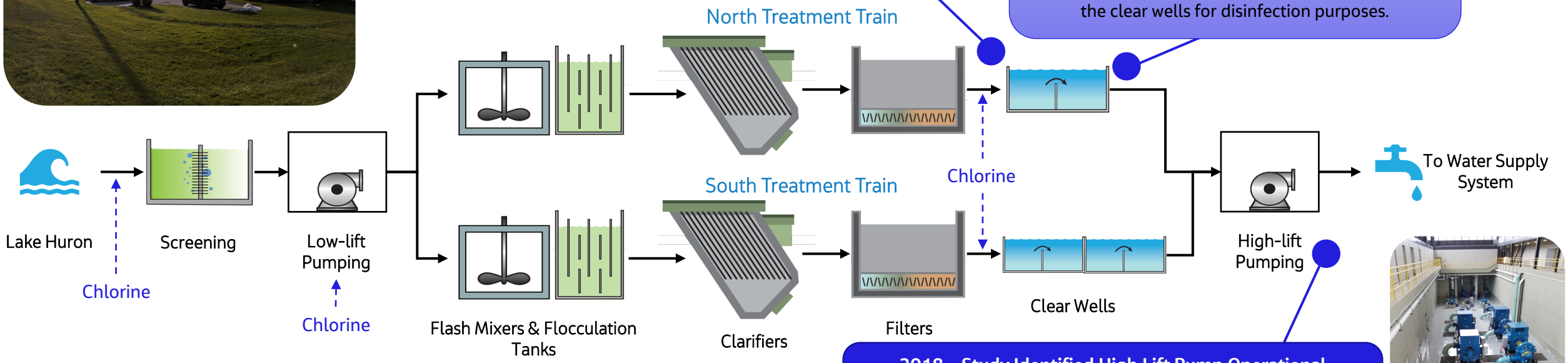
Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (4)

2018 – Disinfection Study Identified Primary Disinfection Deficiencies under Cold Water Conditions:

A study of the primary disinfection process determined that operational interventions would be required to meet the disinfection requirements under cold water conditions when operating at more than 200 ML/d (AECOM 2018). As the plant has a capacity of 340 ML/d, the need to mitigate the disinfection deficiencies was identified.

Limited Volume in North Clear Well:

The WTP's disinfection performance is limited by the north clear well, which is the smaller of the two clear wells at the plant. Access to the volume in the clear wells for water storage purposes is therefore constrained by the level that must be maintained in the clear wells for disinfection purposes.



2018 – Master Plan Update Identified Storage Deficiencies:

A storage capacity assessment was completed as part of the 2018 LHPWSS Master Plan Update. The assessment identified the need for additional storage to meet the regional equalization and emergency storage needs to supply member municipalities (Jacobs 2020).

2018 – Study Identified High Lift Pump Operational Restrictions and Deficiencies:

A study identified operational restrictions and deficiencies for the Lake Huron WTP relating to the operation of the existing high-lift pumps. It was identified that there is insufficient volume in the existing clearwells to offset the ramp-up requirements of the plant processes, to provide stable operations under certain high-lift pump operating conditions (AECOM 2018).

Long List of Alternative Solutions and Screening Process

- A long list of potential alternatives was identified, then screened to identify the viable short list of alternatives.

	Alternative	Screening Result
	Do Nothing	✗ Fail
	Control Flow to North Clearwell, and New Reservoir	✗ Fail
Modifications to Existing Clearwells + New Reservoir	Increase Existing Clearwell Baffle Factor, and New Reservoir	✓ Pass
	Overflow Weir at Clearwell Effluent, and New Reservoir	✓ Pass
	Operate North and South Clearwells in Series, and New Reservoir	✗ Fail
Additional Clearwell Volume + New Reservoir	Add Second Cell at North Clearwell, and New Reservoir	✗ Fail
	New Reservoir to Meet All Storage Needs	✓ Pass
Ultraviolet (UV) Disinfection + New Reservoir	Ultraviolet Disinfection at Settled Water Conduits, and New Reservoir	✓ Pass
	Ultraviolet Disinfection at Each Filter Effluent, and New Reservoir	✓ Pass
	Ultraviolet Disinfection at New Reservoir	✓ Pass
	Ultraviolet Disinfection at High-lift Pump Discharge, and New Reservoir	✗ Fail
Ozonation + New Reservoir	Ozonation Before Coagulation, and New Reservoir	✗ Fail
	Ozonation Before Filtration, and New Reservoir	✗ Fail

Resulting Short List of Alternatives

- The short list of alternatives was identified through the preliminary screening process:

Short List Alternative No.	Alternative Description
1	Do Nothing [a]
2	Clear Well Upgrades (Increase Baffle Factor and Install Overflow Weirs), and New Reservoir
3	New Reservoir to Meet Disinfection, Buffering, and Storage Needs
4.1	UV Disinfection at Settled Water Conduits, New Reservoir
4.2	UV Disinfection at Each Filter Effluent, and New Reservoir
4.3	UV Disinfection at New Reservoir

Table Notes:
[a] The 'Do Nothing' alternative is retained as a point against which the other alternatives can be compared, as part of the Class EA evaluation process.
No. = number

Alternative Solutions

Alternative 1 – Do Nothing

- Do Nothing is the baseline alternative considered as part of the Class EA process in which no physical infrastructure changes are made.
- Chlorine-based disinfection and storage needs would continue to be limited by the existing WTP arrangement and processes. However, to meet the Project Objectives, operational changes to the existing plant operations would need to be made and are assumed for the purposes of this EA.
- Overall, this alternative does not meet the Project's Problem and Opportunity Statement.

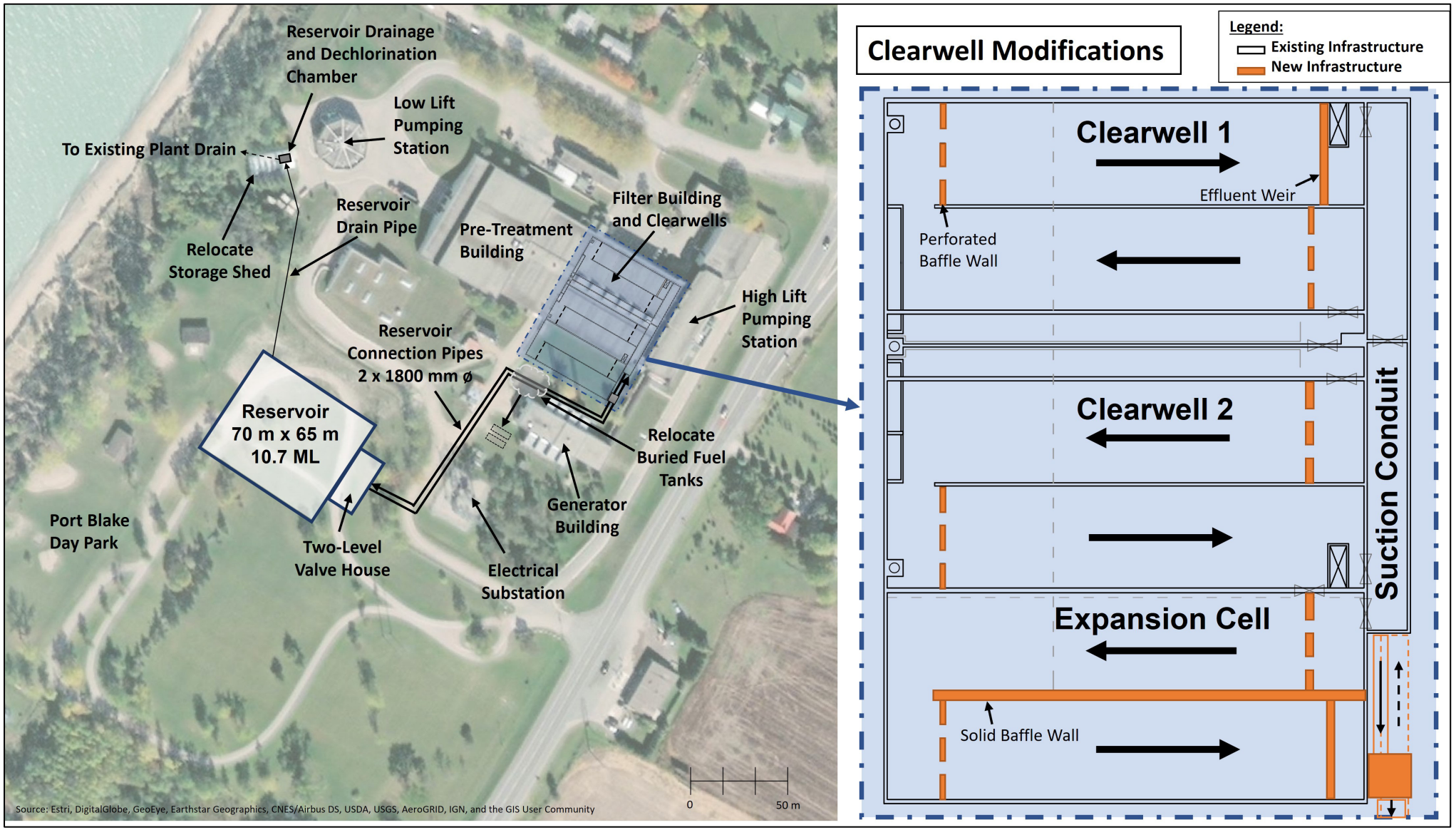
Alternative 1 Cost:

- Capital Investment = $0
- Operations and Maintenance (O&M) Costs, Over 20 Years (NPV)* = $844,000

Costs for Additional Disinfection Chemical (Chlorine) Usage

*Note: NPV = net present value. The O&M estimates were calculated using only additional costs resulting from new assets or processes resulting from the short-listed alternatives. Existing operational costs for the Lake Huron WTP are not included in the O&M cost estimates.

Alternative 2 – Clear Well Upgrades, and New Reservoir



Summary for Alternative 2 – Clear Well Upgrades, and New Reservoir

Alternative 2 consists of upgrading the existing clear wells to improve chlorine-based disinfection by:

- Installing baffle walls to improve water flow and disinfection time
- Installing overflow weirs at the outlets to maximize use of storage

Alternative 2 also includes adding a new belowgrade reservoir sized to meet additional storage requirements:

- Remaining disinfection volume needed to meet requirements under all conditions
- Water demand-based volume

Alternative 2 Cost:

- Capital Investment = $31.68 Million
- O&M Costs, Over 20 Years (NPV)* = $303,000

Alternative 2 New Reservoir Design Parameters	
Proposed Total Volume	10.7 ML
Number of Cells	2
Reservoir Total Length	70 m
Reservoir Total Width	65 m
Total Footprint	4,540 m^2

Volume for Disinfection = 3.8 ML

Volume for Water Demand = 6.9 ML

Table Notes:
ML = million litres
m = metres
m^2 = metres squared

*Note: NPV = net present value. The O&M estimates were calculated using only additional costs resulting from new assets or processes resulting from the short-listed alternatives. Existing operational costs for the Lake Huron WTP are not included in the O&M cost estimates.

Alternative 3 – New Reservoir

Summary for Alternative 3 – New Reservoir

Alternative 3 consists of adding a new belowgrade reservoir sized to meet additional chlorine-based disinfection and storage requirements:

- Disinfection volume needed to meet requirements under all conditions
- Water demand-based volume

Alternative 3 Cost:

- Capital Investment = $33.23 Million
- O&M Costs, Over 20 Years (NPV)* = $294,000

Alternative 3 New Reservoir Design Parameters	
Proposed Total Volume	13.0 ML
Number of Cells	2
Reservoir Total Length	70 m
Reservoir Total Width	65 m
Total Footprint	4,540 m^2

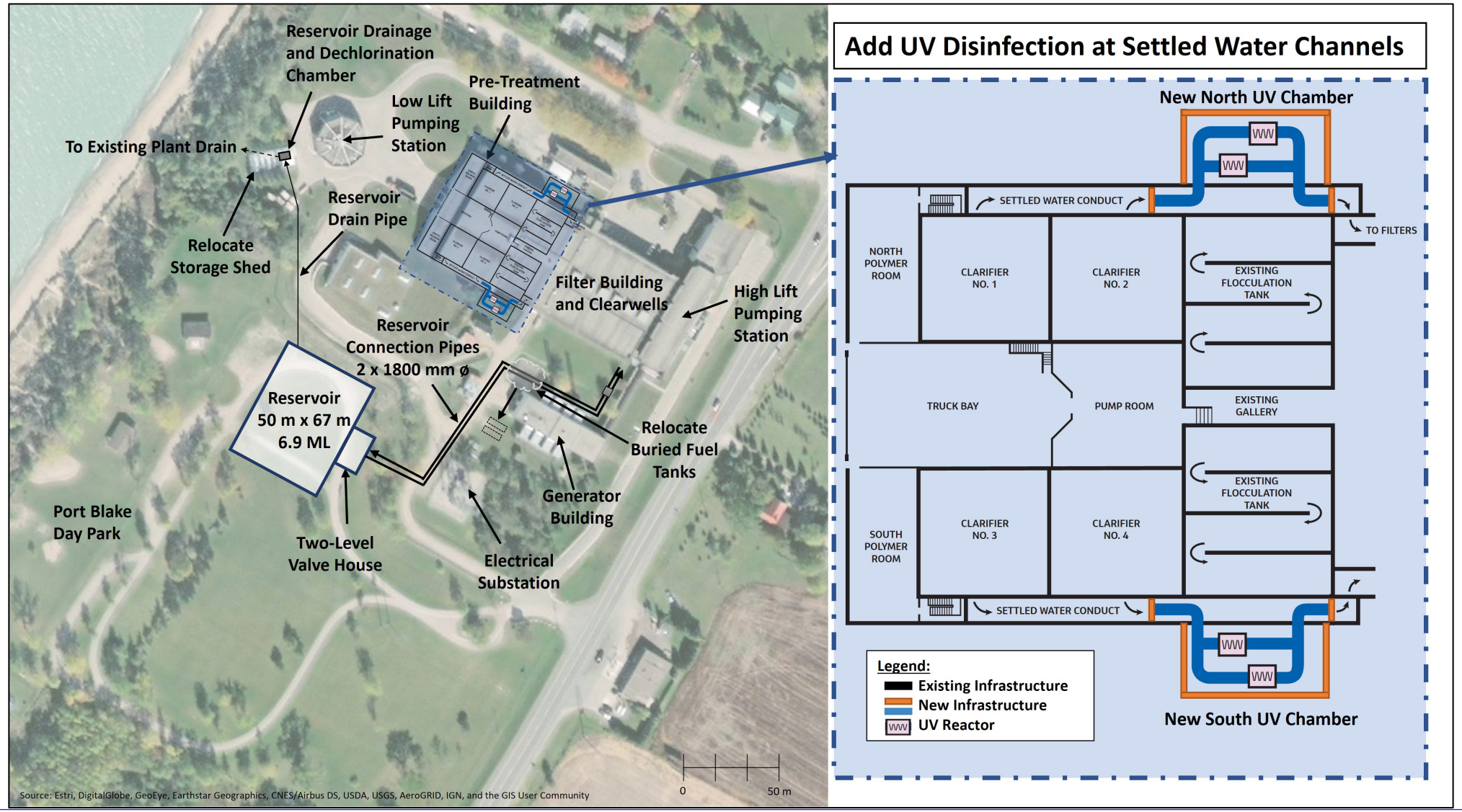
Volume for Disinfection =6.1 ML

Volume for Water Demand = 6.9 ML

Table Notes:
ML = million litres
m = metres
m^2 = metres squared

*Note: NPV = net present value. The O&M estimates were calculated using only additional costs resulting from new assets or processes resulting from the short-listed alternatives. Existing operational costs for the Lake Huron WTP are not included in the O&M cost estimates.

Alternative 4.1 - UV Disinfection at Settled Water Conduits, and New Reservoir for Additional Storage Needs



Summary for Alternative 4.1 – UV Disinfection at Settled Water Conduits, and New Reservoir for Additional Storage Needs

Alternative 4.1 consists of implementing UV disinfection to improve disinfection at the WTP and reduce reliance on chlorine-based disinfection. The concept includes:

- Annexing two new buildings to the pretreatment building, one at each the north and south settled water conduits
- Installing a total of 4 (2 duty, 2 redundant) UV reactors to treat the water

The alternative also includes adding a new belowgrade reservoir sized to meet additional storage requirements:

- Water demand-based volume

Alternative 4.1 Cost:

- Capital Investment = $37.03 Million
- O&M Costs, Over 20 Years (NPV)* = $346,000

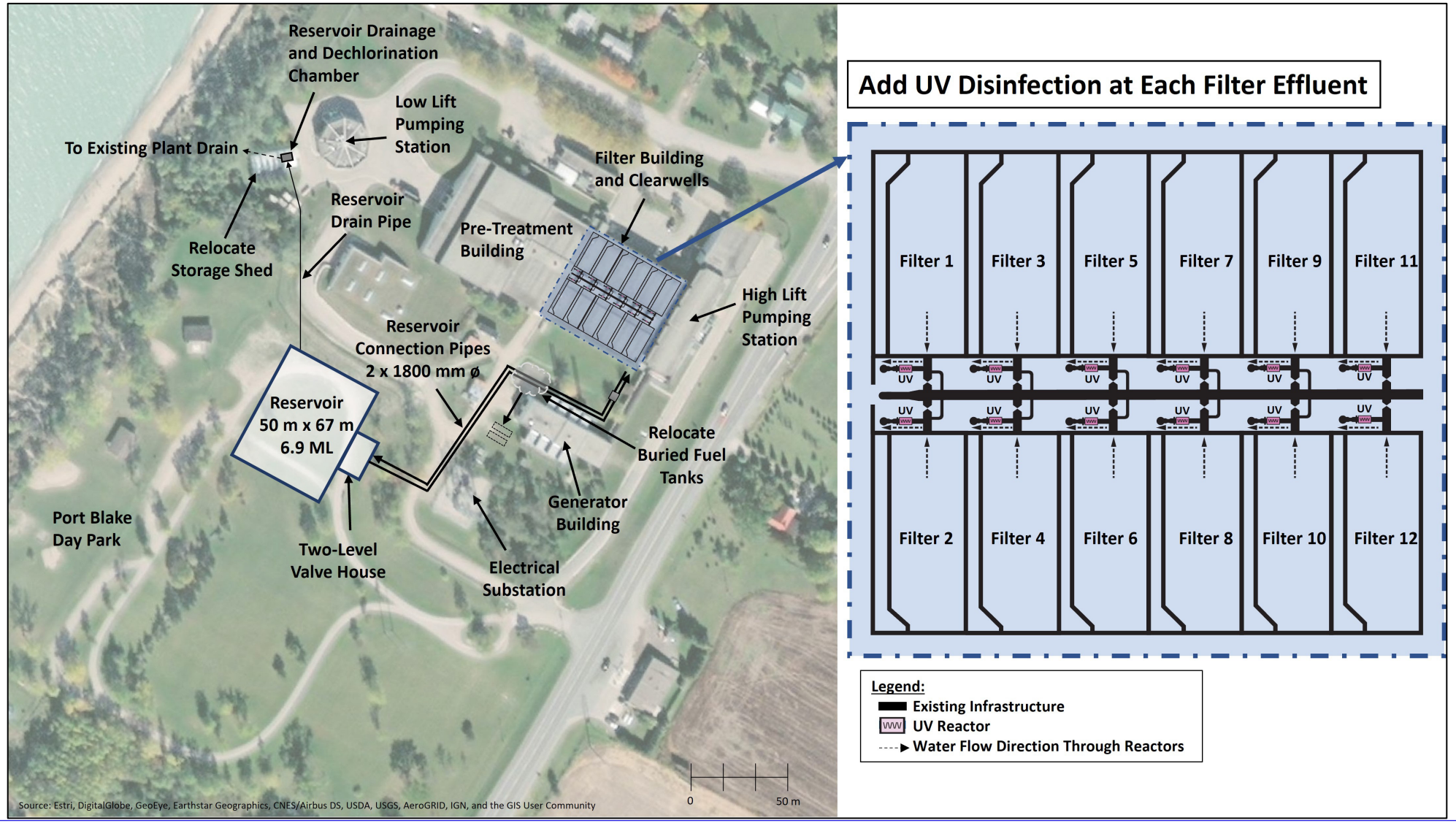
Alternative 4.1 New Reservoir Design Parameters	
Proposed Total Volume	6.9 ML
Number of Cells	2
Reservoir Total Length	50 m
Reservoir Total Width	67 m
Total Footprint	3,320 m^2

Volume for Water Demand = 6.9 ML

Table Notes:
ML = million litres
m = metres
m^2 = metres squared

*Note: NPV = net present value. The O&M estimates were calculated using only additional costs resulting from new assets or processes resulting from the short-listed alternatives. Existing operational costs for the Lake Huron WTP are not included in the O&M cost estimates.

Alternative 4.2 – UV Disinfection at Each Filter Effluent, and New Reservoir for Additional Storage Needs



Summary for Alternative 4.2 – UV Disinfection at Each Filter Effluent, and New Reservoir for Additional Storage Needs

Alternative 4.2 consists of implementing UV disinfection to improve disinfection at the WTP and reduce reliance on chlorine-based disinfection. The concept includes:

- Retrofitting a UV reactor onto each of the 12 filter effluent pipes within the filter piping gallery
- Installing a total of 12 medium-pressure UV reactors (all duty) to treat the water

The alternative also includes adding a new belowgrade reservoir sized to meet additional storage requirements:

- Water demand-based volume

Alternative 4.2 Cost:

- Capital Investment = $26.91 Million
- O&M Costs, Over 20 Years (NPV)* = $420,000

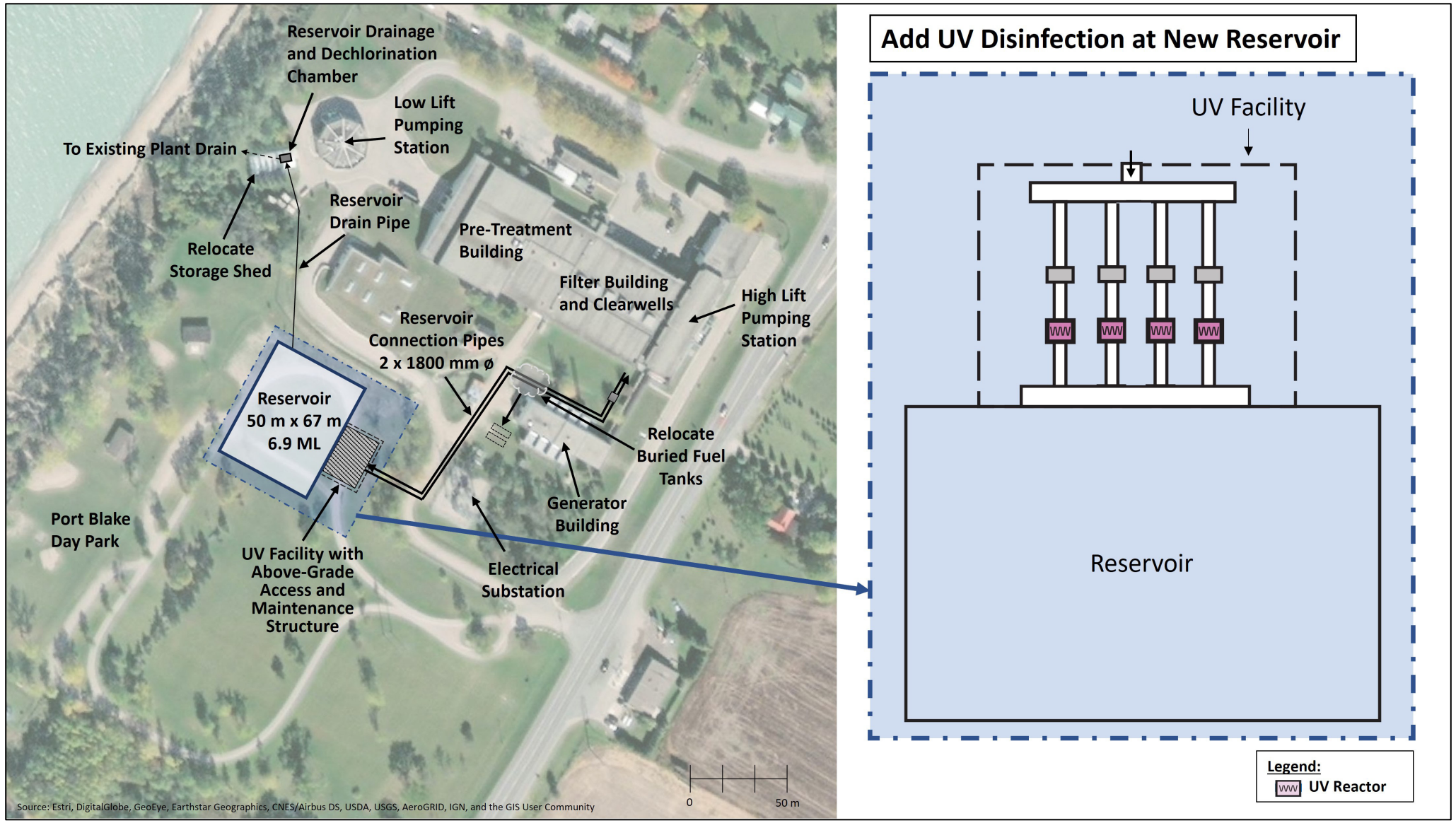
Alternative 4.2 New Reservoir Design Parameters	
Proposed Total Volume	6.9 ML
Number of Cells	2
Reservoir Total Length	50 m
Reservoir Total Width	67 m
Total Footprint	3,320 m^2

Volume for Water Demand = 6.9 ML

Table Notes:
ML = million litres
m = metres
m^2 = metres squared

*Note: NPV = net present value. The O&M estimates were calculated using only additional costs resulting from new assets or processes resulting from the short-listed alternatives. Existing operational costs for the Lake Huron WTP are not included in the O&M cost estimates.

Alternative 4.3 – UV Disinfection at New Reservoir



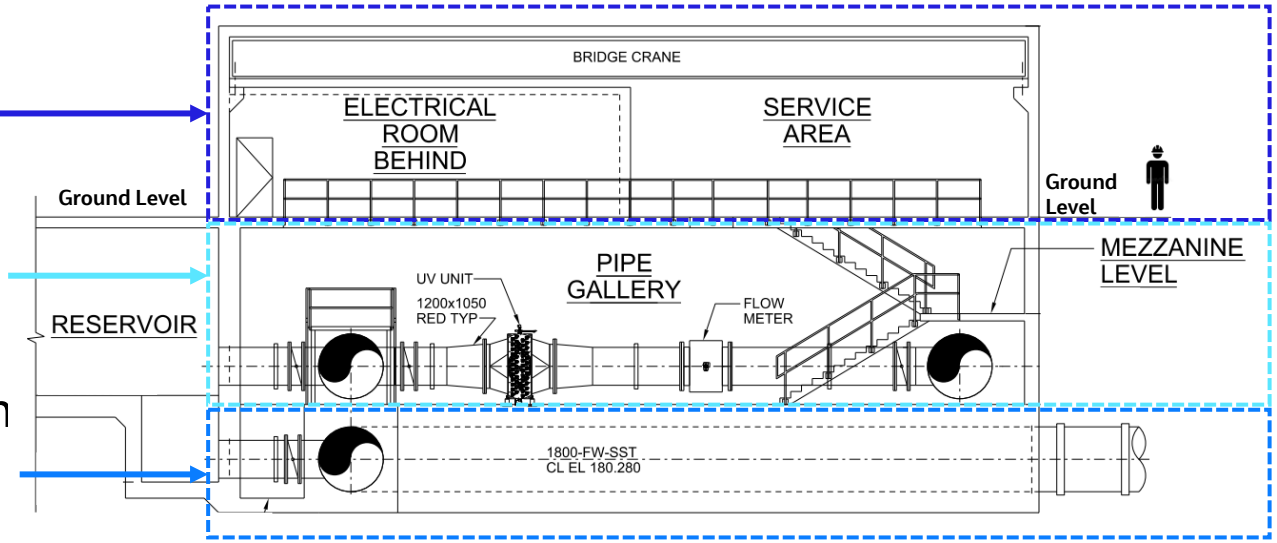
Summary for Alternative 4.3 – UV Disinfection at New Reservoir

Alternative 4.3 includes:

- A new reservoir sized to meet the water-demand based storage needs
- A new UV building as part of the new belowgrade reservoir valve house attached to the new reservoir
- Installing a total of 4 (3 duty, 1 redundant) low-pressure, high-output UV reactors to treat the water

The new UV and reservoir valving building will be partially abovegrade and partially belowgrade, and will consist of the following levels:

- Upper Level (Abovegrade): Building that acts as an access point and service area to the facility
- Middle Level (Belowgrade): Pipe gallery and will house the reservoir influent piping and valving with the UV reactors
- Lower Level (Belowgrade): Effluent piping and valvin for the treated water exiting the reservoir



Summary for Alternative 4.3 – UV Disinfection at New Reservoir (Continued)

Alternative 4.3 Cost:

- Capital Investment = $35.56 M
- Operations and Maintenance Costs, Over 20 Years (NPV)* = $182 k

Alternative 4.3 reservoir design concept:

Alternative 4.3 New Reservoir Design Parameters	
Proposed Total Volume	6.9 ML
Number of Cells	2
Reservoir Total Length	50 m
Reservoir Total Width	67 m
Total Footprint	3,320 m^2

Volume for Water Demand = 6.9 ML

Table Notes:
ML = million litres
m = metres
m^2 = metres squared

*Note: NPV = net present value. The Operations and Maintenance (O&M) estimates were calculated using only additional costs resulting from new assets or processes resulting from the short-listed alternatives. Existing operational costs for the Lake Huron WTP are not included in the O&M cost estimates.

Additional Background and Supplemental Studies

Ecological Assessment (Jacobs)

Description

A desktop ecological assessment was completed to identify natural heritage features which may occur within the limits of the proposed project site, to assess potential ecological impacts, and identify required field studies.

Key Findings

- Each proposed alternative slightly encroaches the Ausable Bayfield Conservation Authority (ABCA) Regulated at the proposed alignment of the piping to the new reservoir.
- A list of Species-at-Risk (SAR) has been identified as potentially occurring within the site. A SAR assessment including field surveys is recommended for the detailed design stage.
- No changes to the current discharge effluent quantity or quality from the plant are anticipated, therefore no impacts to fish and fish habitat are predicted at this stage.
- Wildlife may be impacted from the proposed vegetation and potential tree removals, particularly from the proposed reservoir and associated alignment. A restoration plan is to be considered during detailed design.

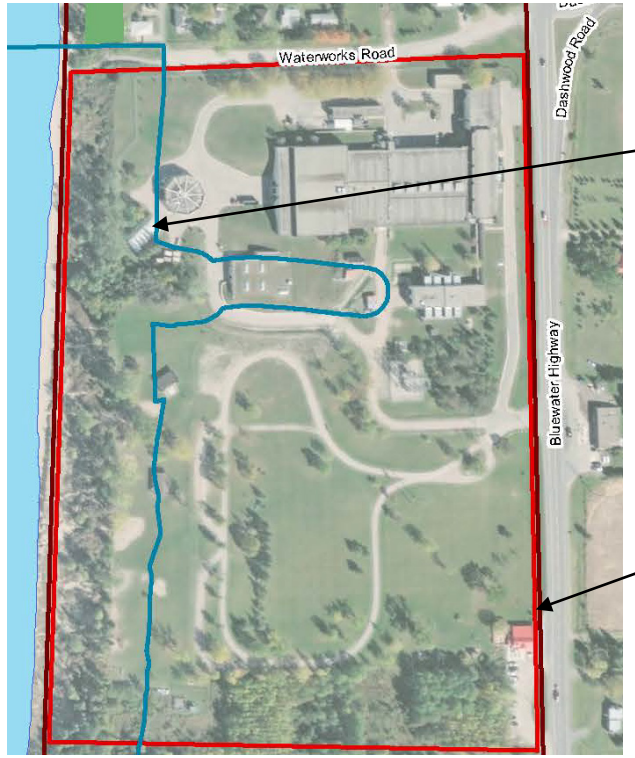


Figure: Desktop Natural Features (Jacobs, 2022)

Next Steps

A baseline field survey and impact assessment will be conducted during the preliminary design of the preferred alternative solution to confirm the baseline desktop assessment.

Cultural Heritage Screening Assessment (Golder Associates)

Description

A desktop assessment of the local study area was completed to assess whether there are properties or buildings with cultural heritage significance as defined by Ontario Regulation 9/06's Criteria for Determining Cultural Heritage Value or Interest.

Key Findings

- Two properties with cultural heritage potential were identified within the local study area; however, neither are located within the Project Site:
  - 71106 Bluewater Highway
  - 71176 Bluewater Highway

Next Steps

No further cultural heritage studies are required.

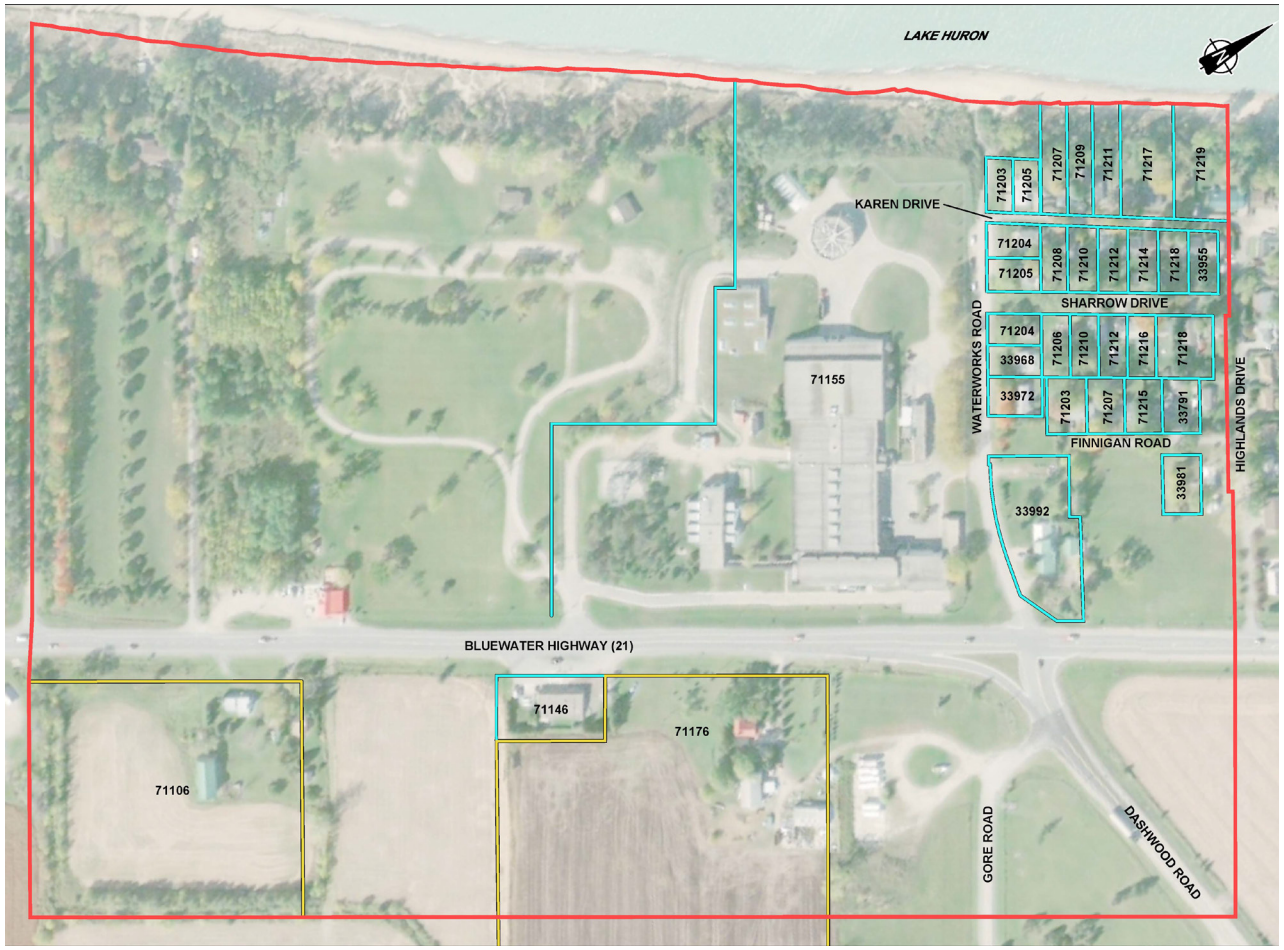


Figure: Map of Properties of Potential CHVI Within and Adjacent to the Study Area (Golder 2021)

Stage 1 Archeological Assessment (Golder Associates)

Description

A Stage 1 Archeological Assessment was undertaken to assess the potential for archaeological features within the local study area, as defined by the Ministry of Heritage, Sport, Tourism, and Culture Industries' Standards and Guidelines for Consultant Archaeologists (2011).

Key Findings

- Some areas within the local study area have archeological potential for both pre-contact Indigenous and historical period sites. These consist of areas —like the manicured lawn and forested areas within Port Blake Day Park south-west of the Lake Huron WTP—that are undisturbed by previous construction or development activities.
- Development in these areas resulting from any of the alternatives will require a Stage 2 Archaeological Assessment ahead of implementation

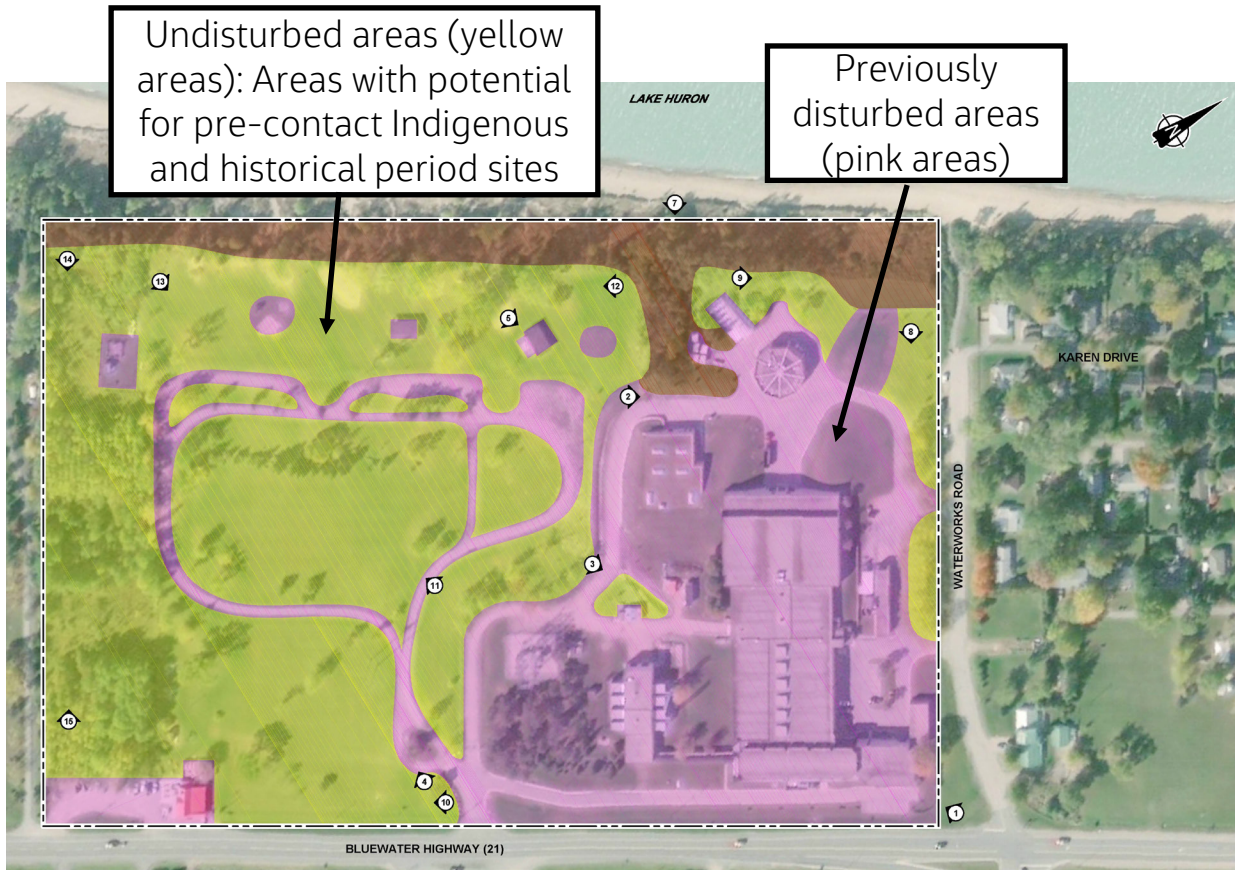


Figure: Map of Stage 1 Archeological Assessment Results (Golder, 2021)

Next Steps

Complete Stage 2 Archaeological Assessment using Test Pit Survey Method during detailed design of preferred solution

Evaluation Framework and Identification of Preliminary Preferred Solution

Evaluation Framework and Criteria

- An evaluation framework was developed based on the Municipal Class EA process.
- Evaluation criteria within four categories were developed, each with their own scoring descriptors to determine whether an alternative gets a low, medium, or high score for each criterion.

Natural Environment

- Aquatic Vegetation and Wildlife
- Terrestrial Vegetation and Wildlife
- Surface Water
- Groundwater
- Greenhouse Gas from Energy Usage
- Chemical Usage
- Soil and Geology

Socio-cultural Environment

- Archaeological Sites
- Cultural and Heritage Features
- Recreational Land Uses and Visual Landscape
- Impacts During Construction
- Long-term Community Impact
- Reduction in Service Interruptions
- Planning Policy Compliance

Technical Environment

- Improvements to Primary Disinfection
- Impact on Disinfection Byproduct Formation
- Ease of Implementation
- Future Proofing
- Potential for System Expandability for Redundancy
- Compatibility with WTP Hydraulic Grade Line
- Operational Flexibility
- Maintenance
- Permits and Approvals

Economic Environment

- Capital Costs
- Lifecycle Costs (including O&M Costs)

Alternatives Evaluation Results

- For each criterion, the alternatives were given a **high (10), medium (5), or low (0) score**, with a high score meaning more benefits and fewer impacts, and a low score meaning fewer benefits and more impacts. The total score for each alternative was then calculated, by taking the sum of the scores from all 25 criteria.
- ***Alternative 4.3 had the highest score*** of all the short-listed alternatives as it provides the most benefits with the fewest impacts. This finding was also supported for three of the five scoring scenarios completed as part of a sensitivity analysis.

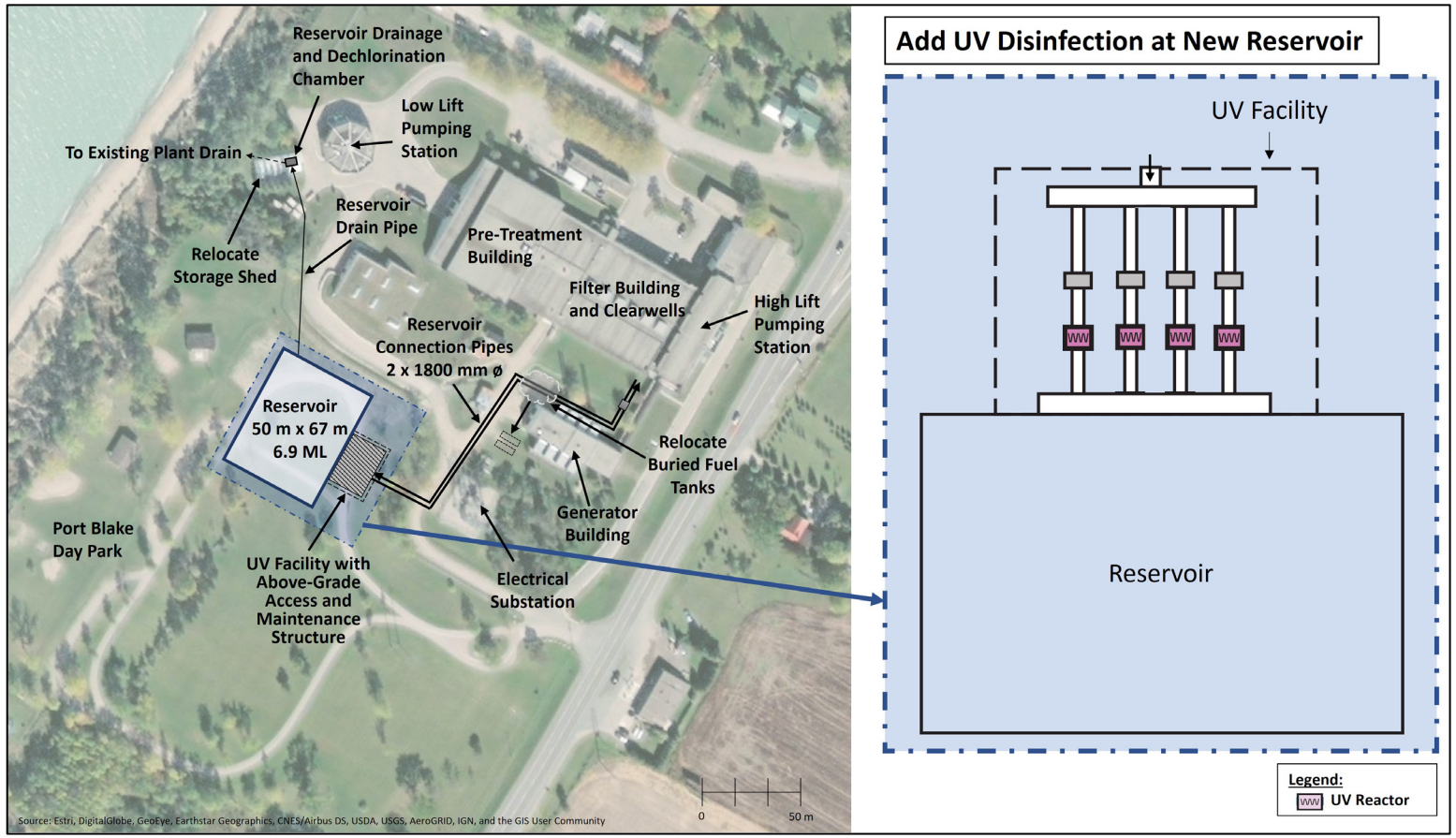
Alternative No.	Alternative Description	Natural Environment	Socio-Cultural	Technical	Economic	Overall Evaluation Score
1	Do Nothing	60	65	25	20	**170**
2	Clear Well Upgrades, and New Reservoir (10.7 ML)	55	60	55	10	**180**
3	New Reservoir (13.0 ML)	55	60	60	10	**185**
4.1	UV Disinfection at Settled Water Conduits, and New Reservoir (6.9 ML)	60	55	70	10	**195**
4.2	UV Disinfection at Each Filter Effluent, and New Reservoir (6.9 ML)	55	60	50	10	**175**
4.3	UV Disinfection at New Reservoir (6.9 ML)	60	55	80	10	**205**
	Maximum Possible Score	*70*	*70*	*90*	*20*	***250***

☑ **Preferred Alternative**

Preferred Solution

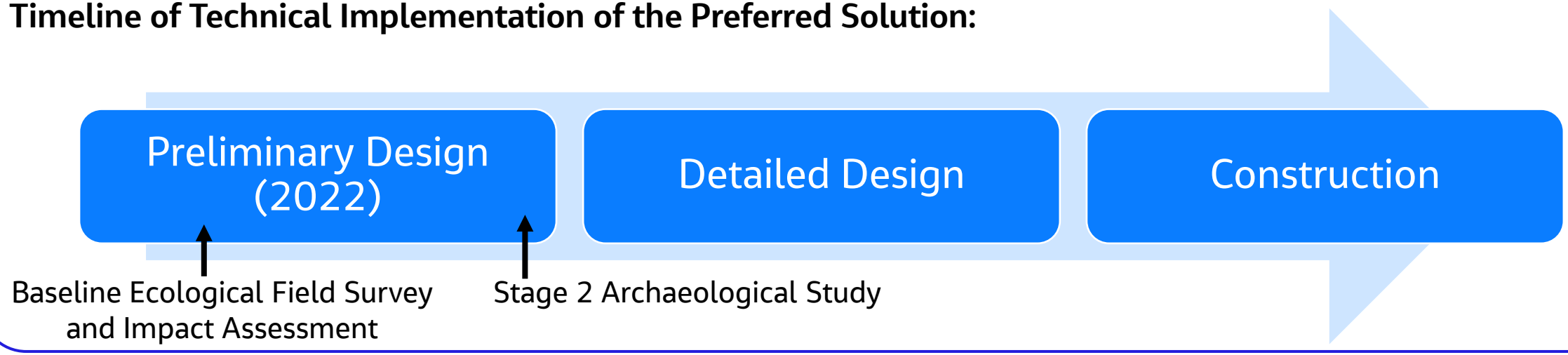
In addition to meeting the Project Objectives, Alternative 4.3 will provide the following benefits:

- Provides the Lake Huron WTP with enhanced primary disinfection capabilities through a multi-barrier disinfection process
- Provides the WTP with more storage to reduce the potential for the number of planned or unplanned service interruptions to LHPWSS customers in case of water production interruptions
- Limits the construction to one area, reducing shutdowns and interference with plant operations when compared to other short-listed alternatives (not including Alternatives 1 or 3)



Implementation of Preferred Solution

Timeline of Technical Implementation of the Preferred Solution:



Next Steps

Thank you for your interest in the Lake Huron WTP Disinfection and Storage Upgrades Class EA. The next steps of the Project include confirming the preferred alternative solution and developing the Project File Report to summarize the Class EA.

Your feedback is an important part of the Class EA process.

- Please complete the survey questions and provide your comments at the end of this Microsoft Form.
- The Project File Report is anticipated to be posted online in October 2022, and will be available for 30 days on the Lake Huron and Elgin Area Primary Water Supply Systems Website (Link : www.huronelginwater.ca)
- Any additional comments or questions that you have may be directed to the project team:

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Jacobs
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519-514-1634
ray.yu@jacobs.com

Appendix C
Survey

Lake Huron
Primary Water Supply System

Lake Huron Primary Water Supply System
Lake Huron Water Treatment Plant Disinfection and Storage Upgrades
Class Environmental Assessment
Public Information Centre - Survey

1. The Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Project is being conducted as a Schedule "B" Class Environmental Assessment and follows the Municipal Engineer Association's assessment process shown on slides 6 and 7 of the Public Information Centre (PIC) presentation. The objective of the study is to develop and assess alternative solutions to improve disinfection and increase water storage at the Lake Huron Water Treatment Plant, meeting water demands to the year 2038.

   Is the video presentation provided in the Microsoft Form clear? Is there any part of the Environmental Assessment process that is not clear or is there any part of the Environmental Assessment process that you would like explained further?

   [ ] Yes, the presentation of the Class Environmental Assessment process is clear

   [ ] No, the presentation of the Class Environmental Assessment process is not clear, and the following requires additional explanation.

   _____

   _____

2. The problem and opportunity statement included in the on-line video presentation was developed to clearly define the objectives of the Lake Huron Water Treatment Plant Disinfection and Storage Updates Project. The problem and opportunity statement is provided on slide 5 of the Public Information Centre Presentation.

   Is the problem and opportunity statement clear?

   [ ] Yes, the problem and opportunity statement is clear.

   [ ] No, the problem and opportunity statement is not clear, and the following requires additional explanation.

   _____

   _____

Lake Huron
Primary Water Supply System

3. The short-list of alternatives identified to address the problem and opportunity statement is provided on slide 13 of the Public Information Centre Presentation.

   Is the short-list of alternatives clear?

   [ ] Yes, the short-list of alternative solutions is clear.

   [ ] No, the short-list of alternatives is not clear, and the following requires additional explanation.

   _____

   _____

4. The evaluation criteria considers factors from the natural, social/cultural, technical and economic environments. The evaluation criteria used to assess the short-list of alternatives are provided on slide 32 of the Public Information Centre Presentation.

   Are the evaluation criteria clear?

   [ ] Yes, the evaluation criteria are clear.

   [ ] No, the evaluation criteria are not clear, and the following requires additional explanation.

   _____

   _____

5. The recommended preferred solution (Alternative 4.3: UV Disinfection at New Reservoir) is described on slides 24, 25, and 26 of the presentation.

   Do you agree with the preliminary preferred solution?

   [ ] Yes, I agree with the preliminary preferred solution

   [ ] No, I do not agree with the preliminary preferred solution for the following reasons:

   _____

   _____

6. Please share any additional comments that you have regarding the Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environment Assessment.

   _____

   _____

Lake Huron
Primary Water Supply System

7. Was the information provided helpful to you?

   [ ] Helpful

   [ ] Somewhat helpful

   [ ] Not helpful

8. Was the information provided:

   [ ] Too technical

   [ ] About right

   [ ] Not detailed enough

9. Do you have any additional feedback that you think might be useful to the Project Team?

   [ ] No, the information presented is sufficient.

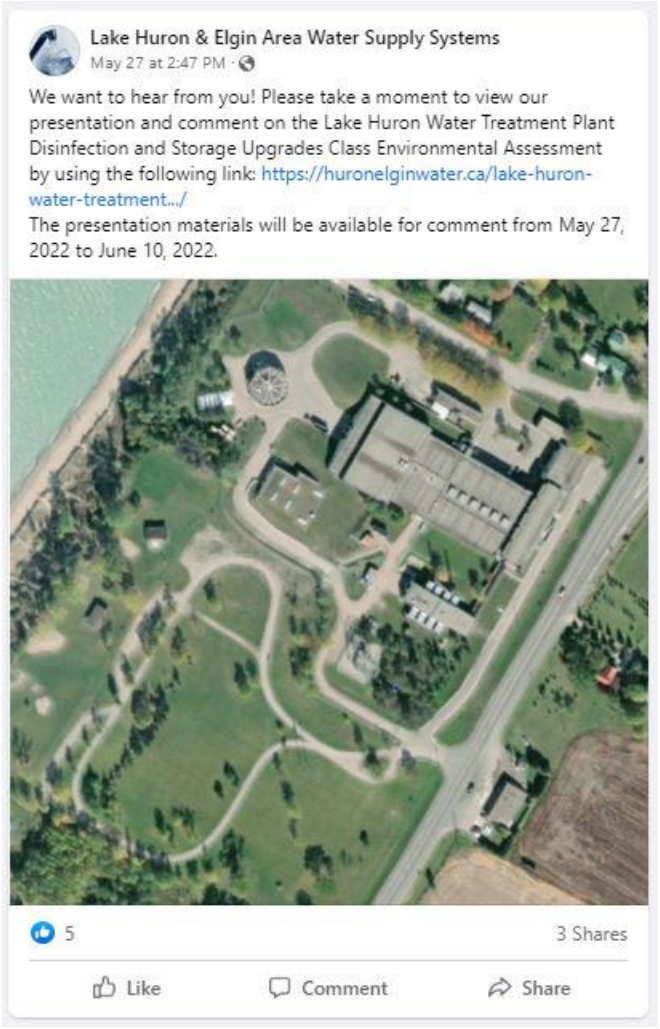
   [ ] Yes, the Project Team should be aware of the following information:

   _____

   _____

All personal information included in a submission, such as name, address, telephone number, and property location, is collected, maintained, and disclosed by the Ministry of the Environment, Conservation and Parks for the purpose of transparency and consultation. The information is collected under the authority of the *Environmental Assessment Act* or is collected and maintained for the purpose of creating a record that is available to the general public as described in Section 37 of the *Freedom of Information and Protection of Privacy Act*. Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential. For more information, please contact the Project Officer or the Ministry of the Environment's Freedom of Information and Privacy Coordinator at 416 819 5148.

Appendix D
Social Media Advertisements


Lake Huron & Elgin Area Water Supply Systems
May 27 at 2:47 PM ·
We want to hear from you! Please take a moment to view our presentation and comment on the Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment by using the following link: https://huronelginwater.ca/lake-huron-water-treatment.../
The presentation materials will be available for comment from May 27, 2022 to June 10, 2022.
5
3 Shares
Like
Comment
Share


Lake Huron & Elgin Area Water Supply Systems
June 6 at 8:40 AM ·
We want to hear from you! Participate in the Class Environmental Assessment Public Information Centre for the Lake Huron Water Treatment Plant Disinfection and Storage Upgrades. Visit our website from May 27 – June 10 to view a recorded video presentation and submit your comments.
https://huronelginwater.ca/lake-huron-water-treatment.../
3
2 Shares
Like
Comment
Share

Consultation Log and Meeting Notes

Consultation Log

Consultation Meeting Log

Project Name: Lake Huron Primary Water Supply System Disinfection and Storage Upgrades Class EA

Project Manager: Ray Yu (Jacobs) [Previously Lee Anne Jones], Marcy McKillop (RWS) [Previously Brittany Bryans]

Date	Subject	Location	Participants
May 19, 2022	Ausable Bayfield Conservation Authority (ABCA) Consultation Meeting	Virtual (MS Teams)	**ABCA:** Meghan Tydd-Hrynyk **LHPWSS:** Brittany Bryans, Marcy McKillop **Jacobs:** Ray Yu, Monique Waller, Emma Henderson, Cassie Stea
May 26, 2022	Municipality of South Huron Consultation Meeting	Virtual (MS Teams)	**South Huron:** Don Giberson **LHPWSS:** Brittany Bryans, Marcy McKillop, Josh Self **Jacobs:** Ray Yu, Monique Waller, Emma Henderson, Cassie Stea
July 27, 2022	Ausable Bayfield Maitland Valley (ABMV) Source Protection Committee Meeting	In Person	**ABMV:** Matt Pearson, Dave Frayne, Paul Heffer, Ian Brebner, Jennette Walker, Bert Dykstra, Mary Ellen Foran, Alyssa Keller, Phillip Keightley, Rowland Howe, Myles Murdock **LHPWSS:** Marcy McKillop
September 20, 2022	Ausable Bayfield Conservation Authority (ABCA) Ecological Consultation Meeting	Virtual (MS Teams)	**ABCA:** Meghan Tydd-Hrynyk **LHPWSS:** Marcy McKillop **Jacobs:** Ray Yu, Emma Henderson, Cassie Stea

Alternative formats of the following documents (meeting minutes and presentation slides) can be made available by contacting mmckillop@huronelginwater.ca

ABCA Meeting Notes and Presentation

Jacobs

Meeting Minutes

245 Consumers Road
Suite 400
Toronto, ON M2J 1R3
Canada
T +1.416.499.9000

www.jacobs.com

Subject	**Pre-Consultation Meeting - Ausable Bayfield Conservation Authority (ABCA)**		
Project	Lake Huron WTP Disinfection and Storage EA		
Project No.	CE801200	**File**	CE801200_LHWTPEA_PreConsultation Mtg_ABCA_Summary_2022.05.19.docx
Prepared by	Cassie Stea	**Phone No.**	N/A
Location	Teams Meeting	**Date/Time**	May 19, 2022/11:30 am
Participants	ABCA: Meghan Tydd-Hrynyk LHPWSS: Brittany Bryans, Marcy McKillop Jacobs: Ray Yu, Monique Waller, Emma Henderson, Cassie Stea		

	Discussion	Action By
1	**Introductions, Agenda, and Health & Safety Moment**	
	• Introductions of project team members completed. • Meeting agenda and objectives reviewed. • Health and safety moment – poisonous plant awareness and safety tips.	
2	**Project Background**	
	• Problem and opportunity statement, as well as the specific project objectives for the Class EA reviewed.	
3	**Short List of Alternative Solutions**	
	• A review of the short list of alternative solutions being considered as part of the class EA presented.	
4	**Preliminary Preferred Alternative Solution**	
	• Presentation of the preliminary preferred alternative solution and proposed location of associated new infrastructure completed.	
5	**Additional Background and Supplemental Studies**	
	• Overview of desktop ecological assessment, cultural heritage study, and Stage 1 archeological assessment reviewed.	

Jacobs

Meeting Minutes

Pre-Consultation Meeting - Ausable Bayfield Conservation Authority (ABCA)
May 19, 2022/11:30 am

	Discussion	Action By
6	**Discussion**	
	• ABCA noted that the ABCA regulated area line that sticks out into the existing WTP site might be a historical line that has not been reviewed in recent years. o ABCA has very little concern about the slight encroachment of the reservoir transfer piping on the eastern tip of this area. • ABCA noted that measures should be implemented to avoid disturbance to the existing gully/ravine during construction of new infrastructure. ABCA advised that a setback during construction should be maintained, as well as implementing erosion and sediment control measures. • ABCA noted that consideration regarding the location of stockpiles from the reservoir excavation should be made in advance to construction. Jacobs advised that these details are to be determined at a later stage in design, once details of the proposed reservoir and new infrastructure are refined. • ABCA confirmed that they will be a commenting agency as part of the Site Plan Approval process with the local municipality. ABCA noted no major concerns at this time. A permit may be required for the new reservoir drainage pipe (in relation to erosion mitigation measures/impacts) which crosses into the regulated area.	
	• ABCA to check if they are in possession of any reports or documentation surrounding the existing gully/ravine to the west of the WTP and provide to Jacobs if available.	ABCA
	• ABCA confirmed the 100-year flood level for the project site is 177.9 m.	
	• Jacobs will document considerations regarding the proposed reservoir drainage pipe and excavation stockpile location in the EA Project File.	Jacobs
	o Jacobs to prepare a list of proposed high-level erosion mitigation methods and send to ABCA to review prior to including in the Project File.	Jacobs

Lake Huron
Primary Water Supply System

Jacobs
Challenging today.
Reinventing tomorrow.

Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment

Ausable Bayfield Conservation Authority

Pre-Consultation Meeting

May 19, 2022

Introductions

- Name
- Organization

Agenda

1. Introductions
2. Health and Safety Moment
3. Background and Study Area
4. Project Objectives
5. Short Lists of Alternative Solutions
6. Preferred Alternative Solution
7. Additional Background and Supplemental Studies
   - Ecological Assessment (Jacobs)
     - ABCA Regulated Area
   - Cultural Heritage Assessment (Golder)
   - Archeological Assessment (Golder)
8. Discussion

Health and Safety Moment

Anyone working outdoors, whether for work-related projects or in your yard/garden at home, is at risk of exposure to poisonous plants. Here are tips to help keep you safe:

Image :Source Top 7 most toxic plants found in Ontario (insideottawavalley.com)

Preventative:

- Research poisonous plants that may be present in your geographic region
- Wear long sleeves, long pants, boots and gloves
- Wash exposed clothing separately in hot water with detergent
- Use skin lotions containing the ingredient bentoquatum
- Do not burn plants that may contain poisonous plants. Inhaling smoke from these plants can cause severe allergic respiratory problems

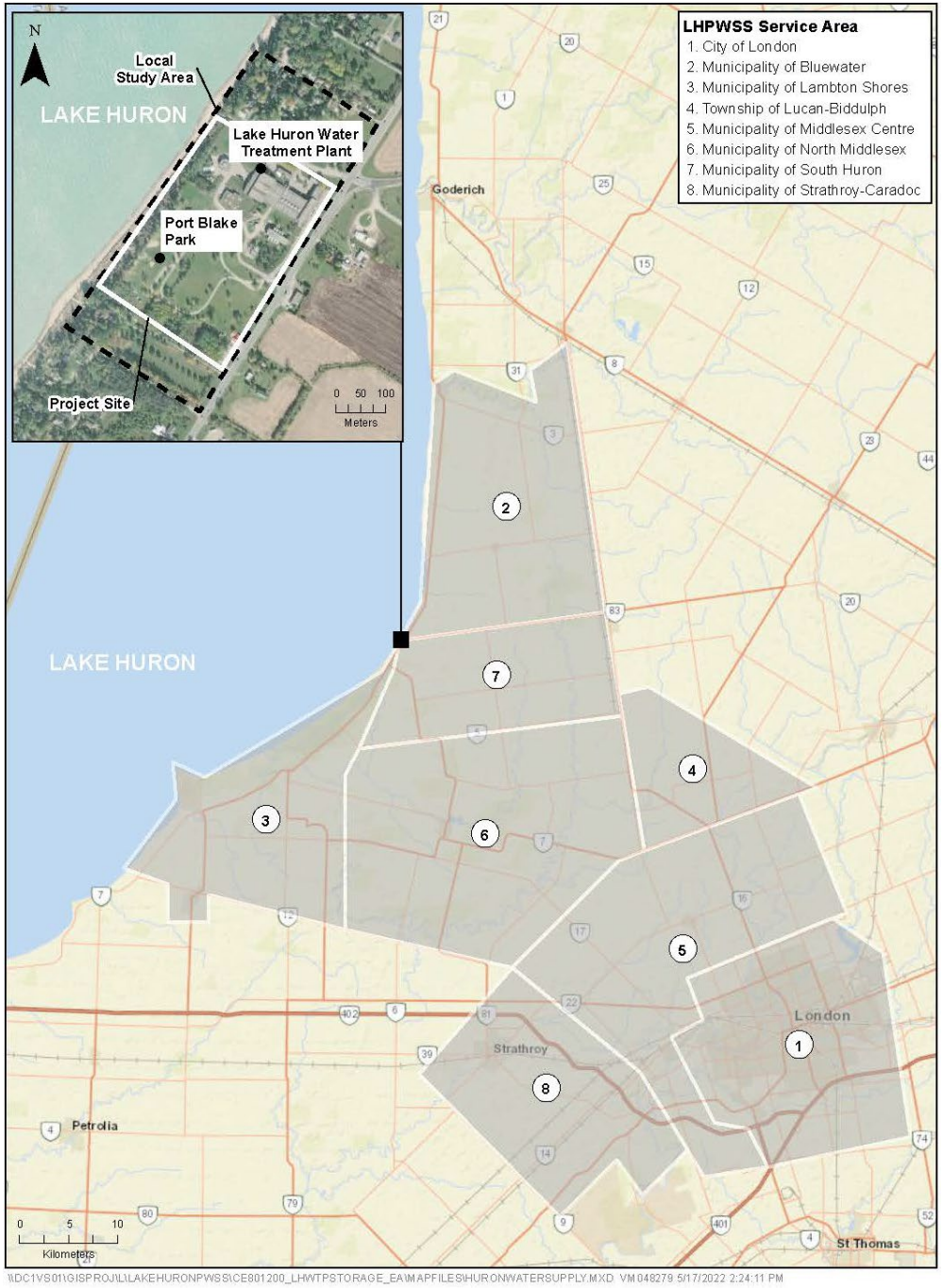
Tips if exposed:

- Rinse skin with rubbing alcohol, poison plant wash, or a degreasing soap or detergent ASAP
- Apply wet compresses, calamine lotion or hydrocortisone cream to the skin to reduce itching/blistering
- Call 911 or go to an emergency department if you have a severe allergic reaction such as swelling or difficulty breathing, or have had a severe reaction in the past.

Source: Safety and Health Magazine. 2014. *Avoid contact with poisonous plants. https://www.safetyandhealthmagazine.com/articles/10594-avoid-contact-with-poisonous-plants*

Background and Study Area

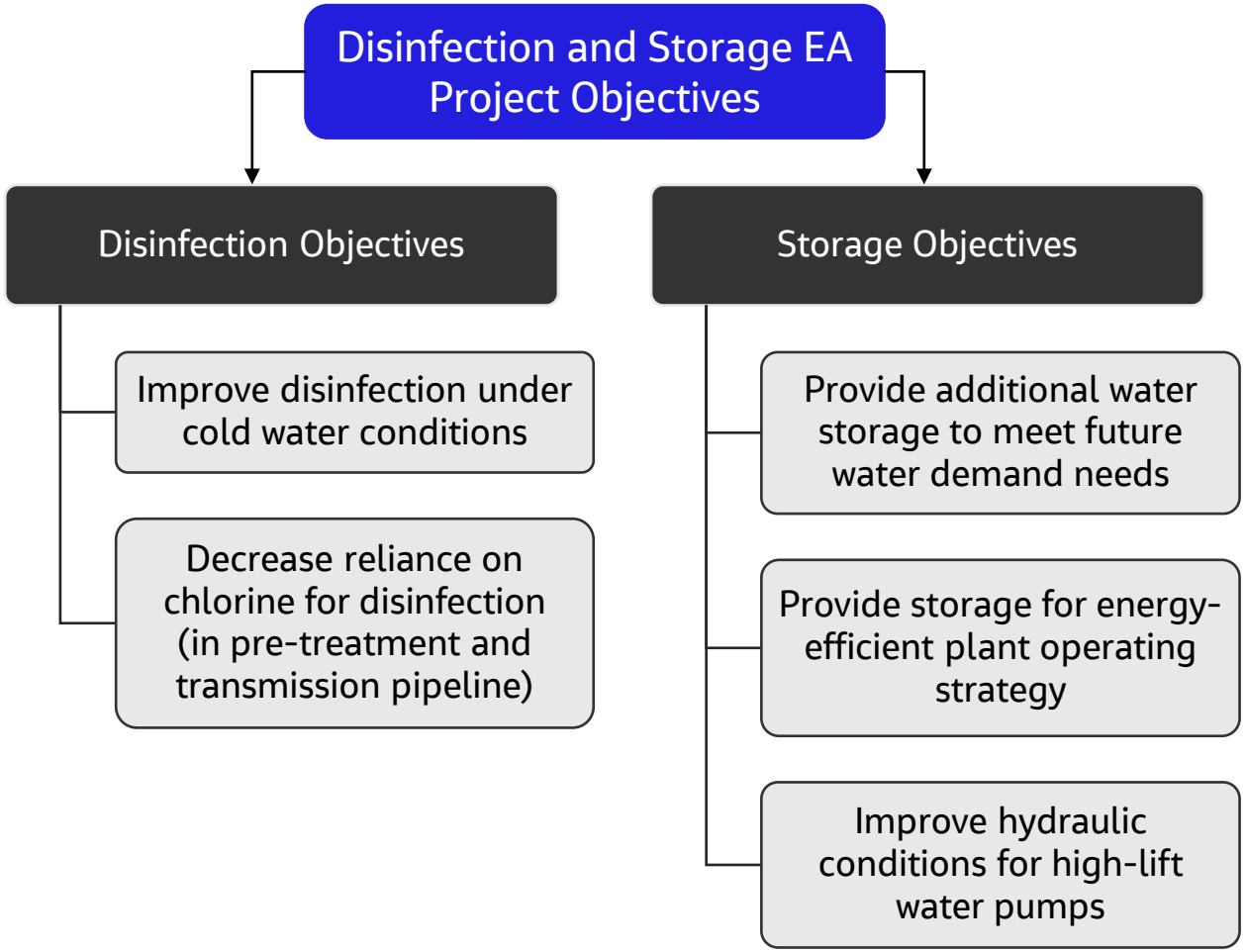
- The Lake Huron Primary Water Supply System (LHPWSS) owns the 340 megaliters-per-day Lake Huron Water Treatment Plant (WTP), which supplies treated water to eight municipalities via a (partially twinned) 1.2-meter-diameter primary transmission main to reservoirs and secondary transmission systems that service the member municipalities.
- Study Area for the Class EA includes:
  - Project Site: consists of Lake Huron WTP property including Port Blake Park
  - Local Study Area: Project site extended to include Highlands Drive to the north and Gravelle Street to the south
  - LHPWSS Service Area: Area of municipalities serviced by the LHPWSS



Problem & Opportunity Statement, and Project Objectives

Problem and Opportunity Statement:

- A recently completed update to the Lake Huron Primary Water Supply System Master Water Plan (Jacobs, 2020) identified the need to **improve disinfection** and **increase water storage** at the Lake Huron WTP, to meet water demands to the year 2038.
- A Schedule B Municipal Class Environmental Assessment (EA) is being completed to **confirm the recommendation for additional storage** at the water treatment plant site and **refine requirements for enhanced disinfection** to provide operational flexibility to implement energy management and other operating strategies.



Short List of Alternatives

- The short list of alternatives was identified through a preliminary screening process:

Short List Alternative No.	Alternative Description
1	Do Nothing*
2	Clear Well Upgrades (Increase Baffle Factor and Install Overflow Weirs), and New Reservoir
3	New Reservoir to Meet Disinfection, Buffering, and Storage Needs
4.1	UV Disinfection at Settled Water Conduits, New Reservoir
4.2	UV Disinfection at Each Filter Effluent, and New Reservoir
4.3	UV Disinfection at New Reservoir

Table Notes:
* The 'Do Nothing' alternative is retained as a point against which the other alternatives can be compared, as part of the Class EA evaluation process.
No. = number

Preliminary Preferred Alternative Solution

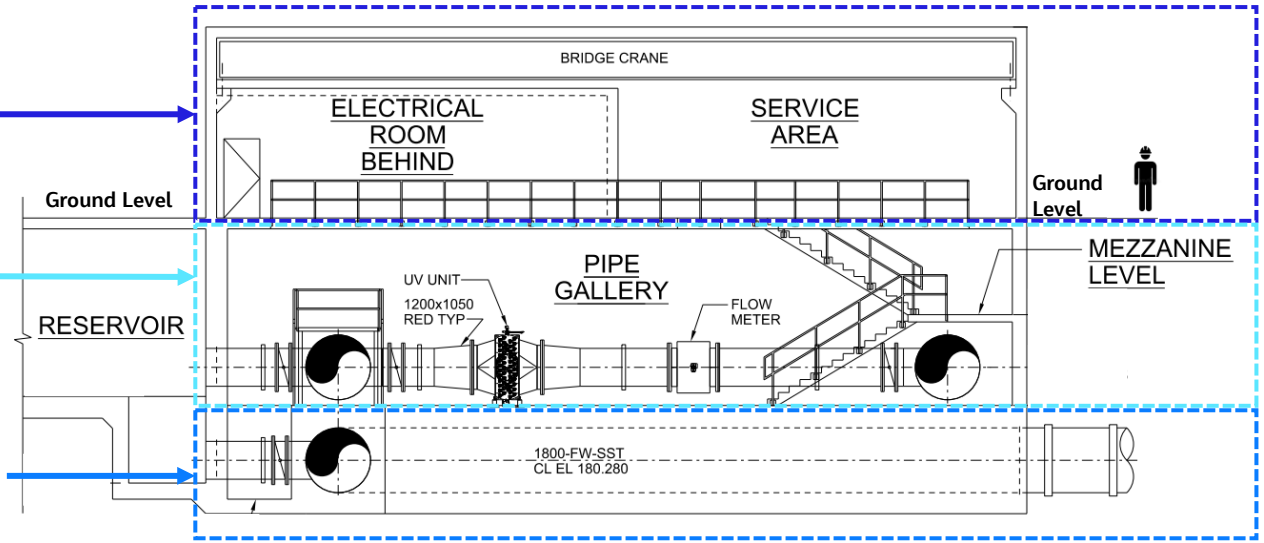
Alternative 4.3 – UV Disinfection at New Reservoir

Alternative 4.3 includes:

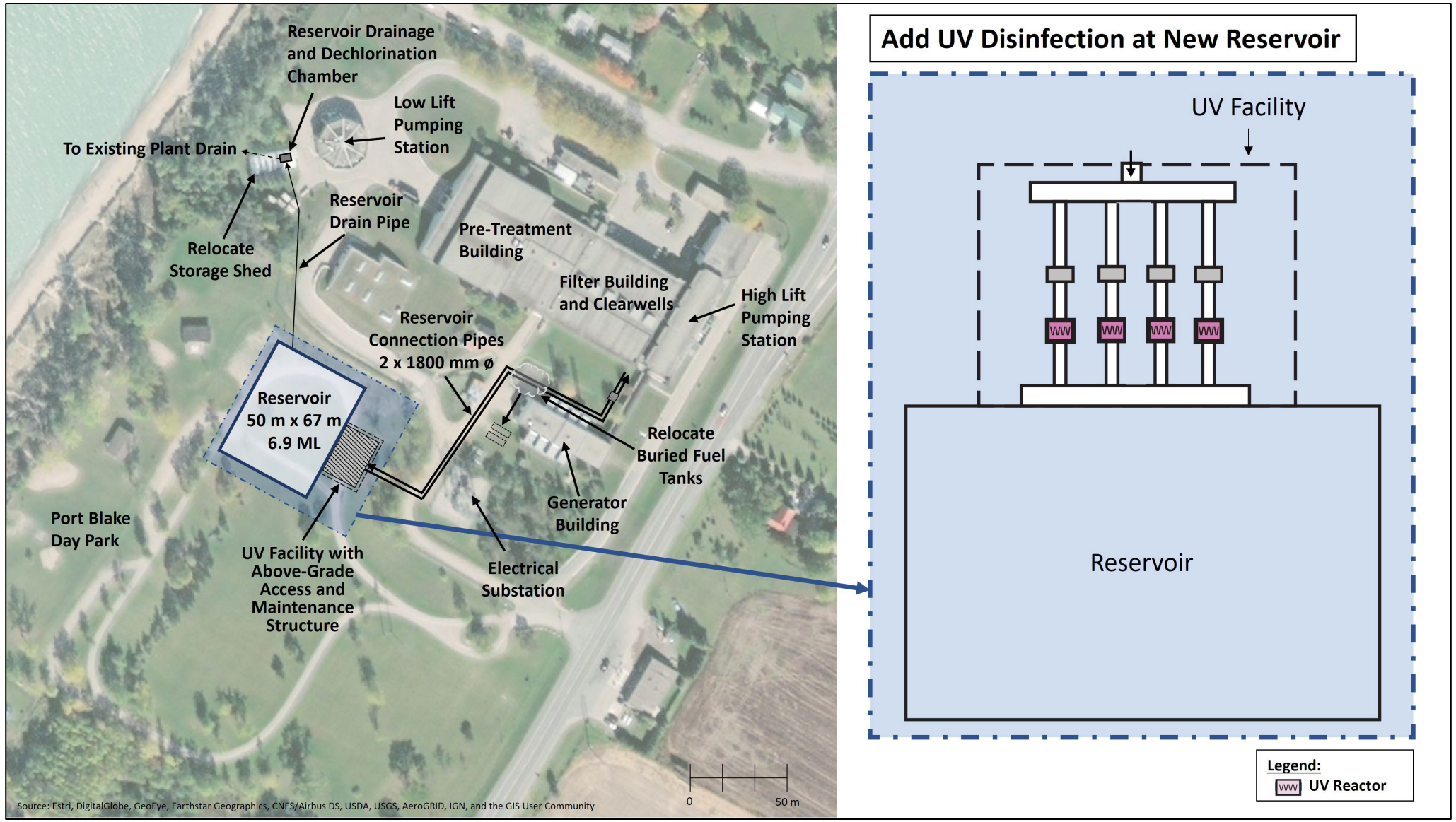
- A new reservoir sized to meet the water-demand based storage needs.
- A new UV building as part of the new below-grade reservoir valve house attached to the new reservoir.
- Installing a total of 4 (3 duty, 1 redundant) low-pressure, high-output (LPHO) UV reactors to treat the water.

The new UV and reservoir valving building will be partially above-grade and partially below-grade and will consist of the following levels:

- Upper Level (Above-Grade): Above-grade building that acts as an access point and service area to the facility.
- Middle Level (Below-Grade): Pipe gallery and will house the reservoir influent piping/valving with the UV reactors.
- Lower Level (Below-Grade): The effluent piping and valving for the treated water exiting the reservoir.



Alternative 4.3 – UV Disinfection at New Reservoir

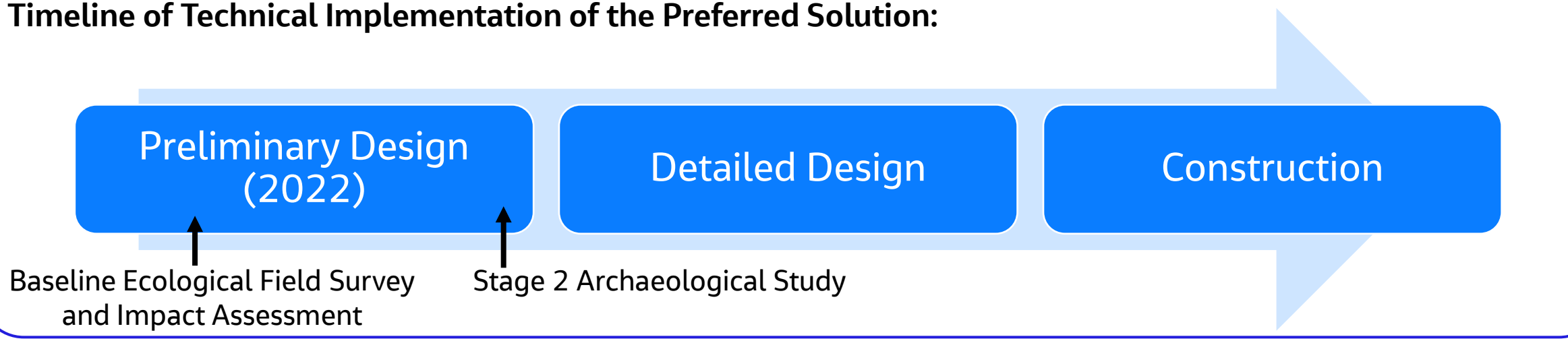


Alternative 4.3 – Preferred Solution

In addition to meeting the Project Objectives, Alternative 4.3 will provide the following benefits:

- Provides the Lake Huron WTP with enhanced primary disinfection capabilities through a multi-barrier disinfection process
- Provides the plant with more storage to reduce the potential for the number of planned or unplanned service interruptions to LHPWSS customers in the event of water production interruptions
- Limits the construction to one area, reducing shutdowns and interference with plant operations when compared to other short-listed alternatives (not including Alternatives 1 or 3)

Timeline of Technical Implementation of the Preferred Solution:



Additional Background and Supplemental Studies

Ecological Assessment (Jacobs)

Description

A desktop ecological assessment was completed to identify natural heritage features which may occur within the limits of the proposed project site, to assess potential ecological impacts, and identify required field studies.

Key Findings

- Each proposed alternative slightly encroaches the Ausable Bayfield Conservation Authority (ABCA) Regulated Area at the proposed alignment of the piping to the new reservoir. **(See next slides for more details)**
- A list of Species-at-Risk (SAR) has been identified as potentially occurring within the site. A SAR assessment including field surveys is recommended for the detailed design stage.
- No changes to the current discharge effluent quantity or quality from the plant are anticipated, therefore no impacts to fish and fish habitat are predicted at this stage.
- Wildlife may be impacted from the proposed vegetation and potential tree removals, particularly from the proposed reservoir and associated alignment. A restoration plan is to be considered during detailed design.

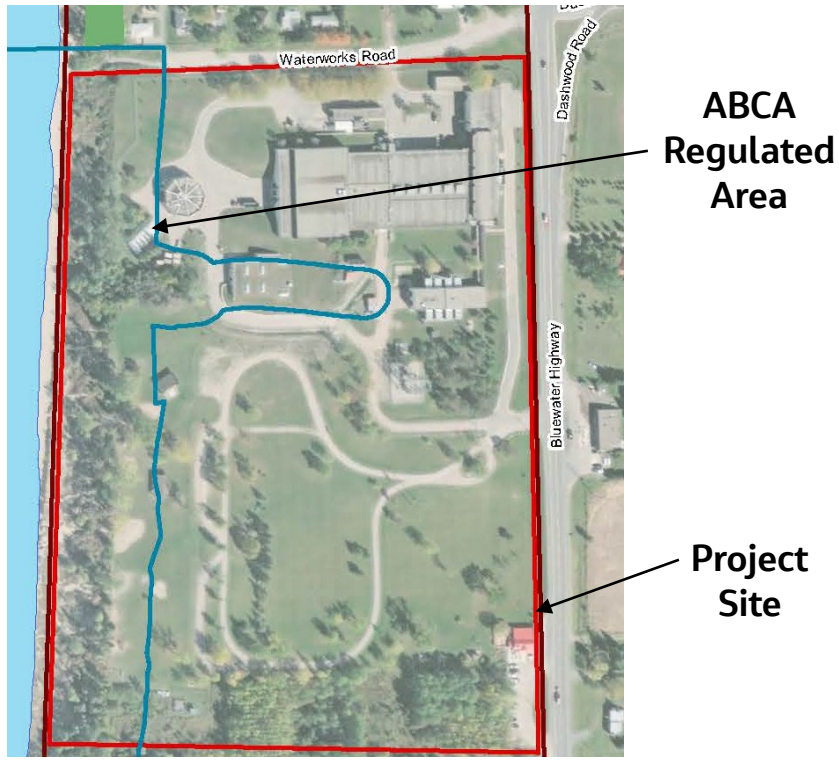
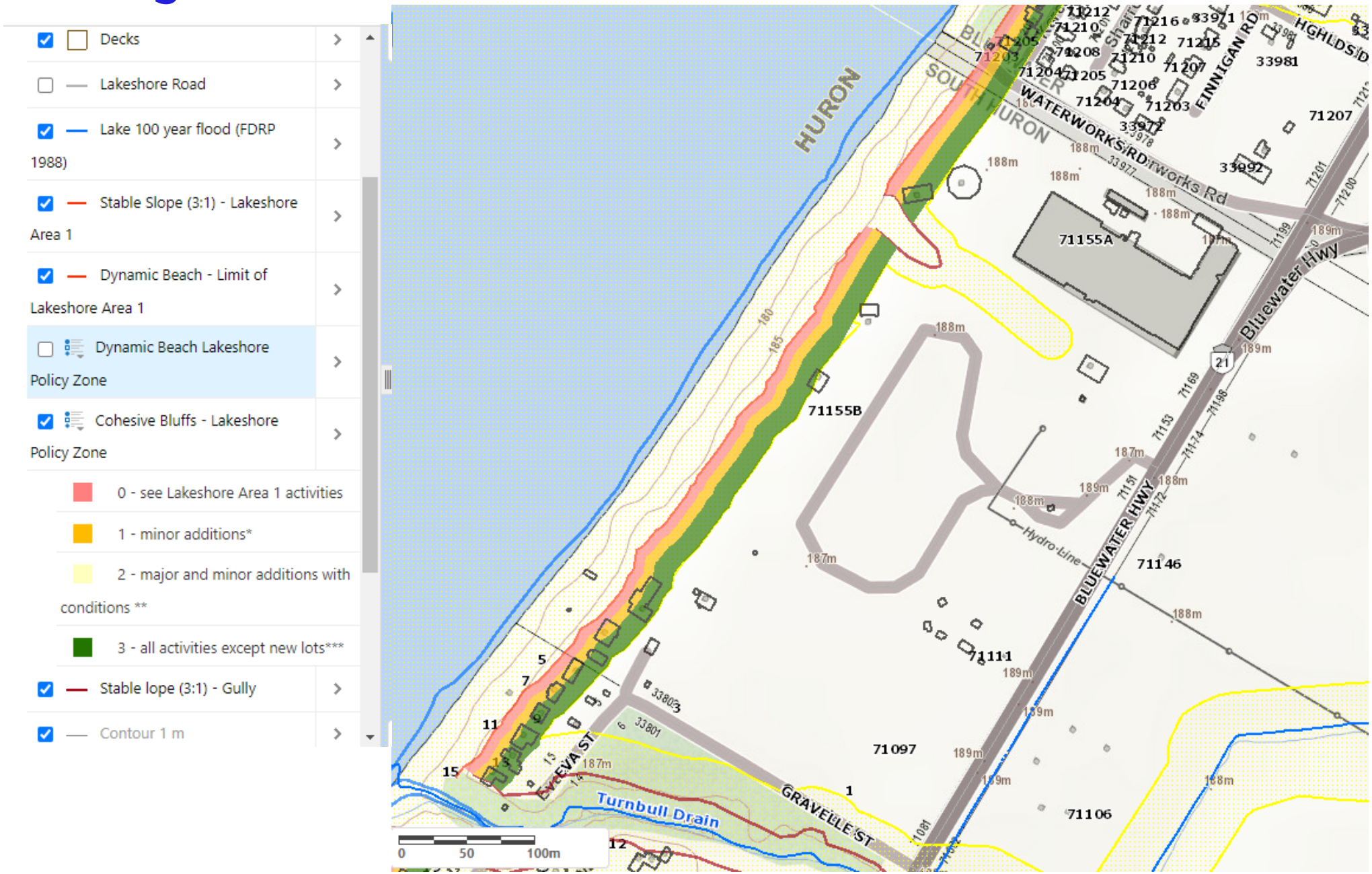


Figure: Desktop Natural Features (Jacobs, 2022)

Next Steps

A baseline field survey and impact assessment will be conducted during the preliminary design of the preferred alternative solution to confirm the baseline desktop assessment.

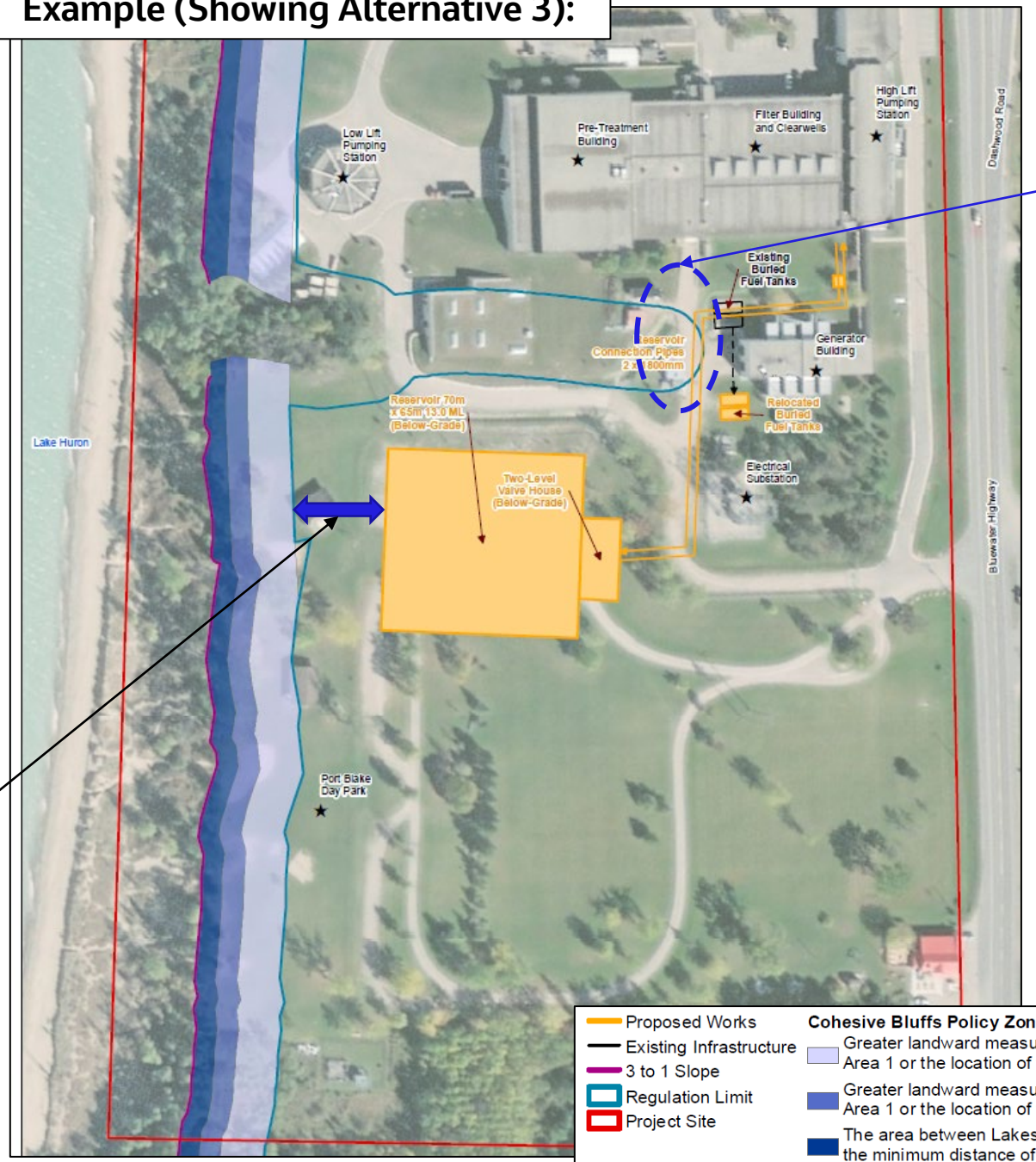
ABCA Regulated Area



Source: ABCA Online Mapping Portal

ABCA Regulated Area – Cont'd

Example (Showing Alternative 3):



Slight encroachment into ABCA regulated area

Approximately 35 m offset

Cultural Heritage Screening Assessment (Golder Associates)

Description

A desktop assessment of the local study area was completed to assess whether there are properties or buildings with cultural heritage significance as defined by the Ontario Regulation 9/06 Criteria for Determining Cultural Heritage Value or Interest.

Key Findings

- Two properties with cultural heritage potential were identified within the Local Study Area, however neither are located within the Project Site
  - 71106 Bluewater Hwy
  - 71176 Bluewater Hwy

Next Steps

No further cultural heritage studies are required.

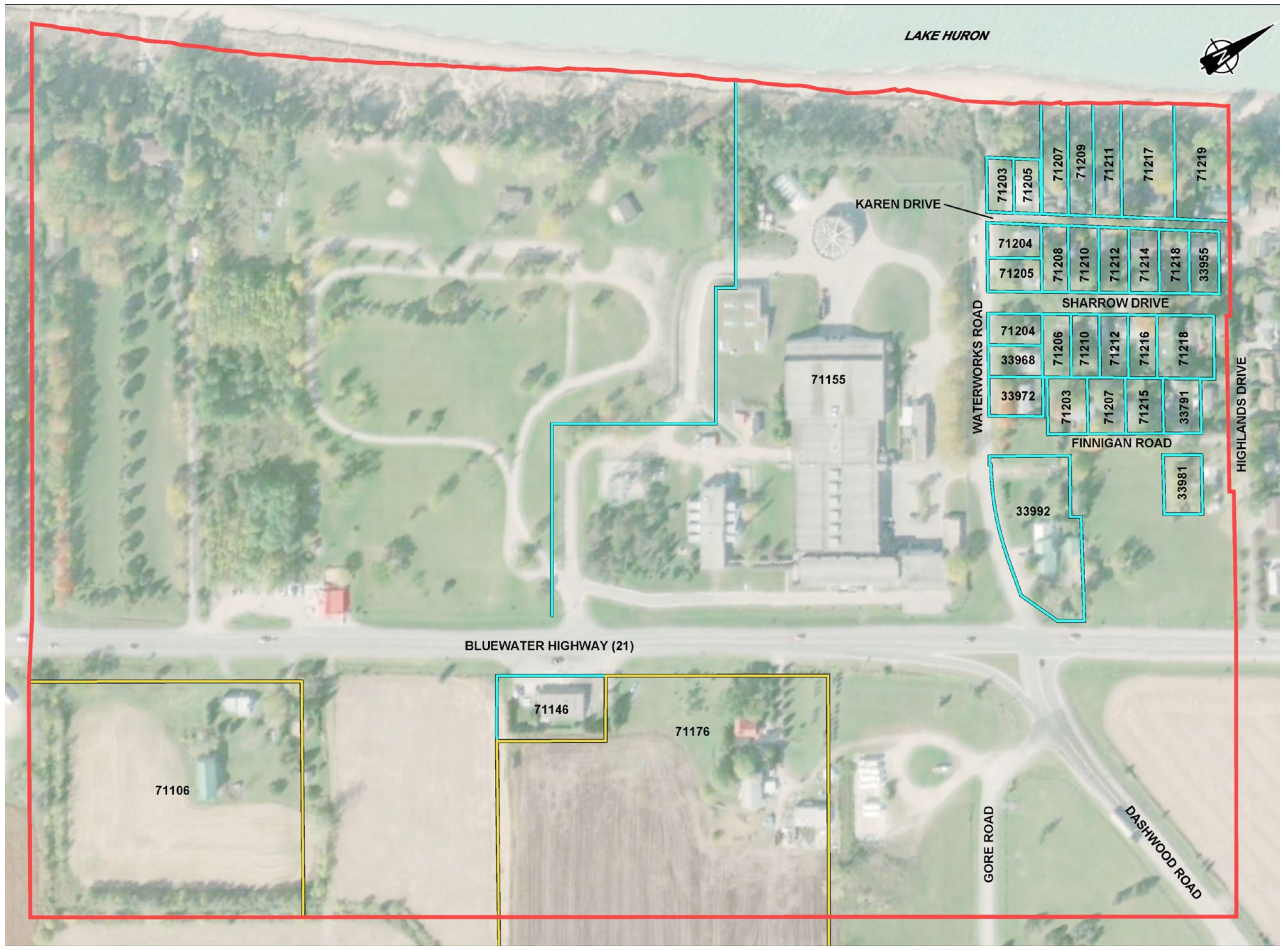


Figure: Map of Properties of Potential CHVI Within and Adjacent to the Study Area (Golder, 2021)

Stage 1 Archeological Assessment (Golder Associates)

Description

A Stage 1 archeological assessment was undertaken to assess the potential for archaeological features within the local study area, as defined by the MHSTCI's Standards and Guidelines for Consultant Archaeologists (2011).

Key Findings

- Some areas within the study area have archeological potential for both pre-contact Indigenous and historical period sites (yellow areas). These consist of areas —like the manicured lawn and forested areas within Port Blake Day Park south-west of the Lake Huron WTP—that are undisturbed by previous construction or development activities.
- Development in these areas resulting from any of the alternatives will require a Stage 2 Archaeological Assessment ahead of implementation

Figure: Map of Stage 1 Archeological Assessment Results (Golder, 2021)

Next Steps

Complete Stage 2 Archaeological Assessment using Test Pit Survey Method during detailed design of preferred solution

Discussion

Discussion

Based on the preliminary information presented today:

- In general, are there any concerns or preliminary comments?
- What requirements are needed in order to receive future ABCA approval prior to implementation?
- Are there any specific mitigation requirements during construction that the Conservation Authority would like documented in the EA Project File?

South Huron Meeting Notes and Presentation

Jacobs

Meeting Minutes

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Subject	**Pre-Consultation Meeting - Municipality of South Huron**		
Project	Lake Huron WTP Disinfection and Storage EA		
Project No.	CE801200	**File**	CE801200_LHWTPEA_PreConsultationMtg_SouthHuron_Summary_20 22.05.26_DRAFT.docx
Prepared by	Cassie Stea	**Phone No.**	N/A
Location	Teams Meeting	**Date/Time**	May 26, 2022/3:00pm
Participants	South Huron: Don Giberson LHPWSS: Brittany Bryans, Marcy McKillop, Josh Self Jacobs: Ray Yu, Monique Waller, Emma Henderson, Cassie Stea		

	Discussion	Action By
1	**Introductions, Agenda, and Health & Safety Moment**	
	• Introductions of meeting attendees completed. • Meeting agenda and objectives reviewed. • Health and safety moment – spring yard work safety awareness.	
2	**Project Background**	
	• Problem and opportunity statement, as well as the specific project objectives for the Class EA reviewed.	
3	**Long and Short Lists of Alternative Solutions**	
	• A review of the long and short list of alternative solutions being considered as part of the class EA presented.	
4	**Preliminary Preferred Alternative Solution**	
	• Presentation of the preliminary preferred alternative solution and proposed location of associated new infrastructure completed.	
5	**Additional Background and Supplemental Studies**	
	• Overview of desktop ecological assessment, cultural heritage study, Stage 1 archeological assessment, and South Huron zoning information reviewed.	

Jacobs

Meeting Minutes

Pre-Consultation Meeting - Municipality of South Huron
May 26, 2022/3:00pm

	Discussion	Action By
6	**Discussion**	
	Discussion was not held due to microphone issues with meeting attendee (Don).	
	• Jacobs to send meeting slides, including list of questions for South Huron, to Don for review, consideration, and comments. A link to the PIC Notice will also be sent to Don.	Jacobs

Lake Huron
Primary Water Supply System

Jacobs
Challenging today.
Reinventing tomorrow.

Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment

Municipality of South Huron

Pre-Consultation Meeting

May 26, 2022

Introductions

- Name
- Organization

Agenda

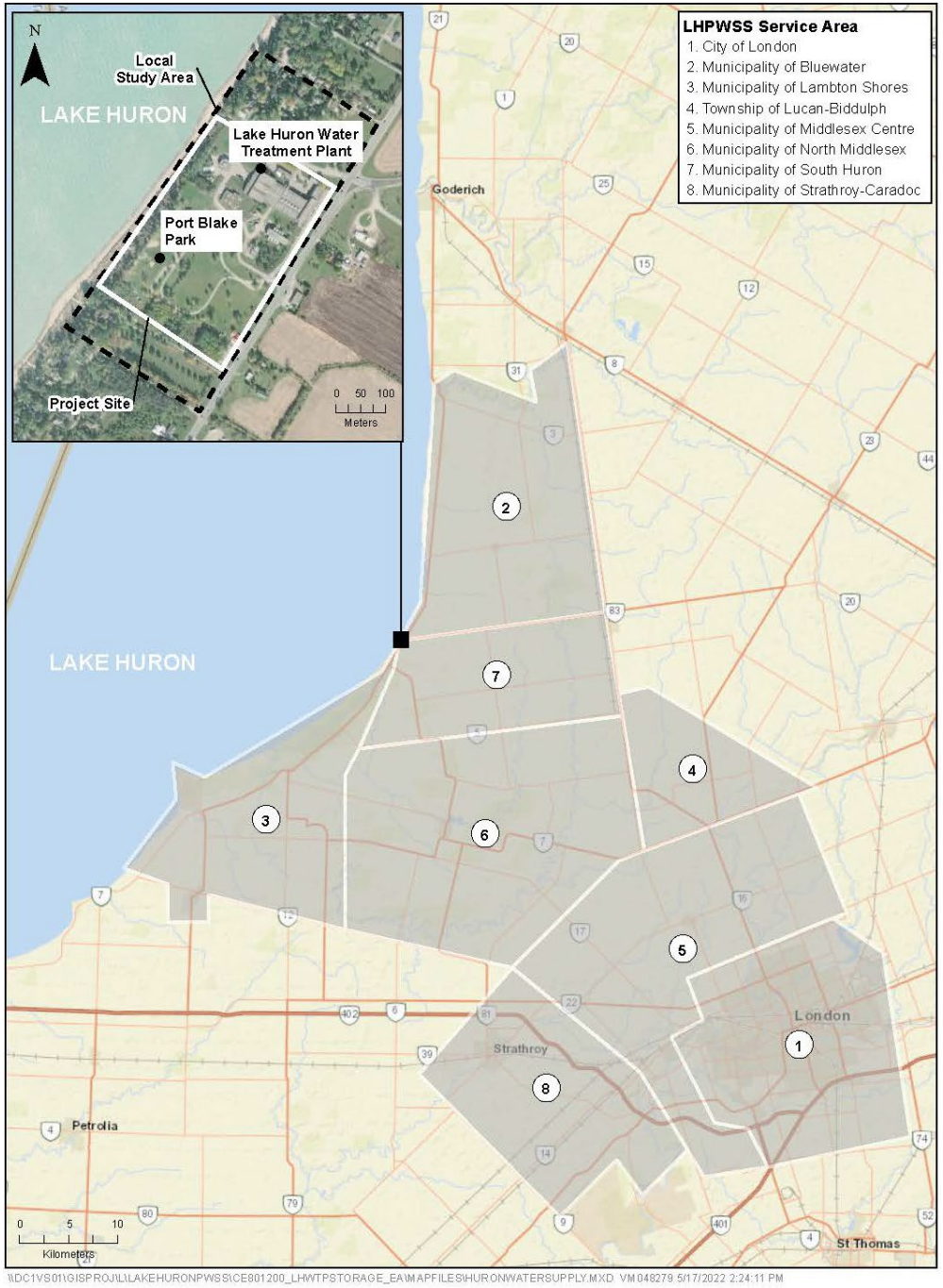
1. Introductions
2. Health and Safety Moment
3. Background and Study Area
4. Project Objectives
5. Long and Short Lists of Alternative Solutions
6. Preferred Alternative Solution
7. Additional Background and Supplemental Studies
    - Ecological Assessment
    - Cultural Heritage Assessment (Golder)
    - Archeological Assessment (Golder)
    - South Huron Planning Information
8. Discussion

Health & Safety - Spring Yard Work

- Important do dress appropriately
  - Wear protective footwear
  - WEAR GLOVES!
  - Long sleeve shirt
- Remember to apply sunscreen
- Stretch your body before doing the work
  - Don’t pull your back
- Drink water and take refuge in the shade if needed

Background and Study Area

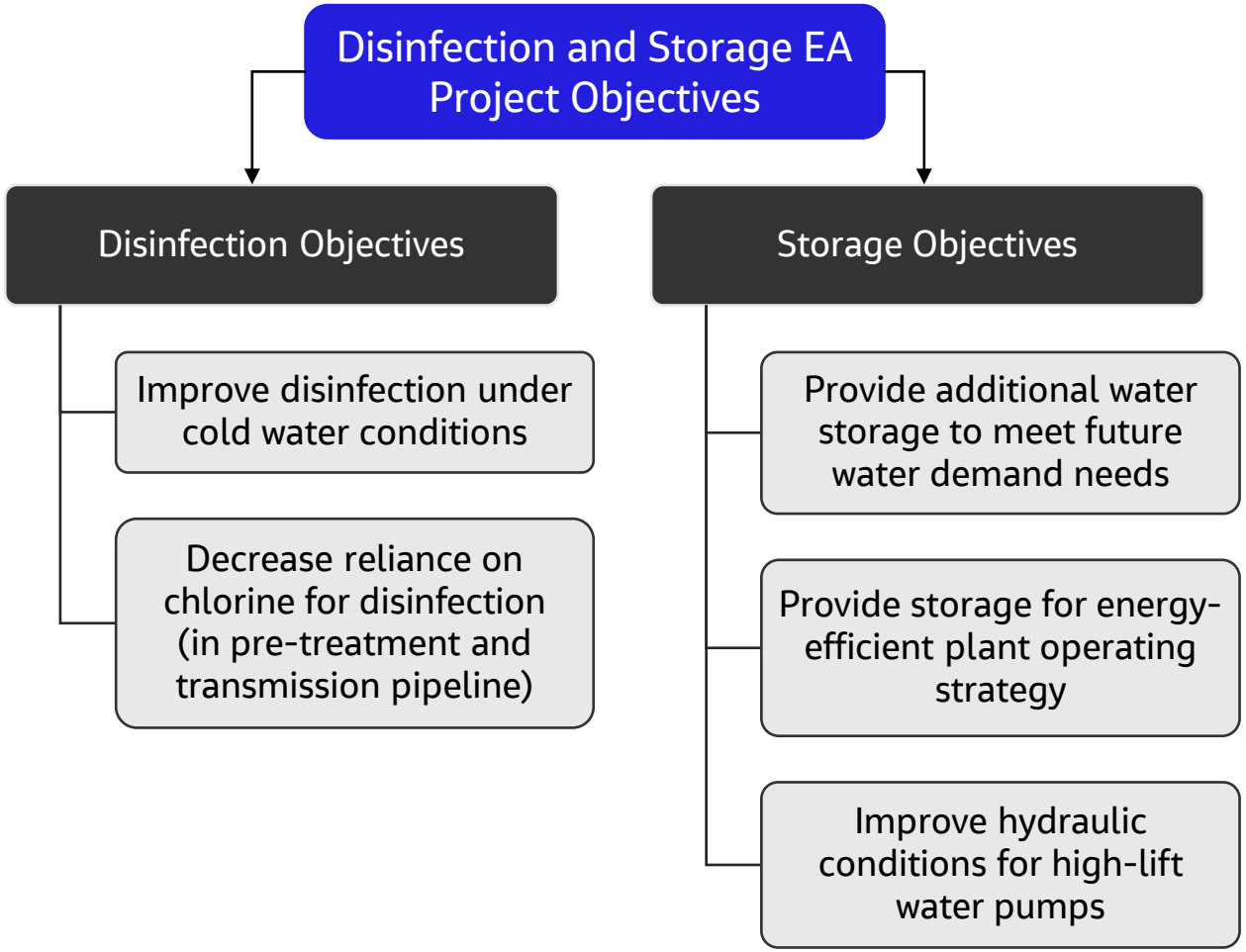
- The LHPWSS owns the 340 megalitre-per-day (ML/d) Lake Huron Water Treatment Plant (WTP), which supplies treated water to eight municipalities via a (partially twinned) 1.2-metre-diameter primary transmission main to reservoirs and secondary transmission systems that service the member municipalities.
- Study Area for the Class EA includes:
  - Project Site: Lake Huron WTP property, including Port Blake Park
  - Local Study Area: Project site extended to include Highlands Drive to the north and Gravelle Street to the south
  - LHPWSS Service Area: Area of municipalities serviced by the LHPWSS



Problem & Opportunity Statement, and Project Objectives

Problem and Opportunity Statement:

- A recently completed update to the Lake Huron Primary Water Supply System Master Water Plan (Jacobs, 2020) identified the need to **improve disinfection** and **increase water storage** at the Lake Huron WTP, to meet water demands to the year 2038.
- A Schedule B Municipal Class Environmental Assessment (EA) is being completed to **confirm the recommendation for additional storage** at the water treatment plant site and **refine requirements for enhanced disinfection** to provide operational flexibility to implement energy management and other operating strategies.



Long List of Alternative Solutions and Screening Process

- A long list of potential alternatives were identified, then screened to identify the viable short list of alternatives.

	Alternative	Screening Result
	Do Nothing	✗ Fail
	Control Flow to North Clearwell, and New Reservoir	✗ Fail
Modifications to Existing Clearwells + New Reservoir	Increase Existing Clearwell Baffle Factor, and New Reservoir	✓ Pass
	Overflow Weir at Clearwell Effluent, and New Reservoir	✓ Pass
	Operate North and South Clearwells in Series, and New Reservoir	✗ Fail
Additional Clearwell Volume + New Reservoir	Add Second Cell at North Clearwell, and New Reservoir	✗ Fail
	New Reservoir to Meet All Storage Needs	✓ Pass
UV Disinfection + New Reservoir	UV Disinfection at Settled Water Conduits, and New Reservoir	✓ Pass
	UV Disinfection at Each Filter Effluent, and New Reservoir	✓ Pass
	UV Disinfection at New Reservoir	✓ Pass
	UV Disinfection at HLP Discharge, and New Reservoir	✗ Fail
Ozonation + New Reservoir	Ozonation Prior to Coagulation, and New Reservoir	✗ Fail
	Ozonation Prior to Filtration, and New Reservoir	✗ Fail

Resulting Short List of Alternatives

- The short list of alternatives was identified through the preliminary screening process:

Short List Alternative No.	Alternative Description
1	Do Nothing*
2	Clear Well Upgrades (Increase Baffle Factor and Install Overflow Weirs), and New Reservoir
3	New Reservoir to Meet Disinfection, Buffering, and Storage Needs
4.1	UV Disinfection at Settled Water Conduits, New Reservoir
4.2	UV Disinfection at Each Filter Effluent, and New Reservoir
4.3	UV Disinfection at New Reservoir

Table Notes:
* The 'Do Nothing' alternative is retained as a point against which the other alternatives can be compared, as part of the Class EA evaluation process.
No. = number

Preliminary Preferred Alternative Solution

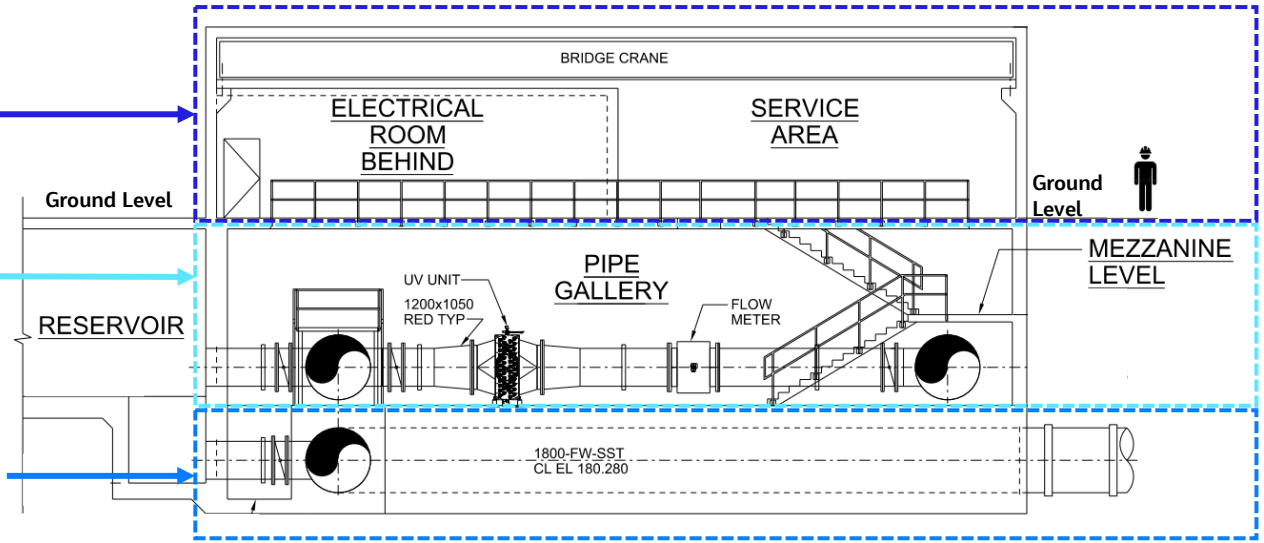
Alternative 4.3 – UV Disinfection at New Reservoir

Alternative 4.3 includes:

- A new reservoir sized to meet the water-demand based storage needs.
- A new UV building as part of the new below-grade reservoir valve house attached to the new reservoir.
- Installing a total of 4 (3 duty, 1 redundant) low-pressure, high-output (LPHO) UV reactors to treat the water.

The new UV and reservoir valving building will be partially above-grade and partially below-grade and will consist of the following levels:

- Upper Level (Above-Grade): Above-grade building that acts as an access point and service area to the facility.
- Middle Level (Below-Grade): Pipe gallery and will house the reservoir influent piping/valving with the UV reactors.
- Lower Level (Below-Grade): The effluent piping and valving for the treated water exiting the reservoir.



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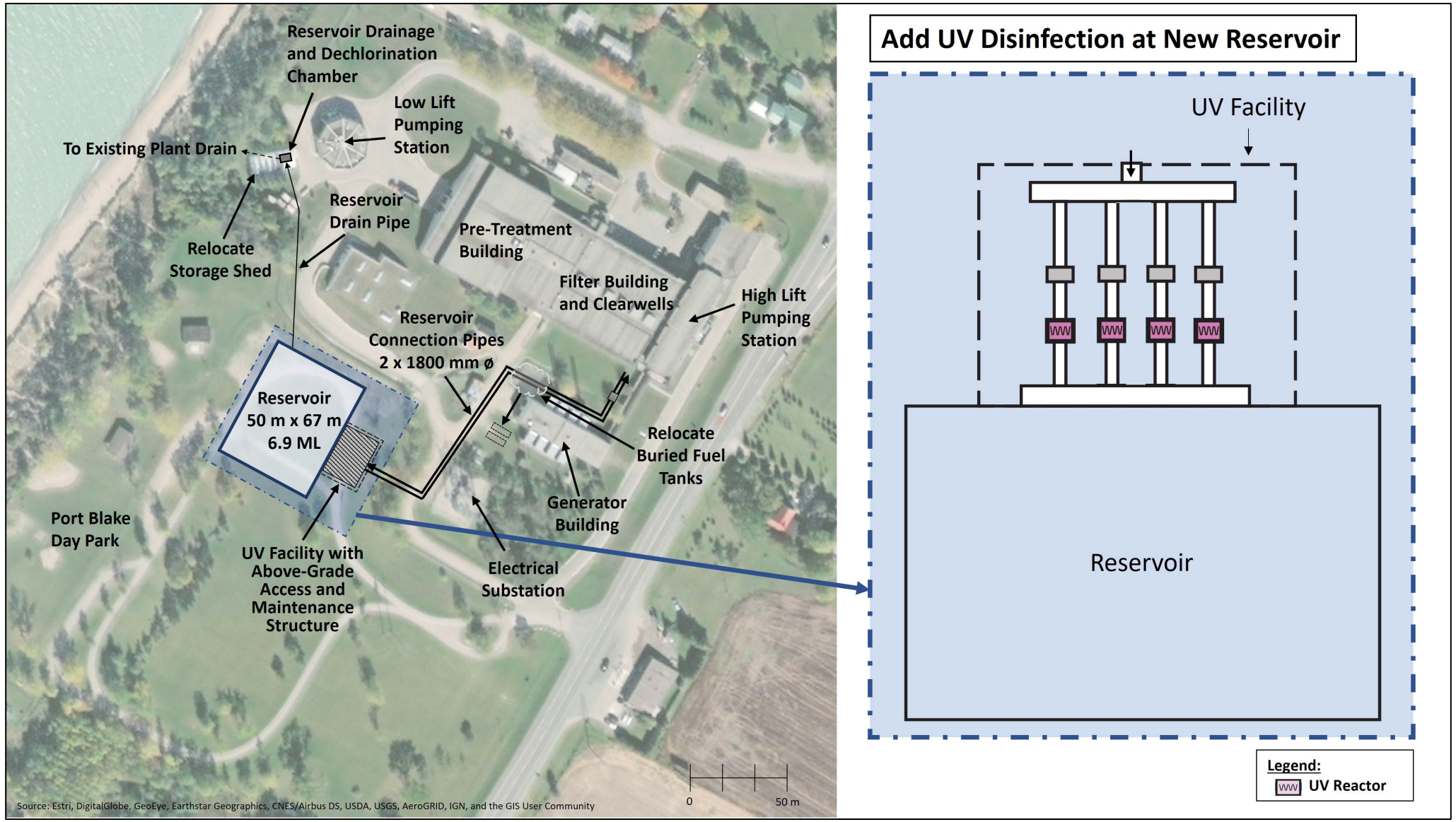
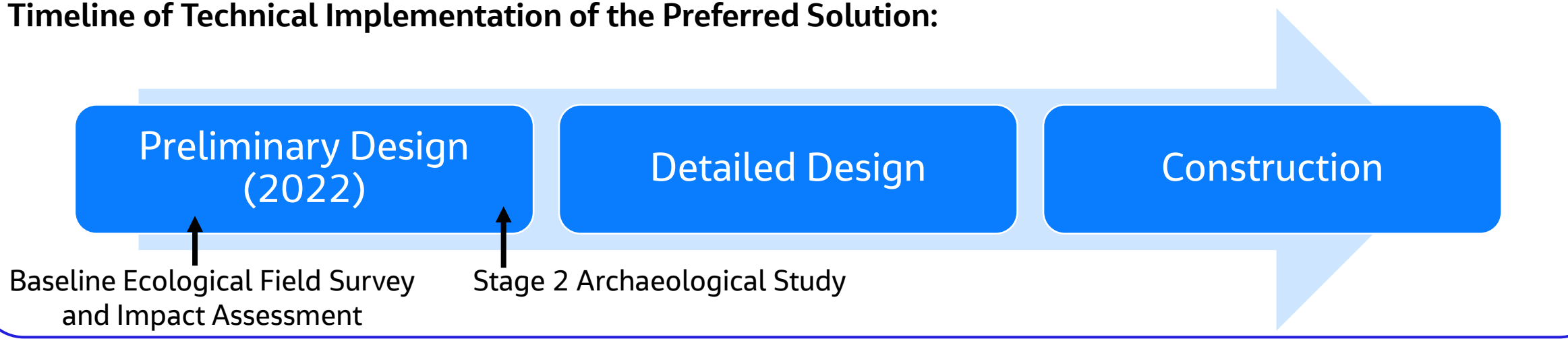


Alternative 4.3 – Preferred Solution

In addition to meeting the Project Objectives, Alternative 4.3 will provide the following benefits:

- Provides the Lake Huron WTP with enhanced primary disinfection capabilities through a multi-barrier disinfection process
- Provides the plant with more storage to reduce the potential for the number of planned or unplanned service interruptions to LHPWSS customers in the event of water production interruptions
- Limits the construction to one area, reducing shutdowns and interference with plant operations when compared to other short-listed alternatives (not including Alternatives 1 or 3)

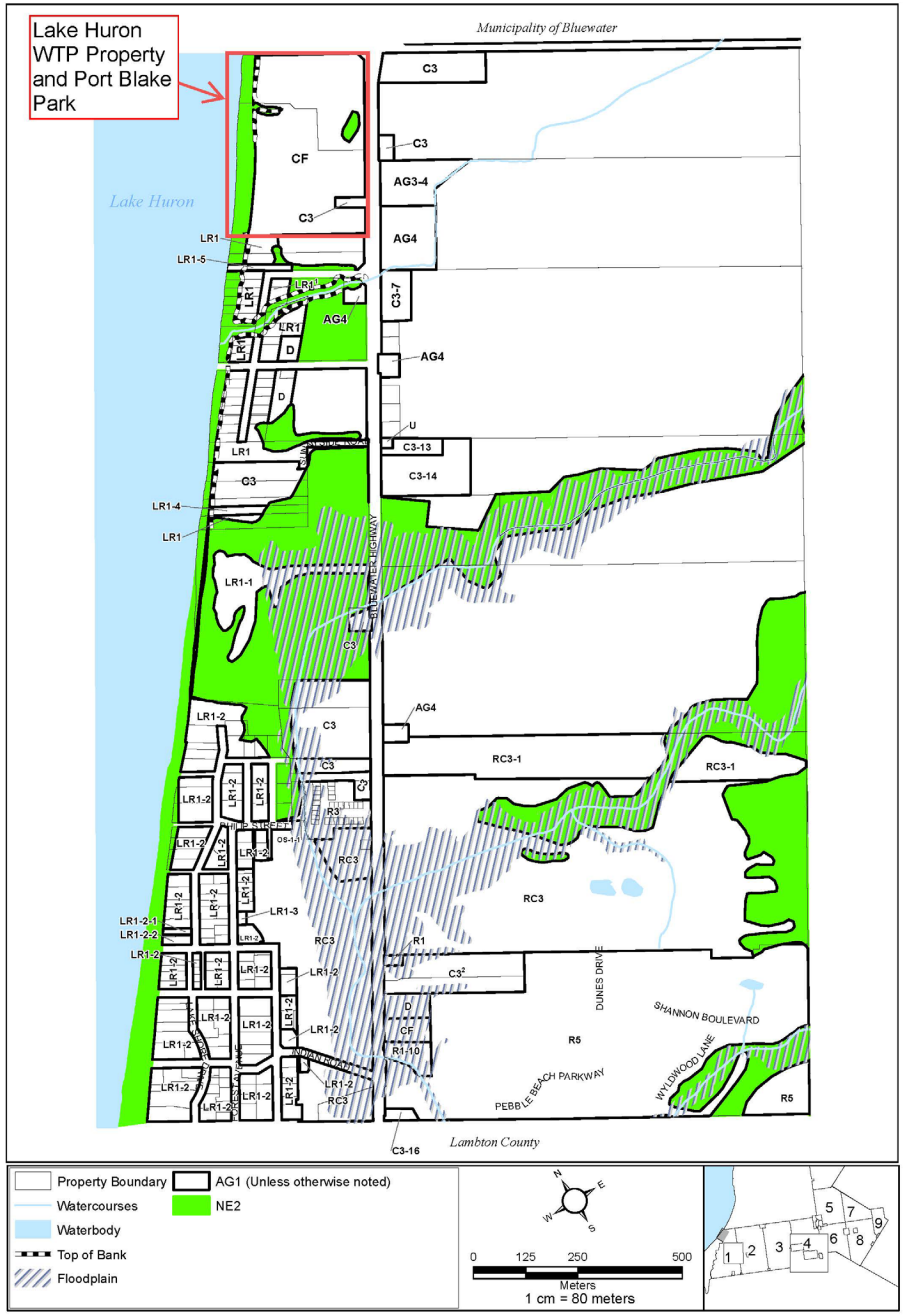
Timeline of Technical Implementation of the Preferred Solution:



Additional Background and Supplemental Studies

Planning Policies and Other Information

- Applicable Zoning By-Law: *Municipality of South Huron Zoning By-Law* (Municipality of South Huron, 2021)
  - Project Site contains land with designated zonings of Community Facility (CF) and Natural Environment Zone 2 (NE2)
- No physical modifications are proposed within the NE2 area, as this is along a shoreline protection area of Lake Huron
- Proposed works are within CF zone, which the permitted uses include erecting or altering any building or structure for the purpose of a “utility service building” (Section 31.1 of Bylaw)
  - As such, no zoning approvals nor land use changes are anticipated for any of the short-listed alternatives



Ecological Assessment (Jacobs)

Description

A desktop ecological assessment was completed to identify natural heritage features which may occur within the limits of the proposed project site, to assess potential ecological impacts, and identify required field studies.

Key Findings

- Each proposed alternative slightly encroaches the Ausable Bayfield Conservation Authority (ABCA) Regulated at the proposed alignment of the piping to the new reservoir.
- A list of Species-at-Risk (SAR) has been identified as potentially occurring within the site. A SAR assessment including field surveys is recommended for the detailed design stage.
- No changes to the current discharge effluent quantity or quality from the plant are anticipated, therefore no impacts to fish and fish habitat are predicted at this stage.
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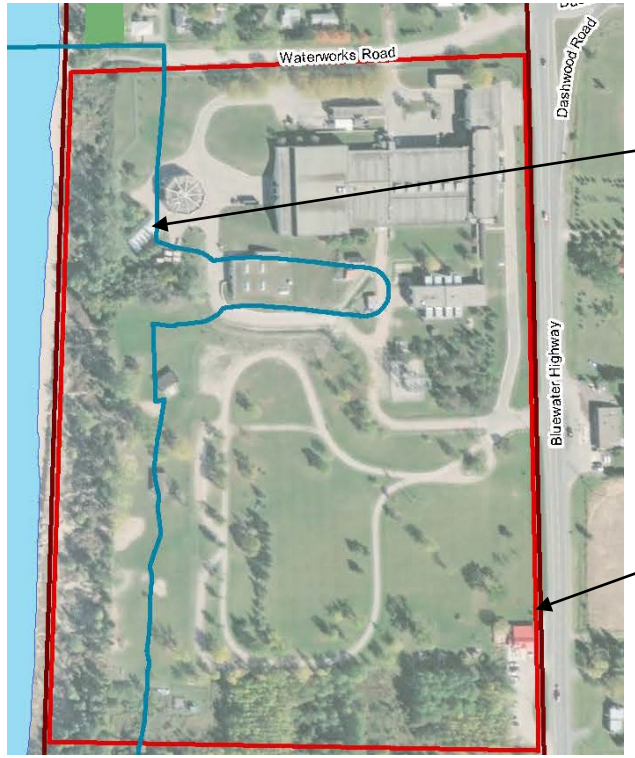

Figure: Desktop Natural Features (Jacobs, 2022)

Next Steps

A baseline field survey and impact assessment will be conducted during the preliminary design of the preferred alternative solution to confirm the baseline desktop assessment.

Cultural Heritage Screening Assessment (Golder Associates)

Description

A desktop assessment of the local study area was completed to assess whether there are properties or buildings with cultural heritage significance as defined by Ontario Regulation 9/06's Criteria for Determining Cultural Heritage Value or Interest.

Key Findings

- Two properties with cultural heritage potential were identified within the local study area; however, neither are located within the Project Site:
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  - 71176 Bluewater Highway

Next Steps

No further cultural heritage studies are required.

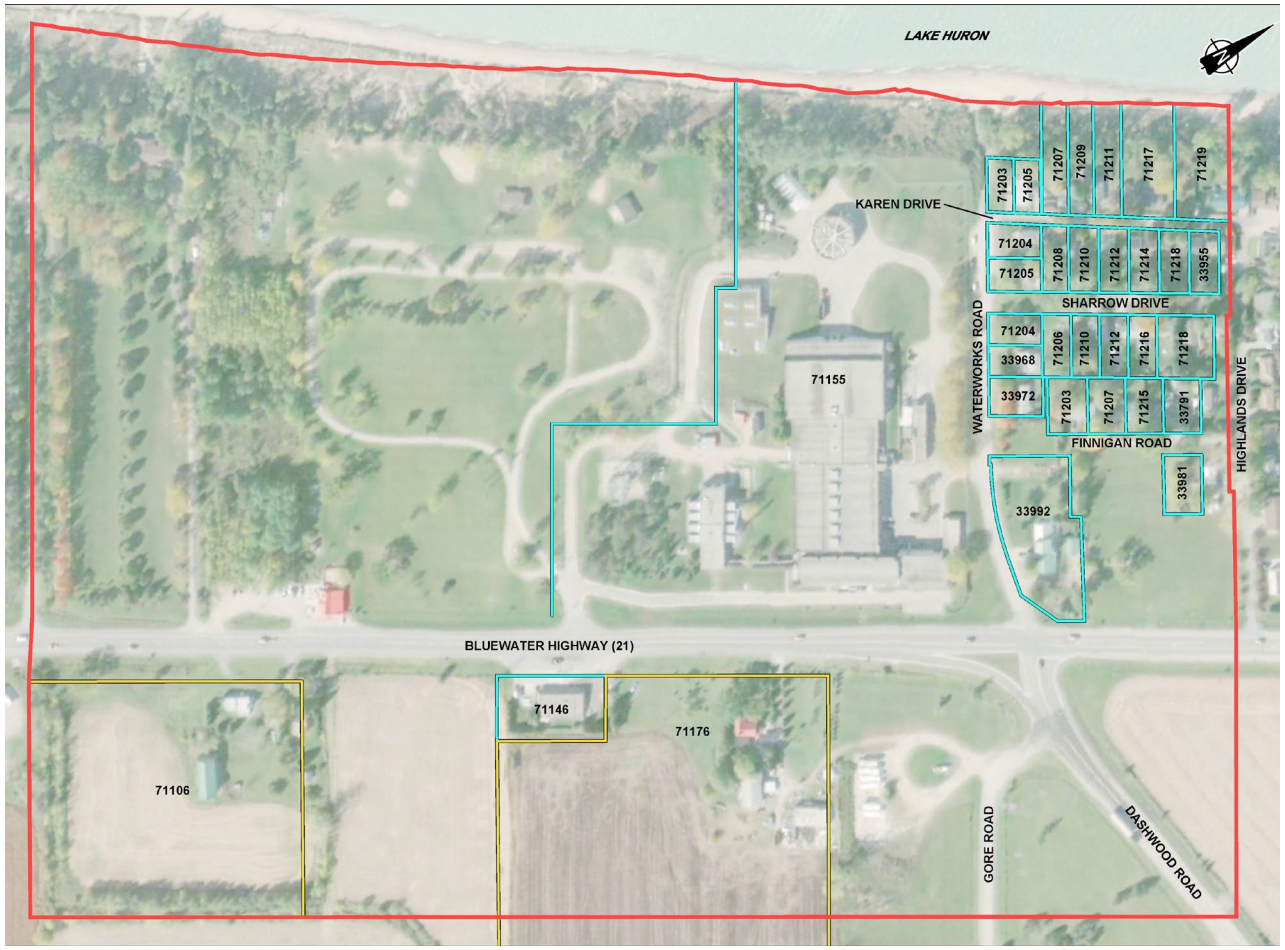


Figure: Map of Properties of Potential CHVI Within and Adjacent to the Study Area (Golder 2021)

Stage 1 Archeological Assessment (Golder Associates)

Description

A Stage 1 Archeological Assessment was undertaken to assess the potential for archaeological features within the local study area, as defined by the Ministry of Heritage, Sport, Tourism, and Culture Industries' Standards and Guidelines for Consultant Archaeologists (2011).

Key Findings

- Some areas within the local study area have archeological potential for both pre-contact Indigenous and historical period sites. These consist of areas —like the manicured lawn and forested areas within Port Blake Day Park south-west of the Lake Huron WTP—that are undisturbed by previous construction or development activities.
- Development in these areas resulting from any of the alternatives will require a Stage 2 Archaeological Assessment ahead of implementation

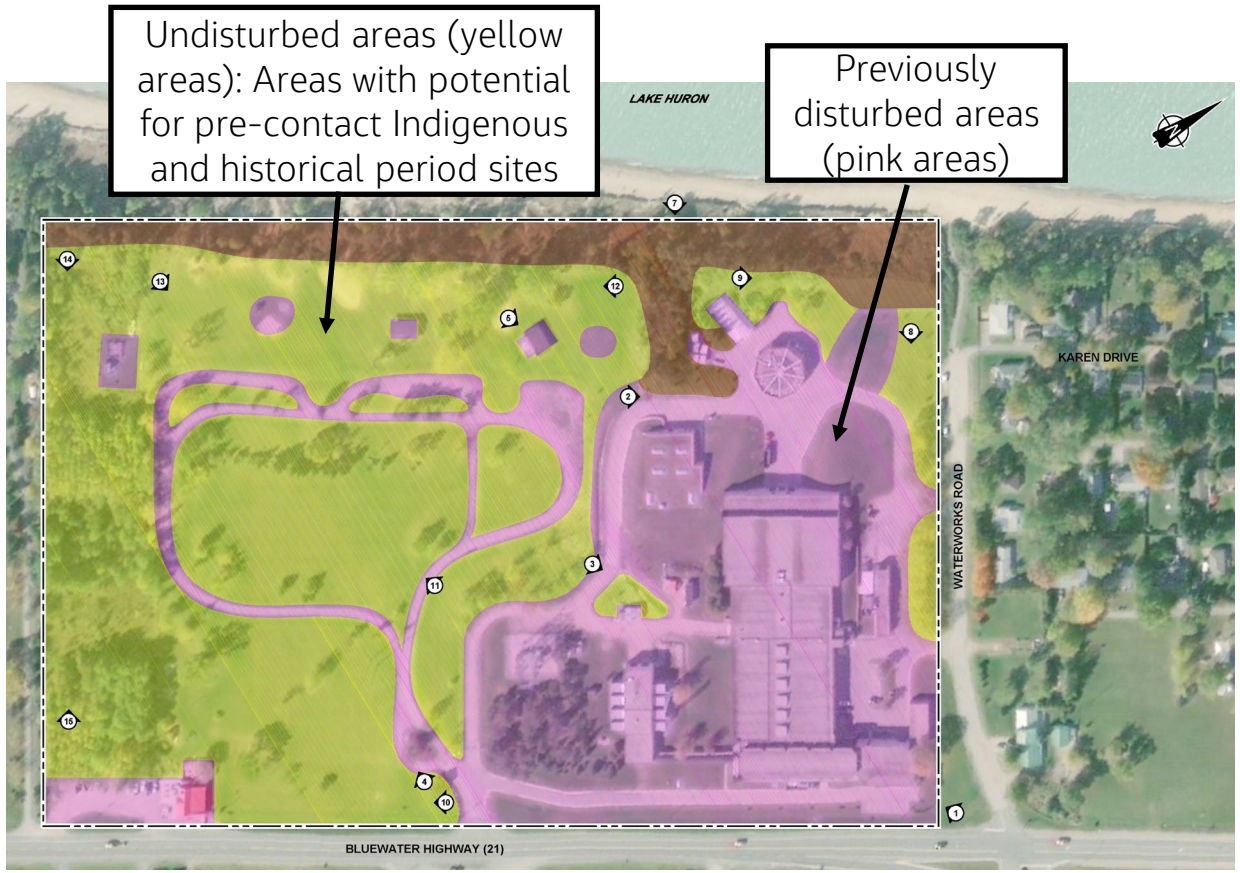


Figure: Map of Stage 1 Archeological Assessment Results (Golder, 2021)

Next Steps

Complete Stage 2 Archaeological Assessment using Test Pit Survey Method during detailed design of preferred solution

Discussion

Discussion

Based on the preliminary information presented today:

- In general, are there any concerns or preliminary comments?
- Site Plan submission/approval:
  - What requirements will be needed as part of the Site Plan submission? Are any special requirements anticipated?
  - A second consultation meeting is anticipated to be held at a later design stage to discuss the Site Plan Approval in more detail. Would a consultation meeting for this be required during the preliminary design or detailed design stage?
  - Is the Site Plan submission coordinated with Building Permit?
  - ABCA has indicated they will be commenting party during the Site Plan approvals process. Coordination with them will need to be completed.
  - From a stormwater management (SWM) perspective, what requirements does South Huron have?
- Are there any specific mitigation requirements during construction that the Municipality would like documented in the EA Project File?

SOURCE PROTECTION COMMITTEE (SPC) MEETING MINUTES
July 27th, 2022
IN PERSON and
VIA VIDEO CONFERENCE

MEMBERS PRESENT
Matt Pearson, Dave Frayne, Paul Heffer, Ian Brebner, Jennette Walker, Bert Dykstra, Mary Ellen Foran, Alyssa Keller, Phillip Keightley, Rowland Howe

MEMBERS PRESENT VIA VIDEO CONFERENCE
Myles Murdock

MEMBERS ABSENT
Allan Rothwell, John Graham

LIAISONS PRESENT
Maitland Valley Source Protection Authority (SPA) Liaison – Phil Beard

LIAISONS PRESENT VIA VIDEO CONFERENCE
Ausable Bayfield Source Protection Authority (SPA) Liaison – Brian Horner
Ministry of Environment, Conservation and Parks (MECP) Liaison Officer – Beth Forrest
Huron Perth Public Health Liaison – Lori Holmes

DWSP STAFF PRESENT
Donna Clarkson, Mary Lynn MacDonald, Tim Cumming, Elizabeth Balfour

MEMBERS OF THE PUBLIC
Emily Vandermeulen– Risk Management Inspector, Wellington
Dhawni Mittal – Student for Wellington

CALL TO ORDER
Chair Matt Pearson called the meeting to order at 9:37 a.m., and welcomed Emily and Dhawni to the meeting.

AGENDA

MOTION #SPC: 2022-07-01

"That the amended agenda for the July 27th, 2022 meeting be approved as presented."

Carried by Consensus.

APPROVAL OF MINUTES

MOTION #SPC: 2022-07-02 **Moved by Jennette Walker**
Seconded by Bert Dykstra

"That the SPC minutes from March 31st, 2022 be approved as presented."

Carried.

BUSINESS OUT OF THE MINUTES
None

DECLARATION OF PECUNIARY INTEREST
None

CORRESPONDENCE
Correspondence was received from the Ministry of Environment, Conservation and Parks (MECP) in regards to Early Engagement for the Section 36 Amendment. This correspondence was directed to Donna Clarkson and Mary Lynn MacDonald as the Project Managers for the Ausable Bayfield-Maitland Valley Source Protection Region (ABMV SPR). The letter referenced the specific updates to the assessment report that the ABMV SPR would be undertaking in their Section 36 and made additional recommendations

CHAIR'S UPDATE
Chair Matt Pearson reminded the committee that in the event that SPC members are unable to attend a meeting either in-person or via video conferencing that a proxy can be given to another SPC member who will be present at the meeting. By giving proxy to another member, it ensures that quorum is maintained. Chair Pearson also highlighted

the need to elect an Acting Chair as his term is coming to an end in August and the province has up to 6 months to fill the position. It is also beneficial to have someone in place if the chair is unable to attend meetings. Chair Pearson noted that all Source Protection chair terms across the province are ending at the same time.

ELECTION OF ACTING CHAIR

MOTION #SPC: 2022-07-03 **Moved by Ian Brebner**
Seconded by Dave Frayne

"That Bert Dykstra be elected as Acting Chair for the SPC."

Carried.

PROGRAM UPATE

Mary Lynn MacDonald, Co-DWSP Program Supervisor, highlighted the ongoing Education and Outreach that the ABMV SPR participates in through the Water Wednesday social media campaign. This social media campaign does not target a specific audience and is directed toward the general public. Mary Lynn and Tim Cumming are working with Allan Rothwell on a Source Protection video that will focus on the consultation process required for the proposed Source Protection Plan amendment. Ausable Bayfield Conservation Authority Education staff have been using the SPC videos to educate watershed students about Source Protection. Source Protection staff have also sent out public and municipal e-newsletters. Mary Lynn informed the SPC that the DWSP workplan and budget submitted to MECP were approved. This approval will cover the 2022-2024 fiscal years. The annual progress report was also submitted to MECP on April 26th, 2022.

EARLY ENGAGEMENT COMMENTS AND RESPONSE

Donna Clarkson, Co-DWSP Program Supervisor, reviewed the Early Engagement process with the SPC members. In April, staff submitted the draft Source Protection Plan amendments and associated documents to MECP for Early Engagement review. MECP reviewed the documents and issued comments to staff on June 14th, 2022. For a list of comments received from MECP refer to the report 'MECP Comments Regarding Draft SPP Amendments'. Most comments received were minor and required some wording changes for consistency. MECP suggested a review of the ASM, NASM, Grazing and

Organic Solvent polices and removal of detailed circumstances for consistency with other revised policies.

AGRICULTURAL POLICIES

As noted above, in their Early Engagement review MECP provided comments that suggested further revisions to some policies for simplification. In response, staff reviewed the agricultural policies and propose minor revisions to remove some of the threat circumstances. However, staff felt that leaving some circumstances in certain policies was helpful for Certified Crop Advisors and Nutrient Management Consultants who may be referencing these policies. The report 'Ag Policies Consistency with Other Amendment Policy Changes' outlines in detail the wording to be removed from the agricultural policies, and can be referenced for an understanding of the changes.

MOTION #SPC: 2022-07-04 **Moved by Jennette Walker**
Seconded by Rowland Howe

"That ASM, NASM, Pesticide and Fertilizer Policies AC 9.1 – 9.7 and RAC 9.8 be further revised as presented and approved to be included in the upcoming amendment to the Source Protection Plans."

Carried.

Organic Solvents and Fuel Policies

Staff did not initially propose any policies changes to the Organic Solvent category because the new Technical Rules did not reference any changes. Comments from MECP during Early Engagement noted that the policies still retained detailed circumstances and suggested they be further simplified. Simplification of the Organic Solvent policies would be consistent with the approach taken for other policies. For a detailed description of the deletions and revisions to the policies refer to the report 'Organic Solvents Policies; Fuel Policies.'

MOTION #SPC: 2022-07-05 **Moved by Alyssa Keller**
Seconded by Bert Dykstra

"That Organic Solvent Policies RAC 7.1 and 7.2 be revised as presented and approved to be included in the upcoming amendment to the Source Protection Plans."

Carried.

During the November 24th, 2021 SPC meeting, the committee approved revisions to the fuel policies to address the lowered threat thresholds in the 2021 Technical Rules. The policies were changed to align with the lower threshold. Staff have discussed the lower threshold for fuel with neighbouring Risk Management Officials, and there are concerns over the prohibition of fuel tanks less than 2500L. Staff recommends further policy revisions that would prohibit future fuel tanks greater than 2500L, but use the Risk Management Plan as a tool for existing and future tanks that are 250L to 2500L.

MOTION #SPC: 2022-07-06 **Moved by Mary Ellen Foran**
Seconded by Philip Keightley

"That revisions to the fuel policies RAC 2.1 and 2.2 be approved as presented and included in the upcoming amendment to the Source Protection Plans."

Carried.

ZURICH PIPELINE UPDATE

Jennette Walker, SPC Environmental Representative, provided an update on the installation of pipeline along Hensall-Zurich Road that will provide water from the Lake Huron Primary Water Supply System to the village of Zurich. Consulting firm, BM Ross, was retained for this project in 2016 as Bluewater Council had concerns about the aesthetic qualities of the groundwater being supplied by the municipal well. Zurich's water quality is consistent for the area with higher levels of iron content and hardness. In terms of health concerns, Zurich's water meets all provincial standards for safe drinking water, but does tend to have elevated levels of sodium, fluoride, and arsenic. These are all naturally occurring and are still within legislated levels. BM Ross presented four different options to Bluewater Council for the pipeline based on current connections and existing infrastructure. Option Three which included running 200mm pipe from Hensall's existing line to Zurich was considered the most economical. The proposed water line has been increased to 300mm to provide extra fire fighting capabilities to Zurich. The project has also expanded to include some county road improvements and sidewalks. The expected completion date is fall of 2022. The Municipality of Bluewater will keep the existing reservoirs, but will decommission the existing wells. Once the project is complete, the mapping and Source Protection Plan will be updated for Zurich by removing the Wellhead Protection Area either in the current proposed amendment or through a s.51 amendment. Once approved, existing

Risk Management Plans associated with Zurich WHPA properties will be made null and void.

Myles Murdock arrived to the meeting via video conferencing at 10:40 a.m.

LAKE HURON PRIMARY WATER SUPPLY SYSTEM – EA FOR DISINFECTION AND STORAGE UPGRADE

Marcy McKillop, Environmental Engineer for the Lake Huron Primary Water Supply System, gave a presentation on the review and expansion of the Lake Huron Primary Water Supply that is currently underway. The Lake Huron Primary Water Supply serves eight member municipalities, and can pump up to 340,000,000L of water a day. Completion of the 2020 Master Plan noted that there was a need for increased storage as well as a multi-barrier disinfection approach. Currently, the conventional plant relies solely on chlorine for disinfection, which is very effective, but there are concerns with its effectiveness when the water is extremely cold. A 2018 disinfection study noted this challenge. A list of alternatives was developed as solutions for the disinfection and storage issues. A short list of alternatives was created and the most feasible option chosen. The proposed expansion will include a below grade reservoir for increased storage and a UV disinfection treatment added prior to distribution. The building of the reservoir and UV building will require expansion into the Port Blake Day Use Park, owned by the Lake Huron Primary Water Supply. The expansion will also require some relocating of fuel storage. The proposed alternative will be taken to the Lake Huron Primary Water Supply System Board in the fall of 2022 and will be open for public consultation for 30 days in October. A detailed design will occur in 2023 and then construction as the final phase.

UPDATE ON CONSULTATION PLAN

Donna Clarkson reviewed the three stages of consultation required before the amendments can be submitted to MECP. These three stages include: Early Engagement, Pre-Consultation, and Public Consultation. Donna reviewed the timeline for the three stages noting that Early Engagement had been completed. Pre-Consultation, the next step, is expected to occur between August 2022 and October 2022 with Public Consultation occurring in January 2023. The Pre-Consultation process requires that all implementing bodies i.e., municipalities, ministries and agencies be notified. Information packages will be emailed with a request for written comments.

MOTION #SPC: 2022-07-07 **Moved by Dave Frayne**
Seconded by Rowland Howe

"That staff be directed to complete the remaining Source Protection Plan edits and begin Pre-Consultation."

Carried.

LIAISON UPDATES

Lori Holmes, Huron Perth Public Health (HPPH) Liaison, gave an update on the activities occurring within HPPH. The Health Unit is still in the midst of pandemic response; however, the number of staff assigned to response is less. Currently, staff are engaging in beach sampling of public beaches for Huron and Perth Counties. Escherichia Coli (E. coli) levels this year are similar to previous years, and the lower Lake levels have allowed better access to beaches.

Ausable Bayfield Source Protection Authority (SPA) Liaison, Brian Horner, and Maitland Valley Source Protection Authority (SPA) Liaison, Phil Beard, had no update for the SPC at this time.

Emily Vandermeulen, Risk Management Inspector for Wellington, noted that they recently hired a Coordinator for development review and education/ outreach who has been focusing solely on development review. This is due to the large volume of development occurring in the area.

Beth Forrest, MECP Liaison Officer, was providing coverage for Catherine Eby. Beth noted that after the provincial election in June 2022, MECP retained their current Minister. Minister David Piccini is familiar with the operations of the Source Water Branch and the SPC Chair renewal process. Some restructuring did occur within the Source Water Branch, but no staff changes.

NEXT MEETING

The next meeting will be November 30th, 2022.

ADJOURNMENT

The meeting was adjourned at 11:57 a.m.

Matt Pearson
Chair

Elizabeth Balfour
Recording Secretary

Lake Huron
Primary Water Supply System

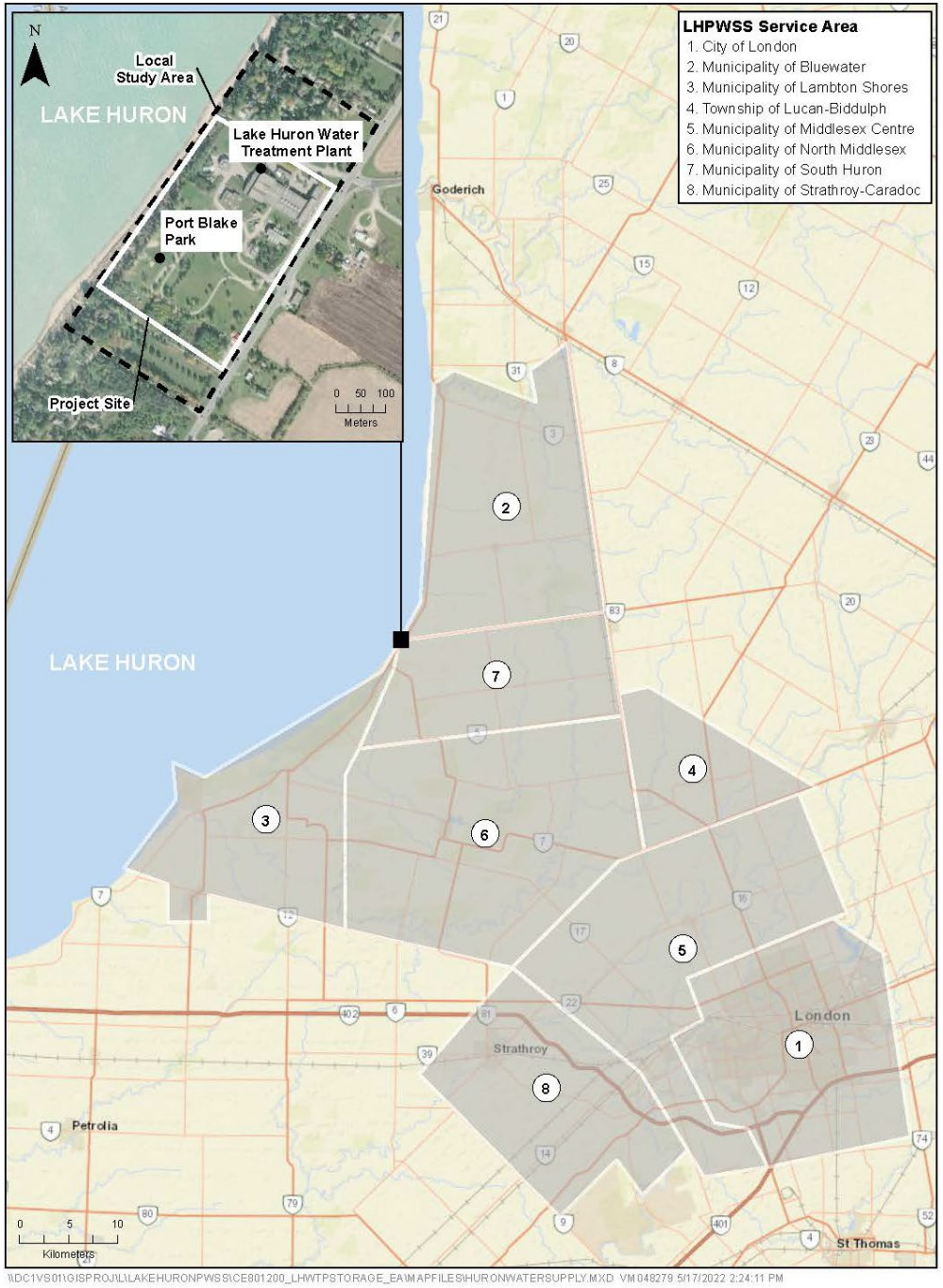
Jacobs
Challenging today.
Reinventing tomorrow.

Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment

Ausable Bayfield
Maitland Valley
Source Protection Committee Meeting
July 27, 2022

Background and Study Area

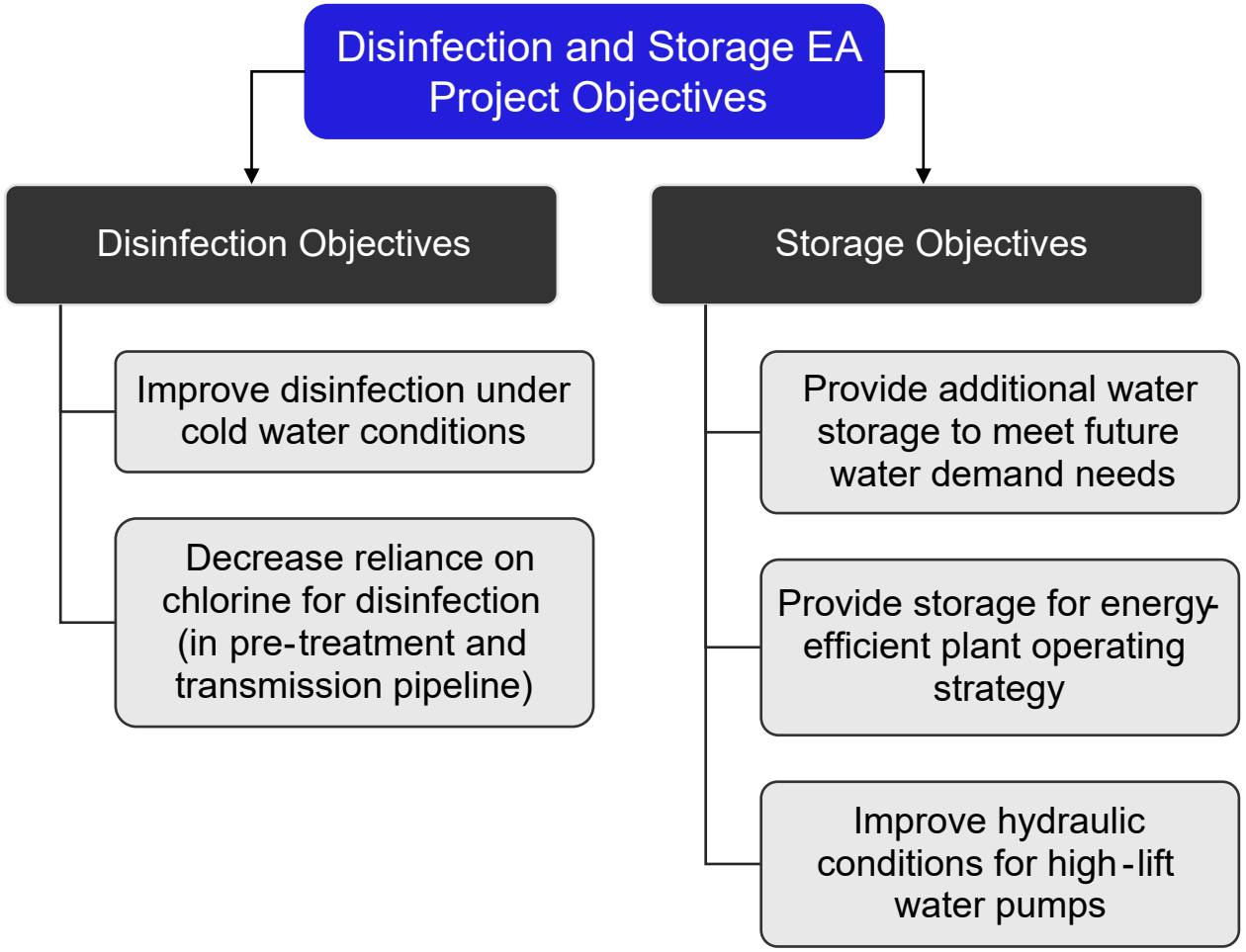
- The Lake Huron Primary Water Supply System (LHPWSS) owns the 340 megalitre-per-day (ML/d) Lake Huron Water Treatment Plant (WTP), which supplies treated water to eight municipalities via a (partially twinned) 1.2-metre-diameter primary transmission main to reservoirs and secondary transmission systems that service the member municipalities.
- Study Area for the Class Environmental Assessment includes:
  - Project Site: Lake Huron WTP property, including Port Blake Park
  - Local Study Area: Project site extended to include Highlands Drive to the north and Gravelle Street to the south
  - LHPWSS Service Area: Member municipalities serviced by the LHPWSS



Problem and Opportunity Statement, and Project Objectives

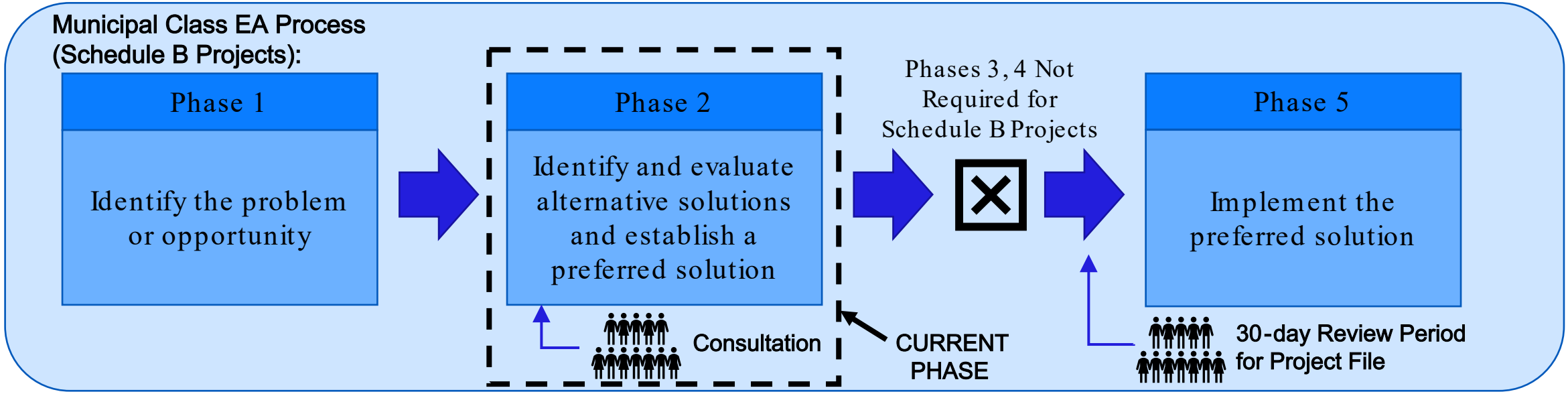
Problem and Opportunity Statement:

- A recently completed update to the LHPWSS Master Water Plan (Jacobs 2020) identified the need to **improve disinfection** and **increase water storage** at the Lake Huron WTP, to meet water demands to the year 2038.
- A Schedule B Municipal Class Environmental Assessment (EA) is being completed to **confirm the recommendation for additional storage** at the WTP site and **refine requirements for enhanced disinfection** to provide operational flexibility to implement energy management and other operating strategies.



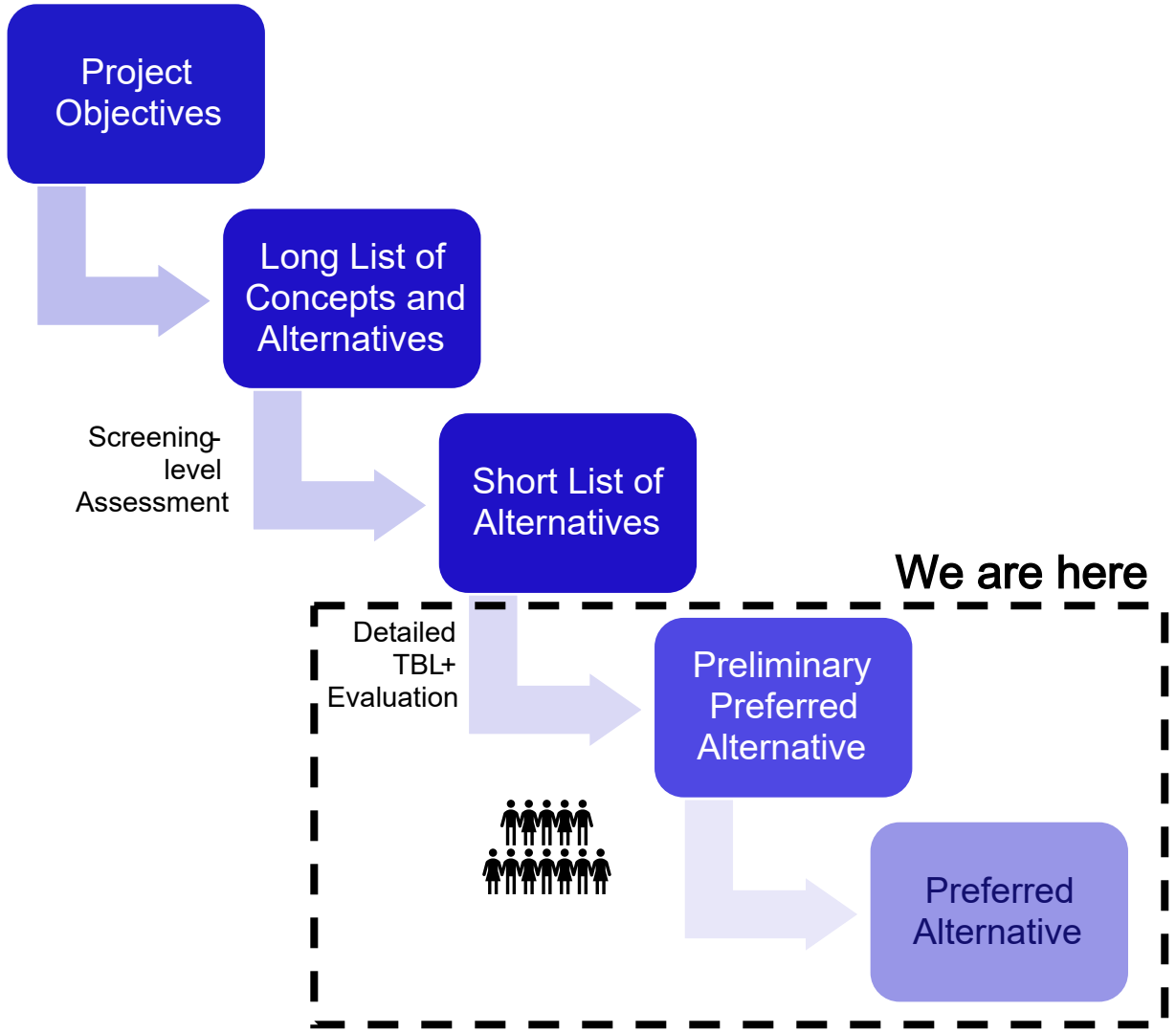
Class Environmental Assessments

- The Ontario Municipal Engineers Association's *Municipal Class Environmental Assessment* document (2000, as amended in 2007, 2011, and 2015) provides municipalities with a five-phase planning process approved under the *Environmental Assessment Act* to plan and undertake municipal projects.
- Projects are classified into different schedules (A, A+, B, or C), based on the anticipated environmental impact of the proposed development. Each classification requires a different level of review and public and stakeholder engagement to complete the Municipal Class EA.
- This project is classified as a Schedule B EA, as it will include upgrades to the existing municipal water infrastructure that have the potential for some adverse environmental impacts.
- The project is being carried out to satisfy the provincial requirements for the Municipal Class EA process.



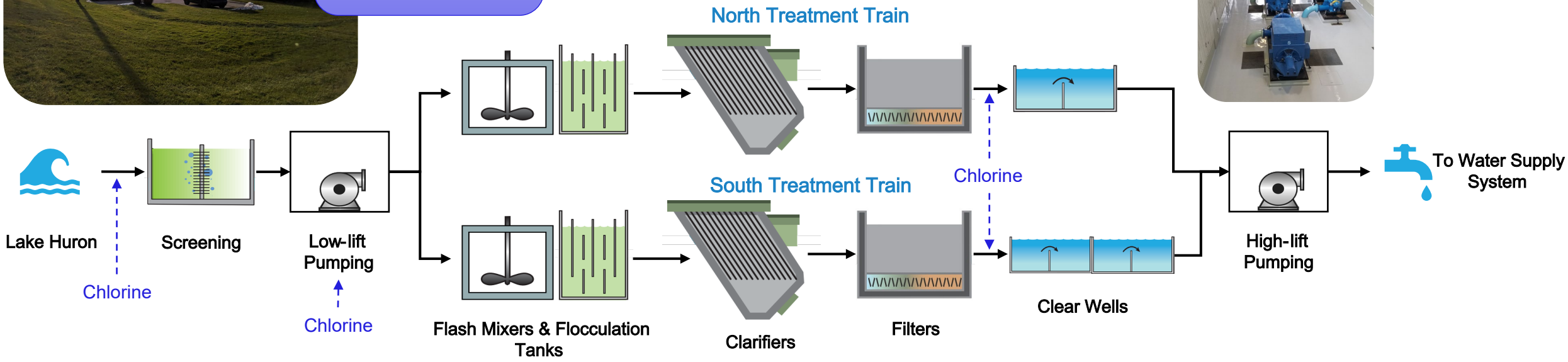
Phase 2: Alternative Development Process

- **Step 1:** Identify objectives for alternative solutions in alignment the with Problem and Opportunity Statement.
- **Step 2:** Identify and evaluate a long list of alternatives to meet project objectives, using a screening level assessment.
- **Step 3:** Develop a short list of alternatives and evaluate them using a detailed triple bottom line (TBL+) evaluation to identify a preliminary preferred alternative.
- **Step 4:** Consult and receive input to confirm the preferred alternative.



Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (1)

The Lake Huron WTP is a **chemically assisted, conventional filtration treatment plant** .



The water treatment process **begins with water being pumped from Lake Huron** . It then goes through the next treatment stages:

- Pretreatment: A chemical conditioning step to encourage clays, silts, organic material, and bacteria to stick together and settle out of the water.
- Filtration: A step to remove any remaining particles.
- Clear Wells: The stage where the water gets contact with chlorine.

The process **ends with treated water being sent out to customers** via the LHPWSS.

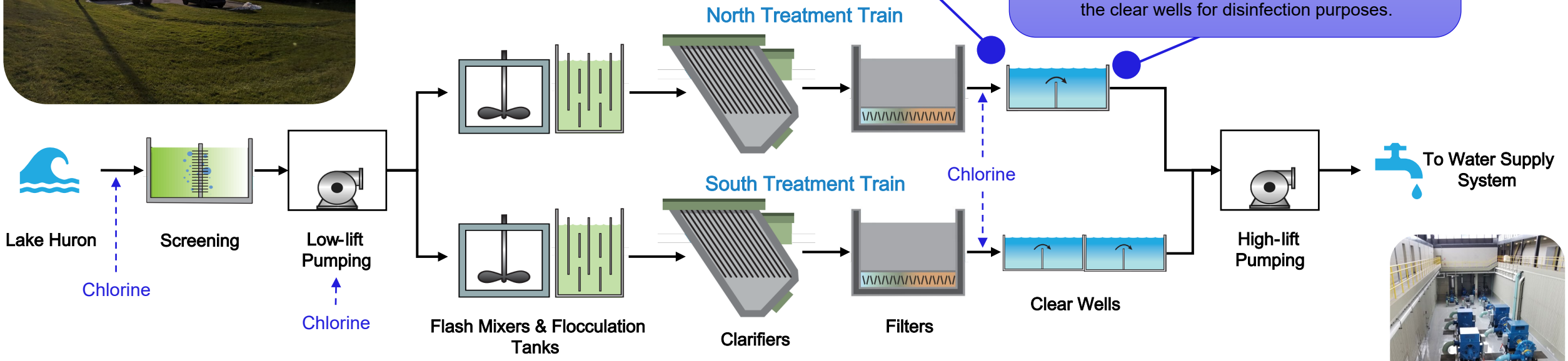
Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (2)

2018 – Disinfection Study Identified Primary Disinfection Deficiencies under Cold Water Conditions:

A study of the primary disinfection process determined that operational interventions would be required to meet the disinfection requirements under cold water conditions when operating at more than 200 ML/d (AECOM 2018). As the plant has a capacity of 340 ML/d, the need to mitigate the disinfection deficiencies was identified.

Limited Volume in North Clear Well:

The WTP's disinfection performance is limited by the north clear well, which is the smaller of the two clear wells at the plant. Access to the volume in the clear wells for water storage purposes is therefore constrained by the level that must be maintained in the clear wells for disinfection purposes.



Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (3)

2018 – Disinfection Study Identified Primary Disinfection Deficiencies under Cold Water Conditions:

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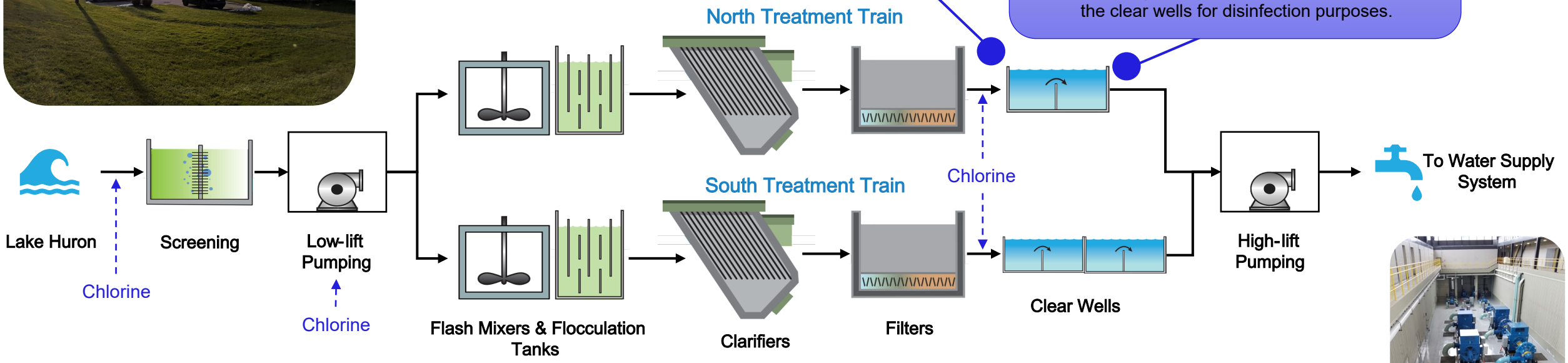


2018 – Master Plan Update Identified Storage Deficiencies:

A storage capacity assessment was completed as part of the 2018 LHPWSS Master Plan Update. The assessment identified the need for additional storage to meet the regional equalization and emergency storage needs to supply member municipalities (Jacobs 2020).

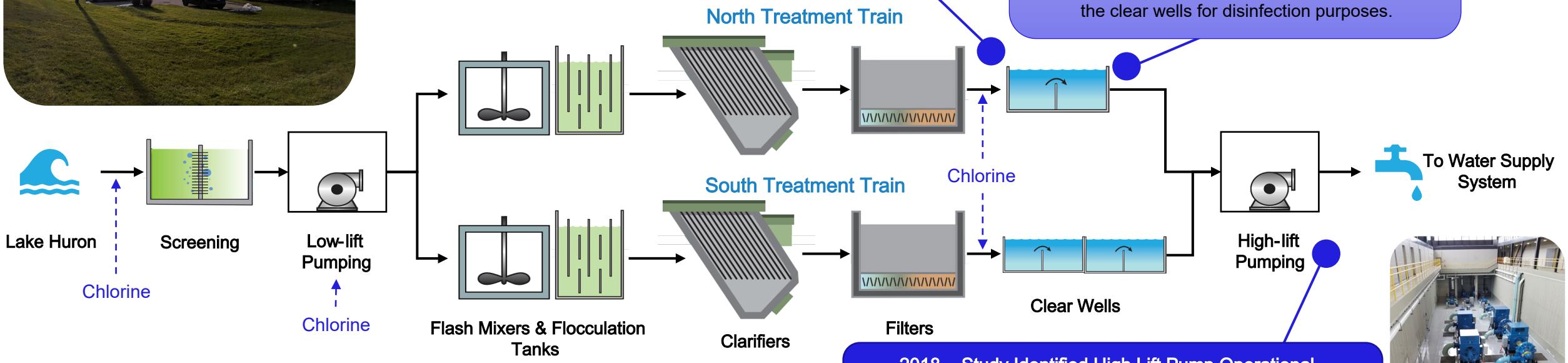
Lake Huron Water Treatment Plant – Existing Conditions and Previous Studies (4)

2018 – Disinfection Study Identified Primary Disinfection Deficiencies under Cold Water Conditions:

A study of the primary disinfection process determined that operational interventions would be required to meet the disinfection requirements under cold water conditions when operating at more than 200 ML/d (AECOM 2018). As the plant has a capacity of 340 ML/d, the need to mitigate the disinfection deficiencies was identified.

Limited Volume in North Clear Well:

The WTP's disinfection performance is limited by the north clear well, which is the smaller of the two clear wells at the plant. Access to the volume in the clear wells for water storage purposes is therefore constrained by the level that must be maintained in the clear wells for disinfection purposes.



2018 – Master Plan Update Identified Storage Deficiencies:

A storage capacity assessment was completed as part of the 2018 LHPWSS Master Plan Update. The assessment identified the need for additional storage to meet the regional equalization and emergency storage needs to supply member municipalities (Jacobs 2020).

2018 – Study Identified High Lift Pump Operational Restrictions and Deficiencies:

A study identified operational restrictions and deficiencies for the Lake Huron WTP relating to the operation of the existing high-lift pumps. It was identified that there is insufficient volume in the existing clearwells to offset the ramp-up requirements of the plant processes, to provide stable operations under certain high-lift pump operating conditions (AECOM 2018).

Long List of Alternative Solutions and Screening Process

- A long list of potential alternatives was identified, then screened to identify the viable short list of alternatives.

	Alternative	Screening Result
	Do Nothing	✗ Fail
	Control Flow to North Clearwell, and New Reservoir	✗ Fail
Modifications to Existing Clearwells + New Reservoir	Increase Existing Clearwell Baffle Factor, and New Reservoir	✓ Pass
	Overflow Weir at Clearwell Effluent, and New Reservoir	✓ Pass
	Operate North and South Clearwells in Series, and New Reservoir	✗ Fail
Additional Clearwell Volume + New Reservoir	Add Second Cell at North Clearwell, and New Reservoir	✗ Fail
	New Reservoir to Meet All Storage Needs	✓ Pass
Ultraviolet (UV) Disinfection + New Reservoir	Ultraviolet Disinfection at Settled Water Conduits, and New Reservoir	✓ Pass
	Ultraviolet Disinfection at Each Filter Effluent, and New Reservoir	✓ Pass
	Ultraviolet Disinfection at New Reservoir	✓ Pass
	Ultraviolet Disinfection at High -lift Pump Discharge, and New Reservoir	✗ Fail
Ozonation + New Reservoir	Ozonation Before Coagulation, and New Reservoir	✗ Fail
	Ozonation Before Filtration, and New Reservoir	✗ Fail

Resulting Short List of Alternatives

- The short list of alternatives was identified through the preliminary screening process:

Short List Alternative No.	Alternative Description
1	Do Nothing [a]
2	Clear Well Upgrades (Increase Baffle Factor and Install Overflow Weirs), and New Reservoir
3	New Reservoir to Meet Disinfection, Buffering, and Storage Needs
4.1	UV Disinfection at Settled Water Conduits, New Reservoir
4.2	UV Disinfection at Each Filter Effluent, and New Reservoir
4.3	UV Disinfection at New Reservoir

Table Notes:
[a] The 'Do Nothing' alternative is retained as a point against which the other alternatives can be compared, as part of the Class EA evaluation process.
No. = number

Ecological Assessment (Jacobs)

Description

A desktop ecological assessment was completed to identify natural heritage features which may occur within the limits of the proposed project site, to assess potential ecological impacts, and identify required field studies.

Key Findings

- Each proposed alternative slightly encroaches the Ausable Bayfield Conservation Authority (ABCA) Regulated at the proposed alignment of the piping to the new reservoir.
- A list of Species-at-Risk (SAR) has been identified as potentially occurring within the site. A SAR assessment including field surveys is recommended for the detailed design stage.
- No changes to the current discharge effluent quantity or quality from the plant are anticipated, therefore no impacts to fish and fish habitat are predicted at this stage.
- Wildlife may be impacted from the proposed vegetation and potential tree removals, particularly from the proposed reservoir and associated alignment. A restoration plan is to be considered during detailed design.

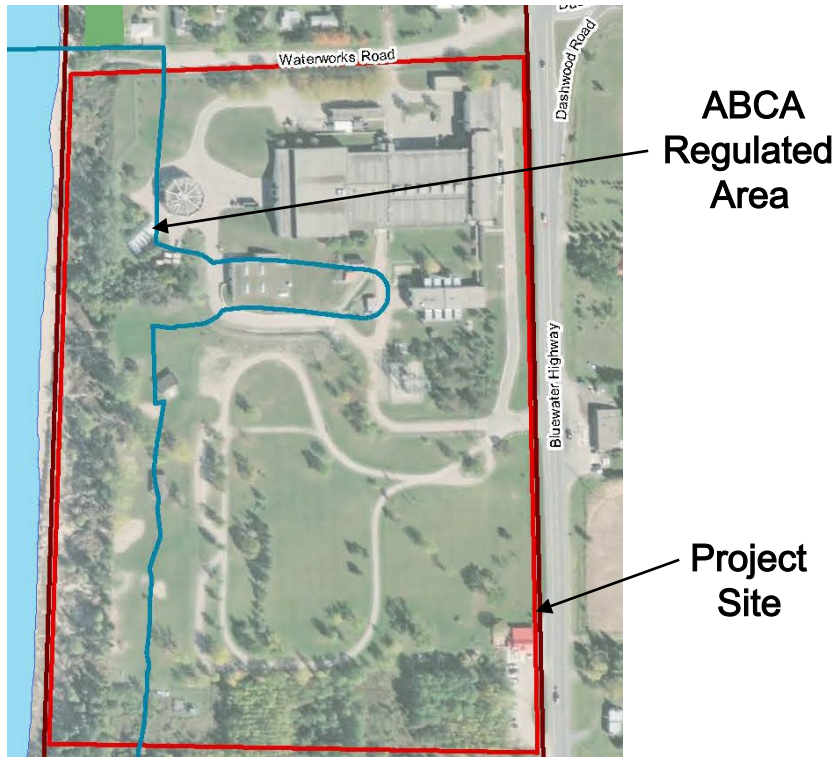


Figure: Desktop Natural Features (Jacobs, 2022)

Next Steps

A baseline field survey and impact assessment will be conducted during the preliminary design of the preferred alternative solution to confirm the baseline desktop assessment.

Cultural Heritage Screening Assessment (Golder Associates)

Description

A desktop assessment of the local study area was completed to assess whether there are properties or buildings with cultural heritage significance as defined by Ontario Regulation 9/06's Criteria for Determining Cultural Heritage Value or Interest.

Key Findings

- Two properties with cultural heritage potential were identified within the local study area; however, neither are located within the Project Site:
  - 71106 Bluewater Highway
  - 71176 Bluewater Highway

Next Steps

No further cultural heritage studies are required.

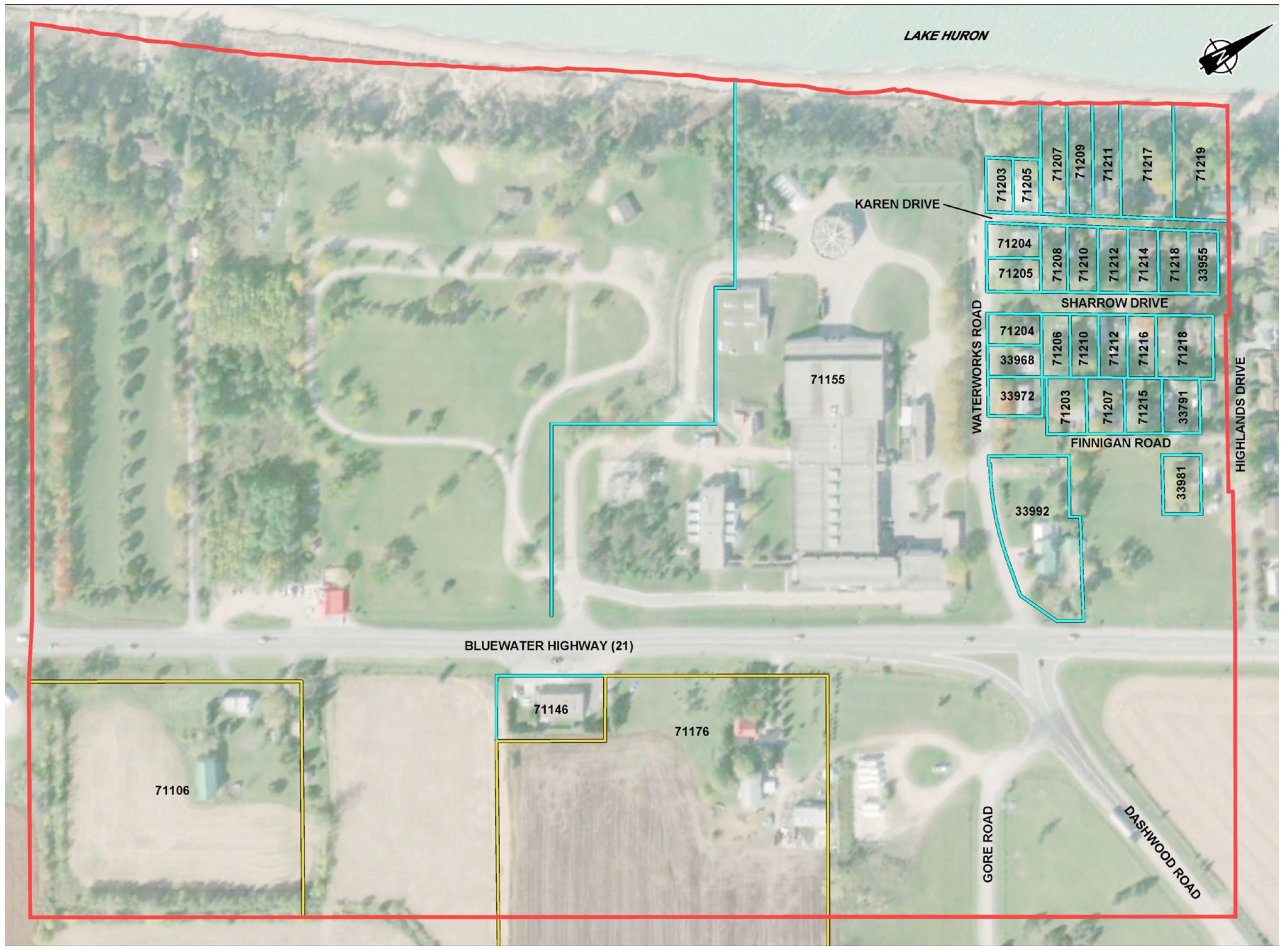


Figure: Map of Properties of Potential CHVI Within and Adjacent to the Study Area(Golder 2021)

Stage 1 Archeological Assessment (Golder Associates)

Description

A Stage 1 Archeological Assessment was undertaken to assess the potential for archaeological features within the local study area, as defined by the Ministry of Heritage, Sport, Tourism, and Culture Industries' Standards and Guidelines for Consultant Archaeologists (2011).

Key Findings

- Some areas within the local study area have archeological potential for both pre-contact Indigenous and historical period sites. These consist of areas —like the manicured lawn and forested areas within Port Blake Day Park south-west of the Lake Huron WTP—that are undisturbed by previous construction or development activities.
- Development in these areas resulting from any of the alternatives will require a Stage 2 Archaeological Assessment ahead of implementation

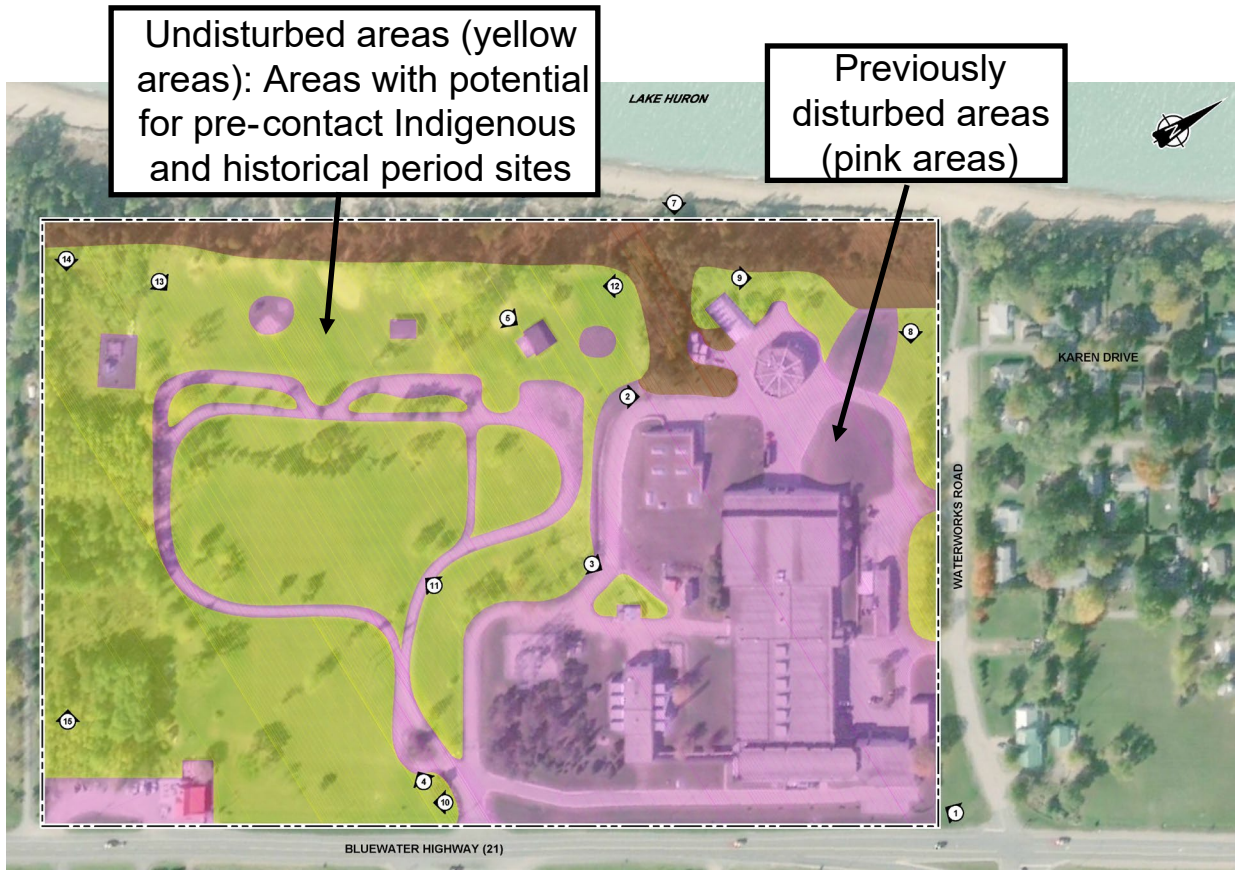


Figure: Map of Stage 1 Archeological Assessment Results(Golder, 2021)

Next Steps

Complete Stage 2 Archaeological Assessment using Test Pit Survey Method during detailed design of preferred solution

Evaluation Framework and Identification of Preliminary Preferred Solution

Evaluation Framework and Criteria

- An evaluation framework was developed based on the Municipal Class EA process.
- Evaluation criteria within four categories were developed, each with their own scoring descriptors to determine whether an alternative gets a low, medium, or high score for each criterion.

Alternatives Evaluation Results

- For each criterion, the alternatives were given a **high (10), medium (5), or low (0) score** , with a high score meaning more benefits and fewer impacts, and a low score meaning fewer benefits and more impacts. The total score for each alternative was then calculated, by taking the sum of the scores from all 25 criteria.
- ***Alternative 4.3 had the highest score*** of all the short-listed alternatives as it provides the most benefits with the fewest impacts. This finding was also supported for three of the five scoring scenarios completed as part of a sensitivity analysis.

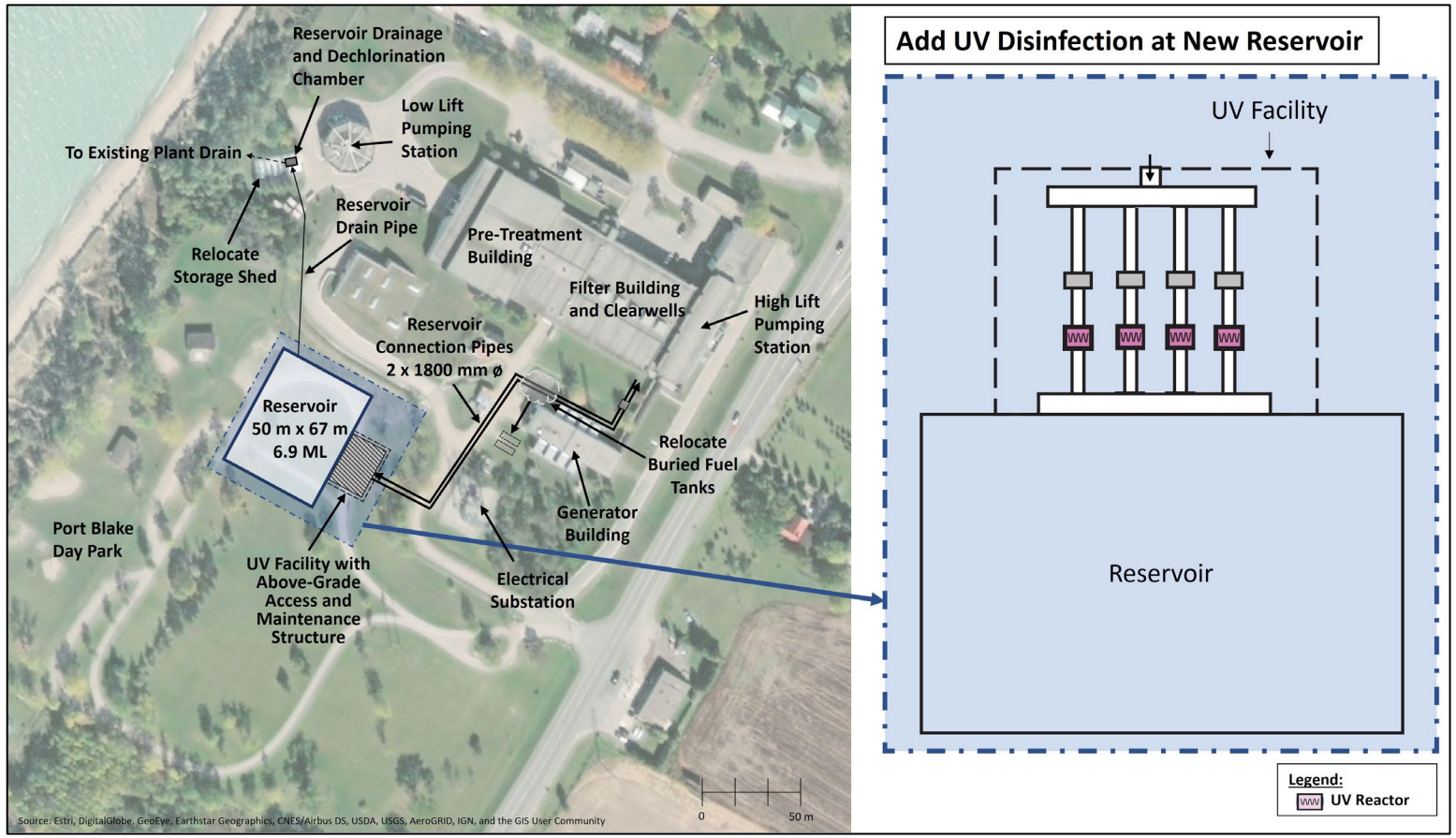
Alternative No.	Alternative Description	Natural Environment	Socio-Cultural	Technical	Economic	Overall Evaluation Score
1	Do Nothing	60	65	25	20	**170**
2	Clear Well Upgrades, and New Reservoir (10.7 ML)	55	60	55	10	**180**
3	New Reservoir (13.0 ML)	55	60	60	10	**185**
4.1	UV Disinfection at Settled Water Conduits, and New Reservoir (6.9 ML)	60	55	70	10	**195**
4.2	UV Disinfection at Each Filter Effluent, and New Reservoir (6.9 ML)	55	60	50	10	**175**
4.3	UV Disinfection at New Reservoir (6.9 ML)	60	55	80	10	**205**
	Maximum Possible Score	*70*	*70*	*90*	*20*	***250***

☑ Preferred Alternative

Preferred Solution

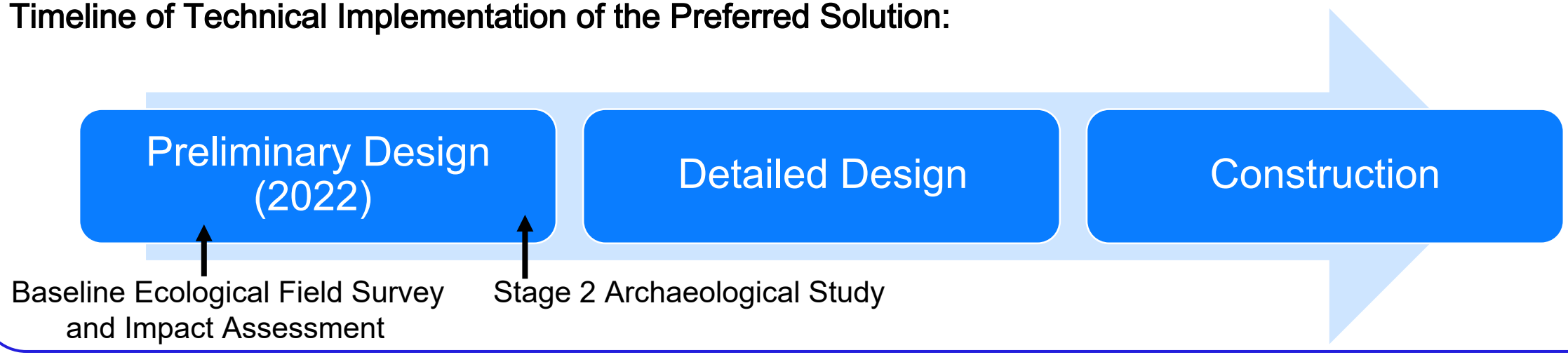
In addition to meeting the Project Objectives, Alternative 4.3 will provide the following benefits:

- Provides the Lake Huron WTP with enhanced primary disinfection capabilities through a multi-barrier disinfection process
- Provides the WTP with more storage to reduce the potential for the number of planned or unplanned service interruptions to LHPWSS customers in case of water production interruptions
- Limits the construction to one area, reducing shutdowns and interference with plant operations when compared to other short-listed alternatives (not including Alternatives 1 or 3)



Implementation of Preferred Solution

Timeline of Technical Implementation of the Preferred Solution:



Next Steps

Thank you for your interest in the Lake Huron WTP Disinfection and Storage Upgrades Class EA. The next steps of the Project include confirming the preferred alternative solution and developing the Project File Report to summarize the Class EA.

Your feedback is an important part of the Class EA process.

- The Project File Report is anticipated to be posted online in October 2022, and will be available for 30 days on the Lake Huron and Elgin Area Primary Water Supply Systems Website: https://huronelginwater.ca/lake-huron-water-treatment-plant-disinfection-storage-upgrades-class-environmental-assessment/
- Any additional comments or questions that you have may be directed to the project team:

Marcy McKillop, P.Eng.

Environmental Services Engineer, Regional Water Supply
Lake Huron and Elgin Area Water Systems
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London, Ontario N5X 4E7
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mmckillop@huronelginwater.ca

Ray Yu, Ph.D., P.Eng.

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Jacobs
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Questions / Discussion

Jacobs

Meeting Minutes

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Subject	**Ecological Consultation Meeting - Ausable Bayfield Conservation Authority (ABCA)**		
Project	Lake Huron WTP Disinfection and Storage EA		
Project No.	CE801200	**File**	CE801200_LHWTPEA_EcologicalMtg_ABCA_Summary_2022.09.20.docx
Prepared by	Cassie Stea	**Phone No.**	N/A
Location	Teams Meeting	**Date/Time**	September 20, 2022/2:00 pm
Participants	ABCA: Meghan Tydd-Hrynyk LHPWSS: Marcy McKillop Jacobs: Ray Yu, Emma Henderson, Cassie Stea		
Apologies	Jacobs: Chris Flesher		

	Discussion	Action By
1	**Introductions, Agenda, and Project Re-Cap**	
	• Introductions of project team members completed. • Meeting agenda and objectives reviewed. • Problem and opportunity statement, as well as preferred alternative solution and proposed location of associated new infrastructure reviewed.	
2	**Ecological Assessment Findings**	
	• A re-cap of key findings from desktop natural features assessment (previously presented at last meeting) presented. • Key findings and recommendations from ecological field survey completed in June 2022 presented.	
3	**Discussion**	
	• ABCA acknowledged the work Jacobs/LHPWSS has done so far for the proposed new infrastructure associated with the preferred alternative is good and has already been considered sufficiently at this stage. ○ Jacobs noted that during pre-design, the alignment of the reservoir drain pipe (which currently slightly encroaches a Natural Feature (FOD4 forest)) will be revisited and optimized to avoid it completely if possible.	

Jacobs

Meeting Minutes

Ecological Consultation Meeting - Ausable Bayfield Conservation Authority (ABCA)
September 20, 2022/2:00 pm

Discussion	Action By

• ABCA re-iterated (from previous consultation meeting) that mitigation methods (i.e. silt fencing, etc.) will be needed to ensure the gully/ravine is not destabilized/disturbed by the construction of the reservoir drain pipe.
  ○ ABCA noted that the method of installation of the pipe (i.e. open cut vs trenchless) impacts the permitting process (in addition to the actual location/alignment of pipe).
  ○ Jacobs clarified that currently trenchless installation is not being considered as there may be an opportunity to optimize the pipe alignment. However, trenchless installation can be considered as a mitigation measure if needed, at the design phase.
• ABCA re-iterated (from previous consultation meeting) that there is no concern with the reservoir transfer pipes encroaching the eastern edge of the regulated area, and that this extension of the regulated area boundary is likely not classified as regulated anymore.
• ABCA noted that that the studies (i.e. SAR survey, Ecological Land Classification) done to date would be most of what is needed to go through the ABCA permitting process.
  ○ A tree replacement plan will be needed as part of the documentation for the permit. ABCA recommends flagging the trees needing to be removed with paint and showing them on a map/figure to include as part of permit application documentation. Also plant additional trees to offset removed trees.
  ▪ The tree replacement ratio rule of thumb followed by ABCA is 2:1, with only native species allowed to be planted in place of removed trees.
  ○ ABCA also advised that they may impose conditions as part of the permit (such as use of silt fence and other mitigation measures) but otherwise do not see any major issues with proponent obtaining a permit at this time.
• ABCA confirmed that an EIS is not requested at this time and would only be triggered if: 1) the presence of SAR is identified (which to date has not been observed) or 2) the installation of the reservoir drain pipe requires clearcutting through the forested area.
• ABCA permit is valid for 1 year, with possibility for an additional 1-year extension (i.e. 2 years max). After this, the proponent would need to re-apply. As such, ABCA suggests not applying too early in the design process.	

Lake Huron
Primary Water Supply System

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Challenging today.
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Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Schedule B Environmental Assessment

Ausable Bayfield Conservation Authority

Ecological Consultation Meeting

September 20, 2022

Introductions

- Name
- Organization

Agenda

1. Introductions
2. Background and Study Area
3. Preferred Alternative Solution
4. Ecological Assessment Findings
   - Desktop Natural Features Assessment
   - Field Natural Features Assessment
5. Discussion

Background and Study Area

- The Lake Huron Primary Water Supply System (LHPWSS) owns the 340 megaliters-per-day Lake Huron Water Treatment Plant (WTP), which supplies treated water to eight municipalities via a (partially twinned) 1.2-meter-diameter primary transmission main to reservoirs and secondary transmission systems that service the member municipalities.
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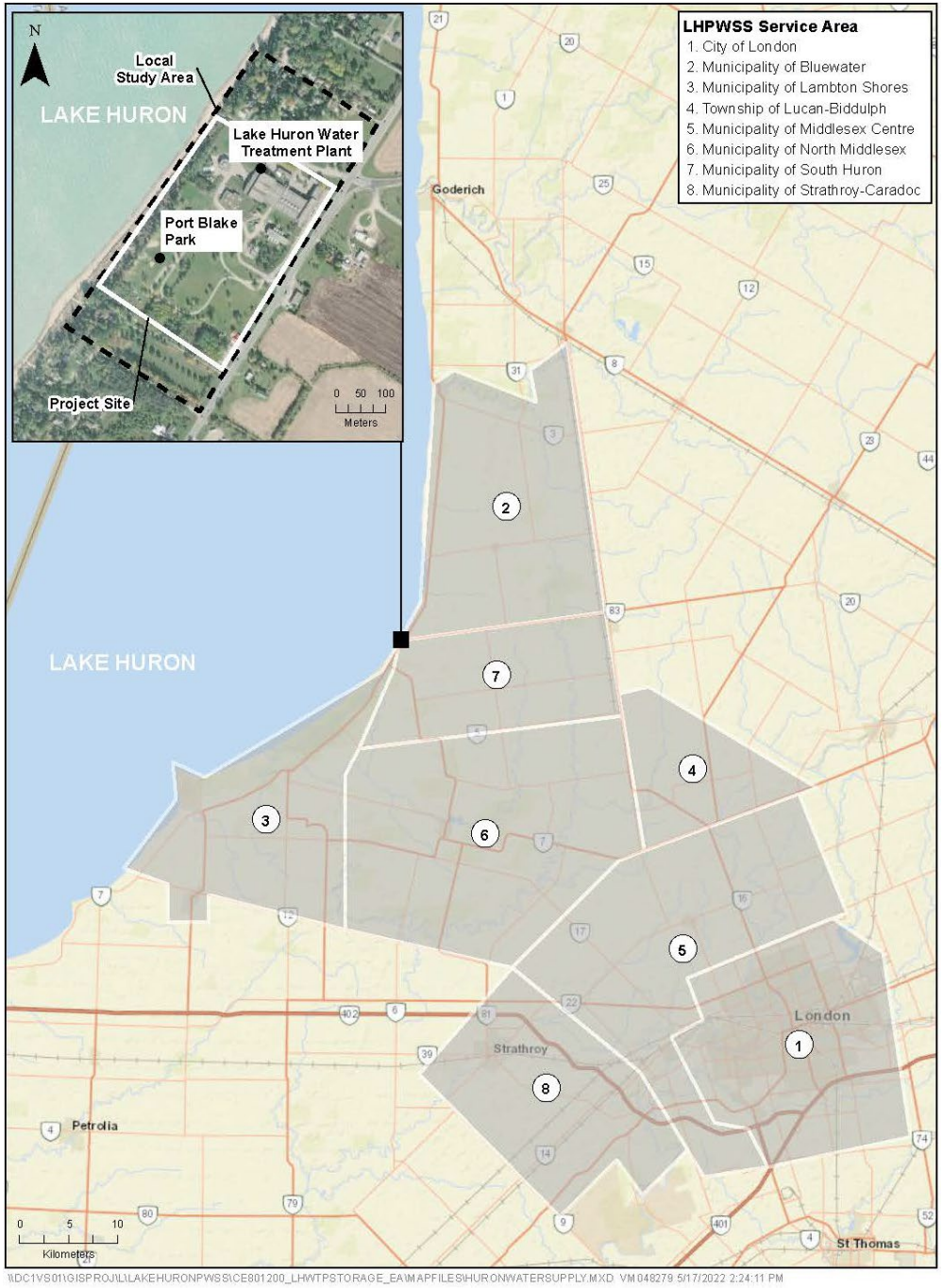
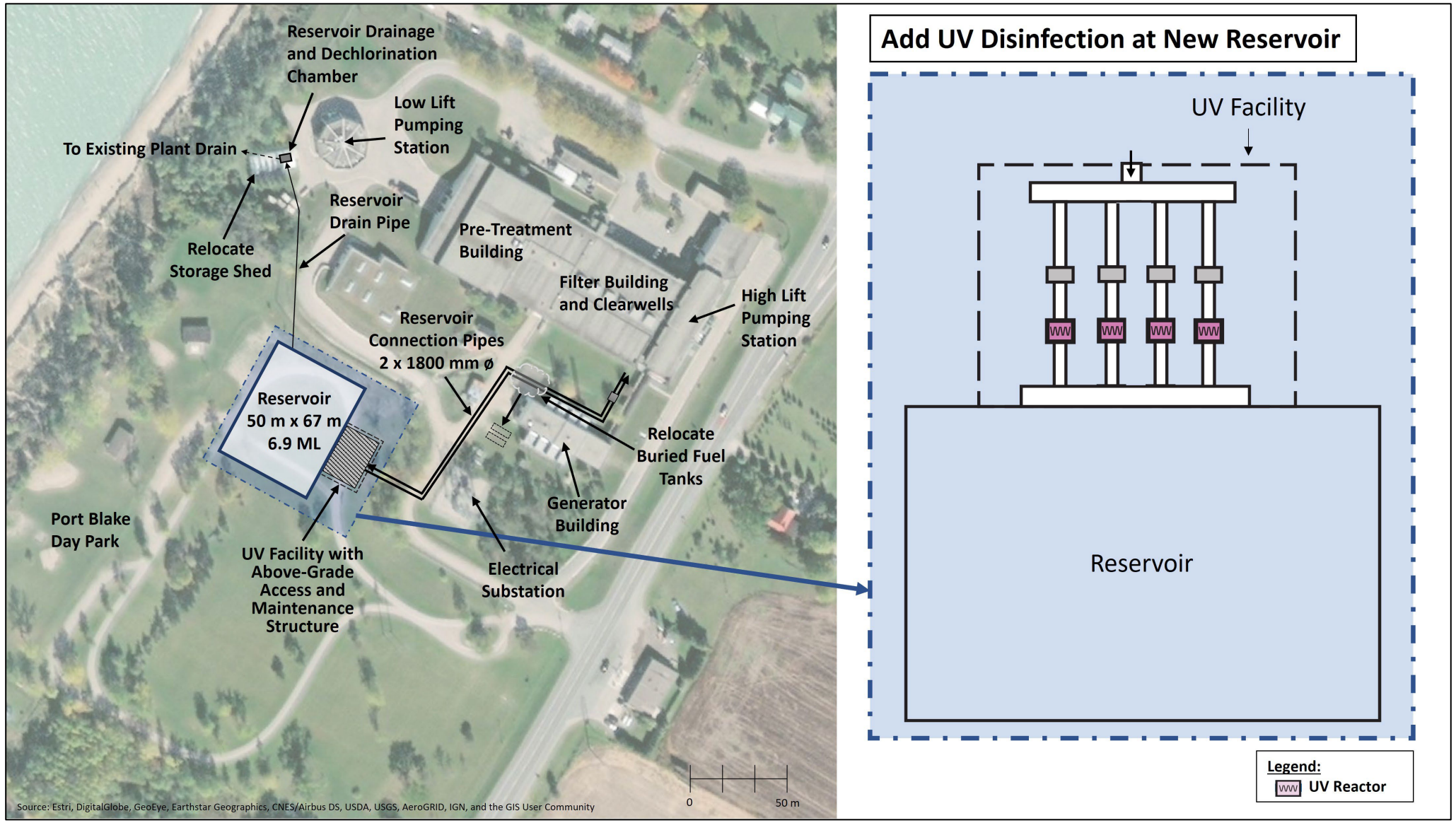
  - LHPWSS Service Area: Area of municipalities serviced by the LHPWSS



Preferred Alternative Solution – UV Disinfection at New Reservoir



Desktop Ecological Assessment (March 2022)

Description

A desktop ecological assessment was completed to identify natural heritage features which may occur within the limits of the proposed project site, to assess potential ecological impacts, and identify required field studies.

Key Findings

- Each proposed alternative slightly encroaches the Ausable Bayfield Conservation Authority (ABCA) Regulated Area at the proposed alignment of the piping to the new reservoir. **(See next slides for more details)**
- A list of Species-at-Risk (SAR) has been identified as potentially occurring within the site. A SAR assessment including field surveys is recommended for the detailed design stage.
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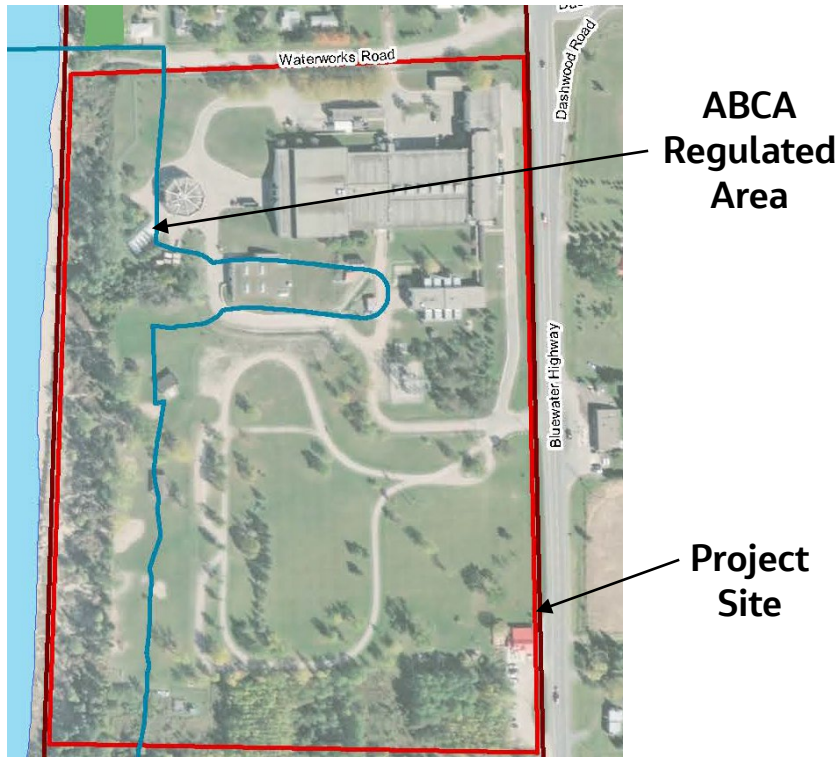
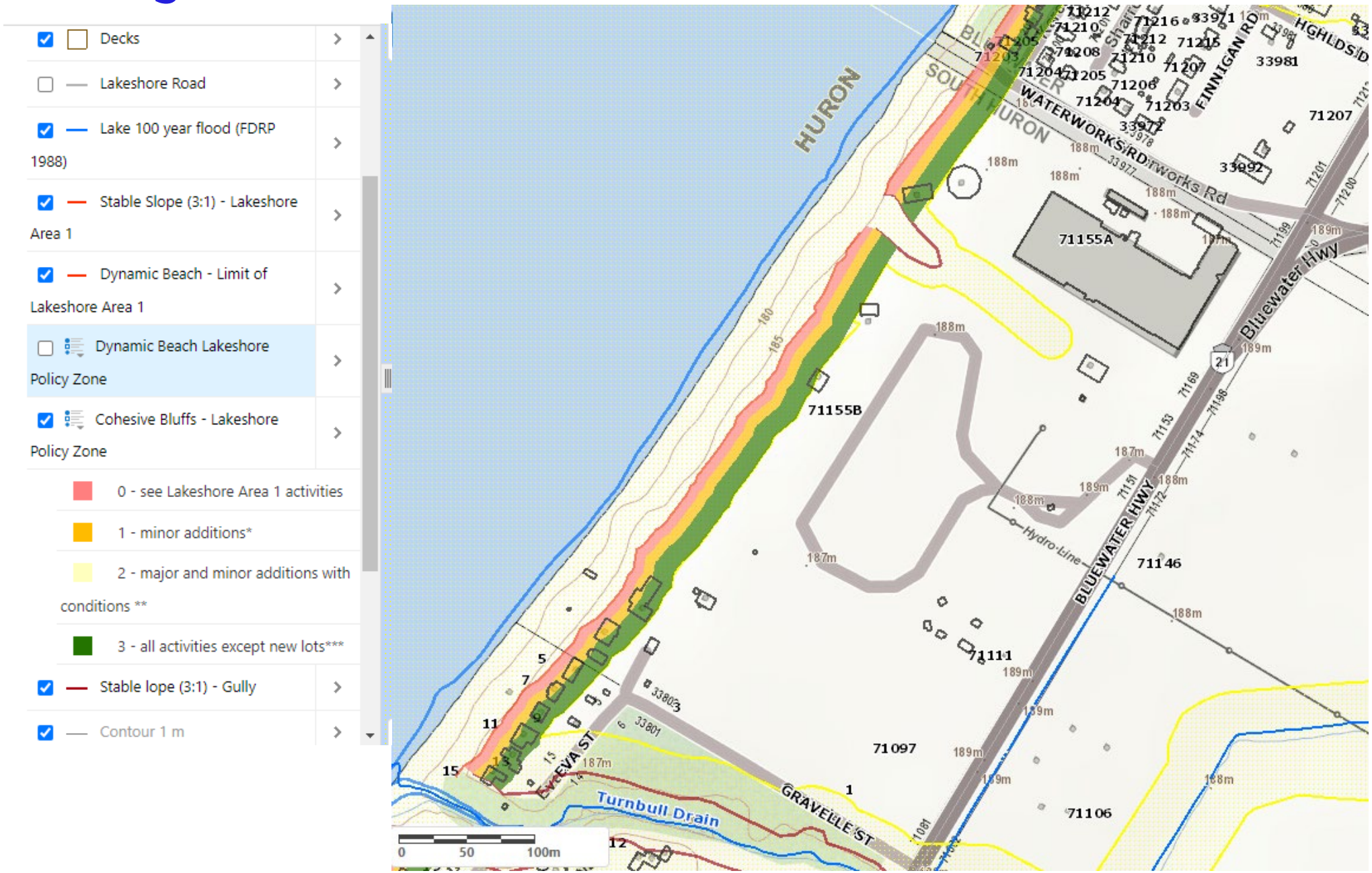


Figure: Desktop Natural Features (Jacobs, 2022)

Next Steps

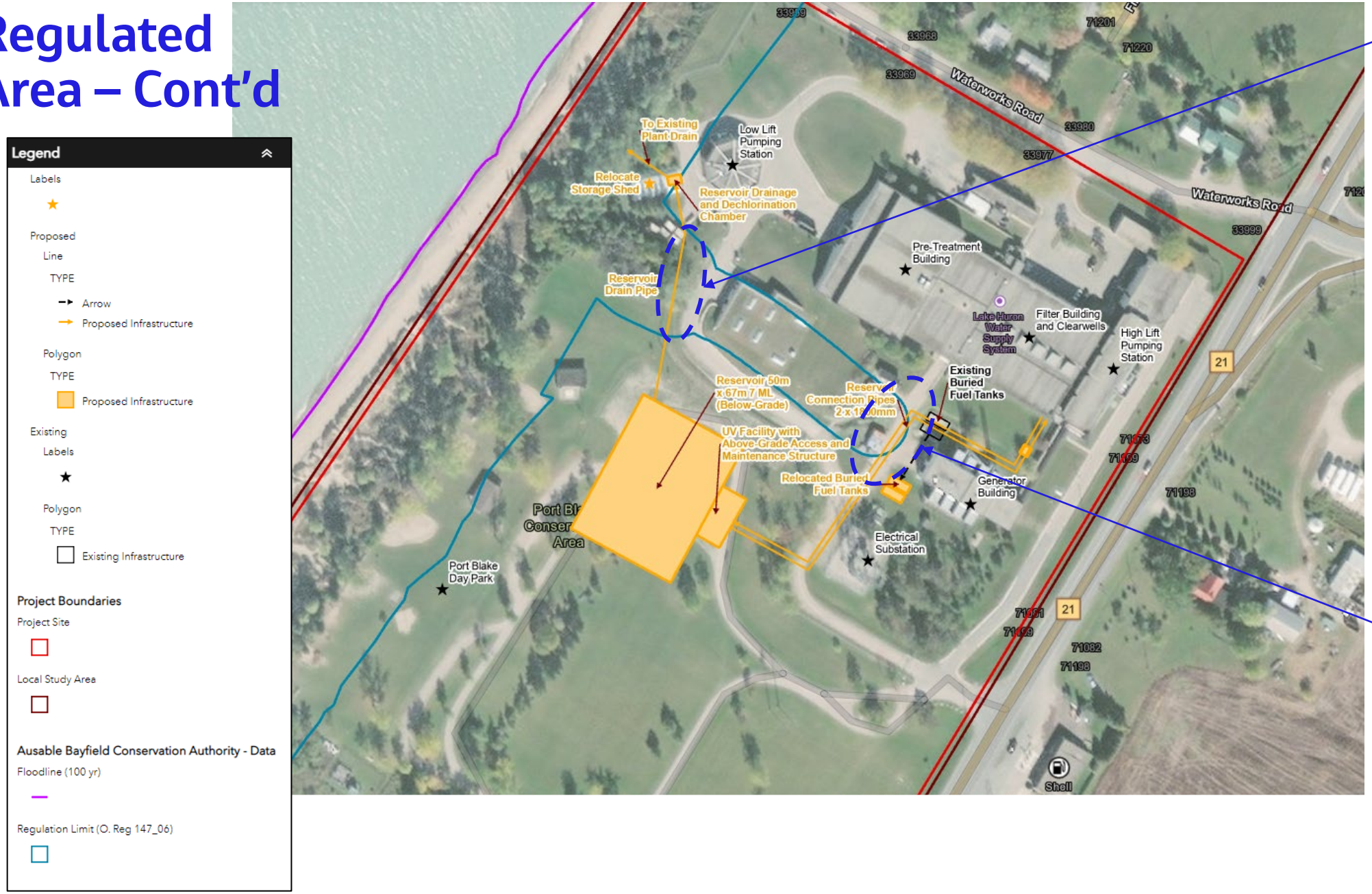
A baseline field survey was recommended for the preliminary design of the preferred alternative solution to confirm the baseline desktop assessment.

ABCA Regulated Area



Source: ABCA Online Mapping Portal

ABCA Regulated Area – Cont'd



Reservoir drain pipe crosses ABCA regulated area

Slight encroachment into ABCA regulated area

Field Ecological Assessment (August 2022)

Description

A baseline natural feature field assessment was completed in June 2022 in support of the preliminary design phase. This assessment was carried out prior to the completion of the EA to capture the appropriate timing windows for wildlife and early growing season for terrestrial vegetation.

Key Findings

- No SAR, rare and/or sensitive species were overhead or observed. At the time of the field assessment, impacts to SAR and/or SAR habitat is not predicted with the implementation of environmental mitigation.
- The preferred alternative occurs within cultural plantations, Industrial or Parkland features, with the exception of minor encroachment of the FOD4 forested dripline (due to the proposed alignment of the reservoir drain pipe). As the FOD4 community is considered a Natural Feature, which are considered sensitive and are afforded protection from various environmental regulators, it is recommended that the alignment is optimized to avoid impacts to the FOD4 forested area.
- Other than the FOD4 forested area, the proposed alternative does not occur within other Natural Features.
- If the reservoir drain pipe is shifted to avoid the sensitive area and with the implementation of mitigation methods, impacts to Natural Features is not predicted.

See Next Slide for Enlarged Figure

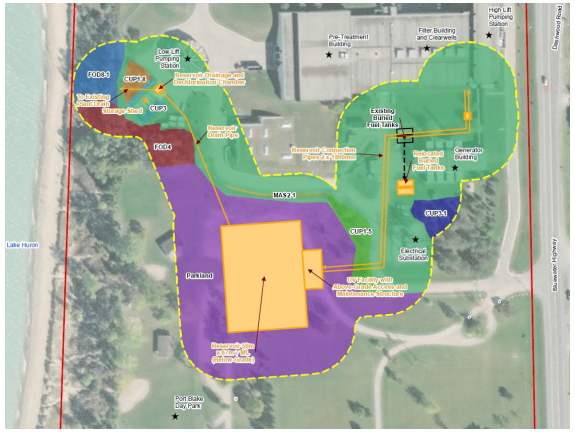
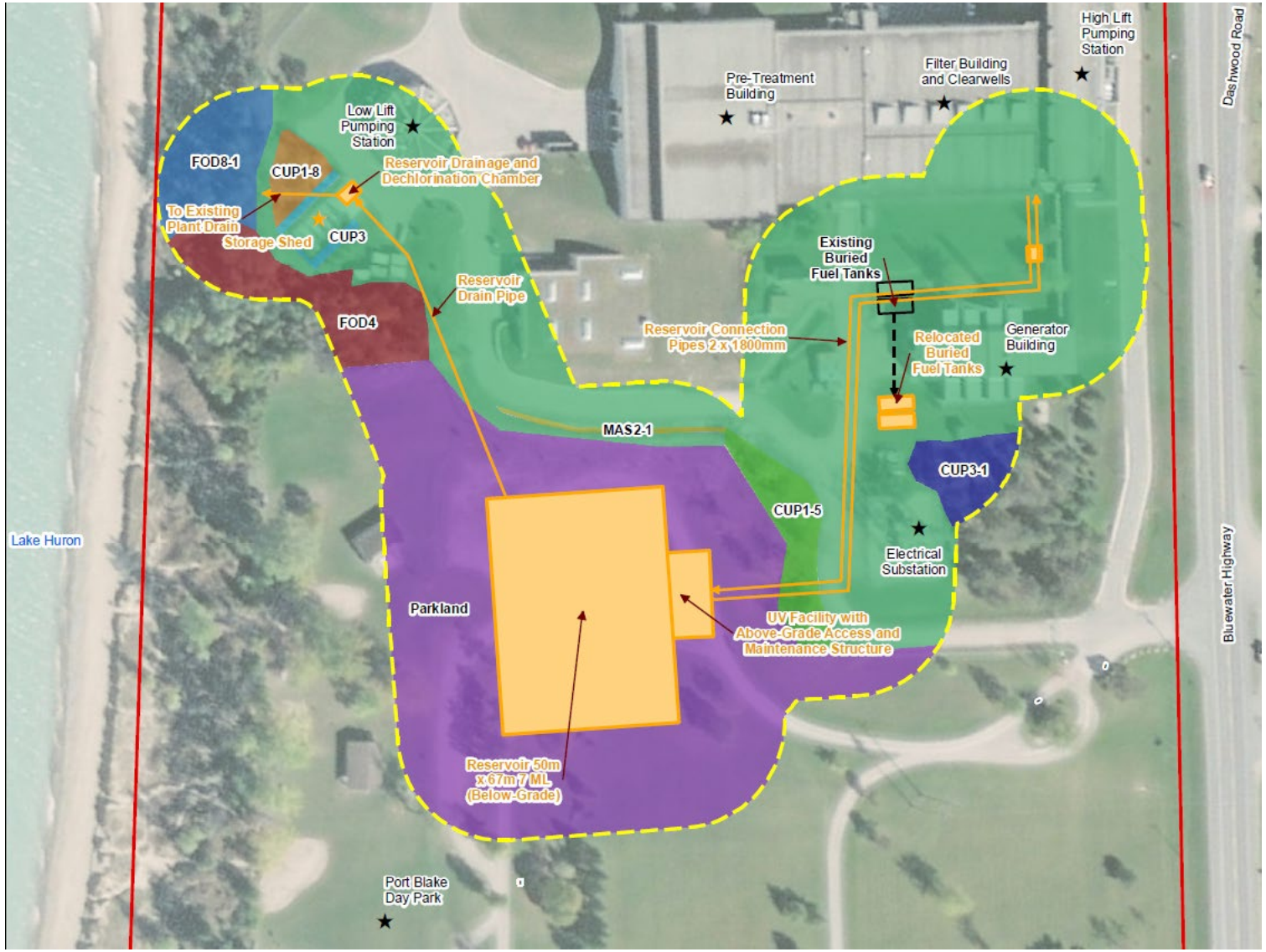


Figure: Natural Features Field Assessment (Jacobs, 2022)

Recommendations and Next Steps

- Completing an updated SAR screening (including MECP consultation) and field survey is recommended for the detailed design stage.
- Optimize alignment of preferred solution during design to avoid impacts to Natural Features (i.e. the FOD4 forested area) and ABCA regulated area where possible.
- Consultation with ABCA is to be completed to confirm the requirement and scope for additional studies (e.g. EIS) to support a permit application at the detailed design stage.
- It is recommended for a qualified biologist to review and/or add necessary environmental mitigation at the detailed design stage.

Field Ecological Assessment (August 2022) – Ecological Land Classification

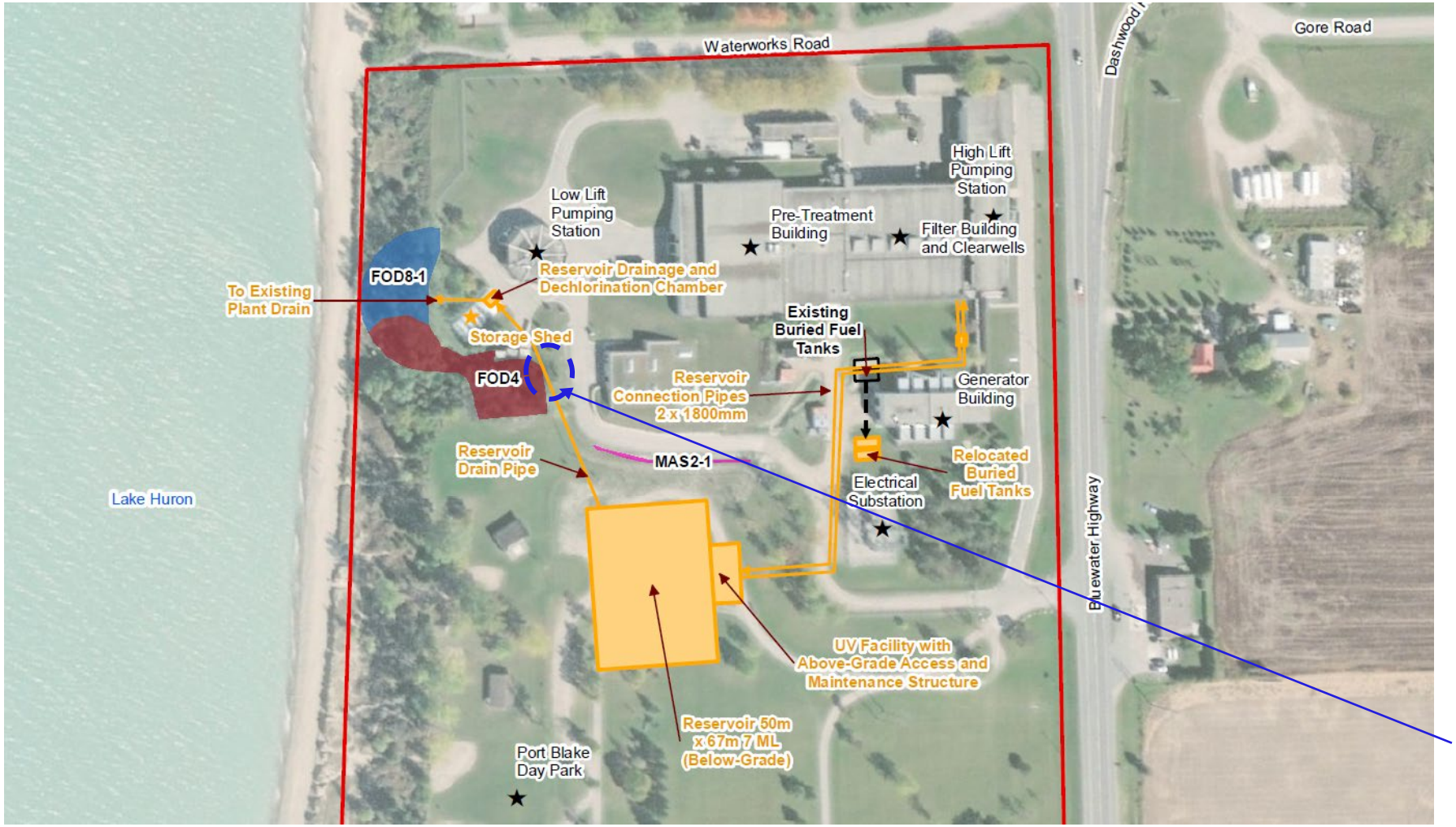


Proposed Works
Existing Infrastructure
30 m Natural Environment Buffer
Project Site

Ecological Land Classification (ELC)

- CUP1-5, Silver Maple Deciduous Plantation Type
- CUP1-8, Red Oak Deciduous Plantation Type
- CUP3, Coniferous Plantation
- CUP3-1, Red Pine Coniferous Plantation Type
- FOD4, Dry-Fresh Deciduous Forest Ecosite
- FOD8-1, Fresh-Moist Poplar Deciduous Forest Type
- Industrial, Industrial
- MAS2-1, Cattail Mineral Shallow Marsh Type
- Parkland, Parkland

Field Ecological Assessment (August 2022) – Natural Features



Proposed Works
Watercourse
Existing Infrastructure
Project Site

Ecological Land Classification (ELC)

- FOD4, Dry-Fresh Deciduous Forest Ecosite
- FOD8-1, Fresh-Moist Poplar Deciduous Forest Type
- MAS2-1, Cattail Mineral Shallow Marsh Type

Minor encroachment of the FOD4 forested dripline due to the proposed alignment of the reservoir drain pipe

Discussion

Discussion

Based on the findings from the Natural Features field assessment:

- Will ABCA request an Environmental Impact Study (EIS) or scoped EIS? Or will no EIS be requested?
- If an EIS will be requested, what will be the requirements (scope) of the EIS?

Comment and Email Tracker

Comment Tracking Form

Project Name: Lake Huron Primary Water Supply System Disinfection and Storage Upgrades Class EA

Project Manager: Ray Yu (Jacobs) [Previously Lee Anne Jones], Marcy McKillop (RWS) [Previously Brittany Bryans]

Stakeholder Comments												Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Confidential	Confidential	Public	Confidential	Confidential	Confidential	2-Feb-21	Telephone	No transcript as communication was via telephone.	No	-	Yes	2-Feb-21	Lee Anne Jones	Good afternoon, Thank you for calling this afternoon and providing your feedback on the Notice for the above-noted project. I can clarify that the project will be investigating water storage and treatment upgrades within the property occupied by the Lake Huron WTP. The intent of the Project Footprint shown in Figure 1 is to identify the extent of the neighbourhood that will be taken into consideration in evaluating impacts of construction activities that may be identified for the plant site. We look forward to engaging with you and the community as the project progresses over the coming months. In the meantime, if you have any further questions or comments, I can be reached at 416 561 1396.
Confidential	Confidential	Public	Confidential	Confidential	Confidential	2-Feb-21	Email	Thanks Lee Anne for your email clarifying the Notice letter I received. I have forwarded your email to a fellow Director of our Cottage Association who has agreed to pass it on to all of our members. That should help relieve any anxiety that might have been prompted by the Notice. Take care,	No	-	No			

Stakeholder Comments											Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Karina	Černiavskaja	Organization	Ministry of Natural Resources and Forestry	MNRF.AylPlanners@ontario.ca	-	8-Feb-21	Email	The Ministry of Natural Resources and Forestry (MNRF) received the attached notice for the proposed Lake Huron Water Treatment Plant Disinfection and Storage Upgrades project. Thank you for circulating this information to our office, however, please note that we have not completed a screening of natural heritage or other resource values for the project at this time. Please also note that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals. This response provides information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, and engaging with the MNRF for advice as needed. [see email for full details] After reviewing the information provided, if you have not identified any of MNRF's interests stated above, there is no need to circulate any subsequent notices to our office.	Yes	1. image001.wmz 2. CE801200_LakeHuron_NoticeCommencement_Final.pdf 3. NHGuide_MNRF_2019-04-01	No			
N/A	N/A	Organization	Hydro One	SecondaryLandUse@HydroOne.com	-	17-Feb-21	Email	Please see the attached for Hydro One's Response.	Yes	20210217-NoticeOfCommence-Lake Huron Water Treatment Plant Disinfection and Storage Upgrades.pdf	No			
Don	Giberson	Municipality	Municipality of South Huron	dgiberson@southhuron.ca	519-235-0310 extension 226	23-Feb-21	Email	Thank you for providing the Notice of Study Commencement for this project. The Municipality of South Huron has no comments at this time, but request that you keep us informed as we have a specific interest in Port Blake Park. Please direct any future correspondence on this file to my attention.	No	-	No			
Joseph	Harvey	Organization	Ministry of Heritage, Sport, Tourism and Culture	Joseph.Harvey@ontario.ca	613-242-3743	25-Feb-21	Email	Lee Anne Jones, Please find attached MHSTCI's comments on the above referenced project notice. Do not hesitate to contact me with any questions or concerns. Regards, Joseph Harvey	Yes	2021-02-25_LakeHuronWaterTreatment-MHSTCI_Ltr.pdf	No			

Stakeholder Comments											Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Barb	Slattery	Organization	Ministry of Environment, Conservation and Parks; Environmental Assessment Branch	barbara.slattery@ontario.ca	365-366-8185	26-Feb-21	Email	With best regards, Barb Slattery, EA/Planning Coordinator	Yes	1. Lake Huron Water Treatment Plant Disinfection and Storage Acknowledgement letter.docx 2. Notice of Completion Wording 08-28.docx 3. MOECC Guide - Climate Change in EA - Rev 0 - Oct 2017.pdf 4. Client Guide to Preliminary Screening-May 2019.pdf 5. A Proponent's Introduction to the Delegated Aspects of Consultation with....pdf	No			
Barb	Slattery	Organization	Ministry of Environment, Conservation and Parks; Environmental Assessment Branch	barbara.slattery@ontario.ca	365-366-8185	19-Mar-21	Email	Good afternoon, It has come to my attention that I did not provide you with a complete list of the First Nations communities in my acknowledgement letter of February 26th. Attached please find the corrected and complete list. I apologize for the inconvenience that my error may have caused. Thank you Barb Slattery, EA/Planning Coordinator	Yes	Lake Huron Water Treatment Plant Disinfection and Storage Revised Acknowledgement letter.docx	No			

Stakeholder Comments											Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Matey	-	Organization	Hydro One	Department.SecondaryLandUse@hydroone.com	-	21-Jan-22	Email	Good morning Cassie and team, Thank you for your email. I will review your proposal with our team and will advise whether it can be entertained. One of the challenges is that we have to maintain supply to the water treatment plant while modifications are ongoing. Another consideration is that if this option is considered, all costs will be charged to the proponent. Thanks and have a good weekend Matey	No	-	Yes	5-Apr-22	Cassie Stea	Hello Matey, I am following up on this email to inform you and your team at Hydro One that we are no longer proposing to site the new reservoir in the previously mentioned location (see email below on January 18, 2022). The reservoir and associated piping is now proposed for a location closer to the west side of property, as indicated by the red circle in the image below. As such, the potential need/conflict to relocate the two above-ground Hydro One poles (and associated wires) is no longer anticipated. Please let us know if you have any further questions or comments regarding this. Otherwise, ahead of the EA completion, please advise if there are any specific mitigation measures that Hydro One would like to be documented regarding the protection of the two Hydro One poles during construction or design. It is noted that the proposed reservoir piping alignment (which currently appears to slightly impinge on the approximate HONI Asset area [red shaded] provided in a letter from Hydro One on February 17, 2021) will be confirmed and refined during the preliminary design process and avoidance with the Hydro One ROW will be implemented to the extent possible.
Matey	-	Organization	Hydro One	Department.SecondaryLandUse@hydroone.com	-	6-Apr-22	Email	Hi Cassie Thank you for the note and the update. We are happy to see that the location of the reservoir has been moved and there will be no impact to our line. The sketch below doesn't show the distance between the Hydro One structure and the reservoir facility – I don't want to assume it – could you please share how far it is set? Thanks Matey	No	-	Yes	11-Apr-22	Cassie Stea	Hello Matey, As we are currently still in the EA process, I will note that the exact distance from the proposed new reservoir and associated structures may change slightly during the preliminary design of the preferred alternative. But based on the information we currently have now, the new reservoir/UV facility itself will have an offset of approximately 25-30 metres from the electrical substation, and an offset of approximately 60 metres or so from the two Hydro One poles. Kind regards, Cassie

Stakeholder Comments											Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Matey	-	Organization	Hydro One	Department.SecondaryLandUse@hydroone.com	-	13-Apr-22	Email	Hi Cassie Thank you for the clarification. This should be more than enough. Matey	No	-	No			

Stakeholder Comments											Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Don	Giberson	Municipality	Municipality of South Huron	dgiberson@southhuron.ca	519 235 0310 extension 226	14-Jun-22	Email	Cassie, We have the following questions/comments and they are sorted by category: **Operational impacts on South Huron water distribution system** ▪ How does this project affect the regulatory CT time and chlorine residual at the existing connections to the distribution system? ▪ Where does the reservoir discharge?…into the head works of the water treatment plant or to the transmission mains outside the plant? ▪ How is it pumped into the water system…or does it operate by gravity? ▪ Can the reservoir discharge directly/indirectly into the 350mm watermain on Highway #21? ▪ Is the emergency storage available for all water system users; and how is it allocated. **Impact on Port Blake Park** ▪ Is the proposed location compatible with the continued use as a day park. ▪ Does the proposed location impact the existing washroom or associated waterservice and septic system/weeping bed. ▪ Is the proposed reservoir above/below grade, or partially below grade? ▪ Can the top of the reservoir be used for any recreational purposes? ▪ Will the proposed reservoir have a drain; and where is the drain proposed to be located? ▪ Is a de-chlorination facility proposed on the reservoir drain? ▪ Will a 1.83m high security fence be installed around the reservoir site. ▪ Will the proposed reservoir necessitate the separation and relocation of the existing park entrance off Highway #21. **Other** ▪ How will the installation of the reservoir impact the proposed MTO intersection improvement (roundabout) at Highway #21 and County Road #83.	No	-	Yes	19-Jul-22	Cassie Stea	Hello Don, Thank you for providing your questions/comments. Apologies for the delay in getting back to you – please see responses in blue text below. Kind regards, Cassie

Stakeholder Comments											Project Team Response		
First Name	Surname	Stakeholder Category	Organization	Email	Telephone	Date Received	Form of Communication	Comment	Attachments Included?	Attachment File Name(s)	Response Required?	Date	Author	Response
Don	Giberson	Municipality	Municipality of South Huron	dgiberson@southhuron.ca	519 235 0310 extension 226	19-Jul-22	Email	Cassie, Thank you for responding to our questions/concerns. Regarding the existing park washroom and associated septic system……we do not have any drawings, as this facility was originally constructed by the Ausable Bayfield Conservation Authority and later transferred to the Municipality.	No	-	No			

Stea, Cassie

From: Slattery, Barbara (MECP) <barbara.slattery@ontario.ca>
Sent: Friday, February 26, 2021 2:33 PM
To: Brittany Bryans; Jones, Lee Anne/TOR
Cc: Badali, Mark (MECP)
Subject: Lake Huron Water Treatment Plant Disinfection and Storage Schedule B EA
Attachments: Lake Huron Water Treatment Plant Disinfection and Storage Acknowledgement letter.docx; Notice of Completion Wording 08-28.docx; MOECC Guide - Climate Change in EA - Rev 0 - Oct 2017.pdf; Client Guide to Preliminary Screening-May 2019.pdf; A Proponent's Introduction to the Delegated Aspects of Consultation with....pdf

Follow Up Flag: Follow up
Flag Status: Completed

With best regards,

Barb Slattery, EA/Planning Coordinator
Ministry of the Environment, Conservation and Parks
Project Review Unit, Environmental Assessment Branch
(365) 366-8185

We want to hear from you. How was my service? You can provide feedback at 1-888-745-8888.

SAMPLE NOTICE OF COMPLETION TEMPLATE – FOR REFERENCE

Interested persons may provide written comments to our project team by DATE. All comments and concerns should be sent directly to PROPONENT CONTACT at the COMPANY/MUNICIPALITY.

In addition, a request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e. requiring an individual/comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name for the ministry.

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request.

The request should be sent in writing or by email to:

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Requests should also be sent to the PROPONENT by mail or by e-mail.

This Notice issued DATE.

Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

Ontario

Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

365-366-8185
Via email only

February 26, 2021

Brittany Bryans
Lake Huron And Elgin Water Systems

Lee Anne Jones
Jacobs

Re: Response to Notice of Commencement
Lake Huron Water Treatment Plant and Disinfection Class EA

This letter is in response to the Notice of Commencement for the Lake Huron Water Treatment Plan and Disinfection Class EA recently issued by Lake Huron and Elgin Water Systems. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Schedule "B" process under the MEA Class EA will be to continue with the direction provided by the recently completed LHPWSS Master Water Plan Update (2020) which identified the need to improve disinfection and increase water storage to meet water demands to the year 2038. Accordingly, the City of London's Regional Water Supply Division, on behalf of the LHPWSS, has initiated a Schedule B Municipal Class Environmental Assessment to confirm and refine the preferred alternative to enhance disinfection at the water treatment plant and meet the water storage requirements, while providing the plant with flexibility to implement energy management and other operational strategies.

As part of the EA, it is expected that impacts to source protection, climate change adaptation and mitigation and impacts to species at risk and their habitats will all be considered along with a discussion of all permits and approvals that may be required to implement the identified improvements. Resources to assist in meeting these expectations are included with this letter.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that it's duty to consult has been fulfilled where such a duty is triggered. Although the duty to consult with Aboriginal Peoples is a duty of the Crown, the Crown may

delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

Your proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to your proposed project**, the MECP is delegating the procedural aspects of rights-based consultation to you through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information you have provided to date and the Crown`s preliminary assessment you are required to consult with the following communities who have been identified as potentially affected by your proposed project:

- Aamjiwnaang
- Bkejwanong (Walpole Island)
- Chippewas of Kettle and Stony Point
- Chippewas of the Thames First Nation
- Oneida Nation of the Thames

Steps that you may need to take in relation to Aboriginal consultation for your proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process" which can be found at the following link: https://www.ontario.ca/document/consultation-ontarios-environmental-assessment-process Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments

You must contact the Director of Environmental Approvals and Permissions Branch under the following circumstances after discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right
- Consultation has reached an impasse
- A Part II Order request or elevation request is expected

The Director of the Environmental Assessment and Permissions Branch can be notified either by email with the subject line "Potential Duty to Consult" by mail, email or fax at the addresses provided below:

Email:	enviropermissions@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Approvals and Permissions Branch 135 St. Clair Avenue West, 1st Floor Toronto, ON, M4V 1P5

The MECP will then assess the extent of any Crown duty to consult and will consider whether additional steps should be taken, including what role you will be asked to play in them.

Royal Assent was given on July 22nd to Bill 197 which made changes to the provincial environmental assessment process. Proponents are still required to submit a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the Proponent.

Now however, the Notice of Completion is to advise that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding **potential adverse impacts to constitutionally protected Aboriginal and treaty rights,** Part II Order requests on those matters should be addressed in writing to:

Minister Jeff Yurek
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
ClassEAnotices@ontario.ca

Please note that you cannot proceed with any identified improvements until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, you may not proceed after this time if:

- a Part II Order request has been submitted to the ministry regarding **potential adverse impacts to constitutionally protected Aboriginal and treaty rights**, or
- the Director has issued a Notice of Proposed order regarding some aspect of the project.

If other concerns with the Project File and/or EA process are made known to the minister, or determined following a review of the Project File, the Minister reserves the right to issue an order on his or her own initiative within a specified time period. Within the 30 days following the Notice of Completion, the Director would first issue a Notice of Proposed Order to the City if the Minister is considering an order for the project. At this time, the Director may request that additional information be submitted. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

If you have any questions or require clarification on any of the points provided herein, please contact me at 365-366-8185 or via email at Barbara.slattery@ontario.ca

I also take this opportunity to advise you that effective as of March 31st, I will be retired from the ministry so all further correspondence on this EA should be directed to Mark Badali, also copied on this email.

With best regards,

EA/Planning Coordinator
Encl.

Guide

Consideration of Climate Change in Environmental Assessment in Ontario

Legislative Authority:

Environmental Assessment Act, RSO 1990, chapter E.18

ontario.ca/climatechange

Climate Change Action Plan

Ontario

Readers should check with the Client Services and Permissions Branch of the Ministry of the Environment and Climate Change to find out if there have been any revisions:

Ministry of the Environment and Climate Change
Client Services and Permissions Branch
135 St. Clair Avenue West
Toronto, Ontario M4V 1L5 Canada

Telephone: 416-314-8001
Toll Free: 1-800-461-6290
Fax: 416-314-8452
E-mail: MOECCpermissions@ontario.ca
Website: www.ontario.ca/environmentalassessments

This Guide is published as a living document that will be reviewed and revised as necessary. Readers are advised to consult the up-to-date version of Guide posted on Ontario.ca for any revisions. Any comments and suggestions for clarification are welcomed and should be sent to the Director of the Client Services and Permissions Branch at the address listed above. This Guide does not constitute legal advice. A lawyer should be consulted on questions about the application or interpretation of the laws of Ontario as they relate to matters covered by this Guide.

Under clause 31(1)(e) of the *Environmental Assessment Act*, the Minister of the Environment and Climate Change may gather, publish and disseminate information with respect to the environment or environmental assessments for the purposes of the administration and enforcement of the *Environmental Assessment Act* and its regulations. Therefore, the ministry expects that this Guide will be considered by proponents.

Ce document est aussi disponible en français.

PIBS is 9952E

Revision 0 October 2017

Table of Contents

1. Introduction

Environmental assessment is a planning and decision-making process used to promote environmentally responsible decision-making. In Ontario, this process is governed by the *Environmental Assessment Act.* The purpose of this Act is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment.

The *Environmental Assessment Act* sets out a process that requires proponents to consider impacts on the environment which is broadly defined to include the natural, social, economic, cultural and built environments. The Act also ensures that interested persons have an opportunity to *comment* on undertakings that may affect them.

The Ministry of the Environment and Climate Change (ministry) has developed Codes of Practice (Codes) to provide guidance on key aspects of the environmental assessment process. The Codes include:

- Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario;
- Preparing and Reviewing Environmental Assessments in Ontario;
- Consultation in Ontario's Environmental Assessment Process;
- Using Mediation in Ontario's Environmental Assessment Process; and
- Preparing, Reviewing and Using Class Environmental Assessments in Ontario.

Together, the Codes of Practice:

- Set out the ministry's expectations for the content of a variety of environmental assessment documents and provide guidance on the roles and responsibilities of all participants in an environmental assessment process;
- Provide clear direction to proponents, environmental assessment practitioners, and other stakeholders involved in the environmental assessment process on terms of reference, environmental assessments, consultation, and mediation; and,
- Promote the transparency of government involvement and the decision-making process when projects must meet the requirements of provincial environmental assessment legislation.

This Guide is a companion to the Codes of Practice and sets out the ministry's expectations for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes (see also Table 1).

This Guide also supports the province's Climate Change Action Plan by outlining how environmental assessment processes and studies can incorporate climate change impacts considerations.

This Guide covers the consideration of:

- the impacts of a project on climate change;
- the impacts of climate change on a project; and
- various means of identifying and minimizing negative impacts during project implementation.

A climate change consideration during the environmental assessment process results in an undertaking or project:

- that has taken into account alternative methods to reduce its greenhouse gas emissions and negative impacts on carbon sinks; and
- that has been planned in a manner that takes into account future changes in climate and the impacts a changing climate could have on the project.

Environmental Assessment process	Refer to this Guide	Climate Change Mitigation Consideration	Climate Change Adaptation Consideration
Environmental Assessment (i.e., "individual")	Yes	Yes	Yes
Class Environmental Assessment projects	Consult Guide if approved class environmental assessment has no climate consideration method or method does not meet ministry expectations	Consideration scaled to the significance of the project's potential environmental effects. Screening criteria, class environmental assessment methodology may support consideration.	Consideration scaled to the significance of the project's potential environmental effects Screening criteria, class environmental assessment methodology may support consideration.
Renewal / Major Amendment of Approved Class Environmental Assessments	Yes	Mitigation methods in Guide to be considered for use in approved class environmental assessment processes	Adaptation methods in Guide to be considered for use in approved class environmental assessment processes
Environmental Assessment projects under Waste, Transit, Electricity regulations	Yes	Consideration scaled to the significance of the project's potential environmental effects	Consideration scaled to the significance of the project's potential environmental effects

Table 1: Use of Guide in relation to environmental assessment processes

Planning and Climate Change Impacts in Ontario

Climate Change in Provincial Policy Statement

The directions and methods outlined in this guidance will complement and support the climate-focused policies of the 2014 Provincial Policy Statement. The 2014 Provincial Policy Statement issued under the *Planning Act* advises planning authorities of the need to consider development that reduces greenhouse gas emissions and reduces the potential risk of climate change related events like droughts or intense precipitation. A partial listing of applicable policies in the 2014 Provincial Policy Statement include:

- Policies 1.6.2, 1.6.6.7 - Encourage green infrastructure (e.g., permeable surfaces) and strengthen stormwater management requirements
- Policy 1.8 - Require the consideration of energy conservation and efficiency, reduced greenhouse gas emissions and climate change adaptation (e.g., tree cover for shade and for carbon sequestration)
- Policy 3.1.3 - Requires consideration of the potential impacts of climate change that may increase the risk associated with natural hazards (e.g., flooding due to severe weather)

For a complete description of the statements above, please refer to the 2014 Provincial Policy Statement issued under section 3 of the Planning Act.

Using This Guide

A proponent should consult this Guide when preparing a terms of reference for an environmental assessment, when preparing an environmental assessment study, or when planning projects carried out as part of a class environmental assessment or other streamlined environmental assessment process.

Proponents should seek to determine as early as possible in the environmental assessment process whether there are likely to be relevant climate change considerations associated with the project that should be addressed in more detail. The ministry expects proponents to take into account:

- the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
- resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation);

during the assessment of alternatives to the undertaking and alternative methods of implementing the undertaking stages of the environmental assessment. In concluding an environmental assessment study, the proponent

should also include a discrete statement in their study report detailing how climate change was considered in the environmental assessment.

In some cases, particularly with projects being planned under streamlined environmental assessment processes, a proponent might conclude that an undertaking is sufficiently minor in scale and short in lifespan that a climate change consideration cannot be practically carried out or is not applicable. In this instance, the proponent should provide a rationale in the environmental assessment documentation as to why the consideration of climate change could not be completed or is not applicable.

Ontario environmental assessment processes where proponents are expected to give consideration to climate change are briefly described below.

Environmental Assessments

An environmental assessment (i.e., "individual" environmental assessment) is a term that describes both a study that is conducted to assess the potential environmental effects of a proposed undertaking, and the resulting report that includes documentation of that analysis. The environmental assessment report documents the results of the study and includes both positive and negative potential environmental effects. Key components of an environmental assessment process and of the resulting report include consultation with government agencies, Indigenous communities and the public; consideration and evaluation of alternatives; and the management of potential environmental effects. Conducting an environmental assessment promotes good environmental planning before decisions are made about proceeding with a proposal.

The first step in the application for approval to proceed with an undertaking under the *Environmental Assessment Act* is the approval of a terms of reference by the Minister of the Environment and Climate Change. The terms of reference creates a framework for the environmental assessment and acts as a roadmap for reviewers and interested parties. Once approved, the proponent relies on the terms of reference to guide the preparation of the environmental assessment. Therefore, it is critical that the terms of reference consider climate change, particularly in identifying environmental components, identifying alternatives, and describing the existing environment and potential effects of the undertaking.

The proponent can start preparing the environmental assessment when the terms of reference is approved. The planning process for an environmental assessment must be documented in its entirety in the environmental assessment report. The environmental assessment must provide a plan that sets out how and when all commitments, including impact management measures, made in the document will be fulfilled and how the proponent will report to the ministry about compliance. The environmental assessment must be submitted by the proponent to the ministry for review and approval. For greater detail on the

environmental assessment process, see the ministry's *Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario*.

Streamlined Environmental Assessments

Streamlined self-assessment processes are available for certain classes of projects that are carried out routinely and have predictable environmental effects that can be readily managed. Streamlined environmental assessment processes in Ontario include those established by regulation (for electricity projects, transit projects and waste management projects) and those approved as part of a class environmental assessment.

A class environmental assessment is a planning document prepared by a proponent that must be approved under the *Environmental Assessment Act.* Once approved, the class environmental assessment serves as the process guiding document and can therefore be used to plan projects subject to the class, as defined in the document.

These streamlined processes provide an efficient, timely and environmentally responsible approach to the planning of these projects. As with environmental assessments, public notification/consultation with interested persons, government agencies and Indigenous peoples and communities is integral to these processes.

Some class environmental assessment processes may already include climate change considerations in the process of determining the potential environmental effects for any given project.

Content of This Guide

The content of this Guide is generic in nature and not dedicated to any specific type of project. The Guide provides ideas on how to incorporate climate change considerations into the environmental assessment process and documentation. It also provides examples of climate change mitigation and adaptation efforts. Case studies are provided with detailed examples of how climate change can be considered in project planning. Specifically, the Guide provides environmental assessment proponents and practitioners with:

- Several approaches to considering climate change in project planning;
- A concise and select overview of tools and methodologies from the field of climate change adaptation and project resiliency research; and
- Examples of how climate change impacts have been incorporated into project planning and how climate change vulnerability has been assessed for existing built and ecological components of the environment.

This Guide does not limit a proponent's choice of methodologies, approaches and modelling information. This Guide will be updated and amended when appropriate to reflect future policy changes or new approaches for consideration of climate change in environmental assessment.

2. Climate Change and Climate Impacts

Climate Change

The potential contribution of carbon emissions from human activities to the atmosphere's naturally-occurring greenhouse effect was first identified in the late nineteenth century. Systematic, annual monitoring of the carbon dioxide concentration in the atmosphere has been undertaken by climate researchers at the Mauna Loa Observatory in Hawaii beginning in the late 1950s. This monitoring identified that the atmospheric concentration of carbon dioxide was increasing at a gradual rate on a year-after-year basis.

Carbon dioxide is one of approximately two dozen greenhouse gases in significant concentration in the Earth's atmosphere; others include methane, nitrous oxide and certain halogenated carbon compounds. Greenhouse gases can exhibit heat-trapping properties in the earth's atmosphere and are rated according to their global warming potential over different atmospheric time frames.

The concern that rising concentrations of greenhouse gases in the atmosphere could be contributing to a rise in global mean surface temperature began to mount in the 1980s. Climate and geologic records indicate that a rapid increase in global mean surface temperature has been associated with disturbances in global climate and hydrological patterns, often with significantly varying impacts on regional climate and hydrology. Some of the phenomena associated with this form of climate disturbance include:

- Changes in the frequency, intensity and duration of precipitation, wind and heat events;
- Changes in soil moisture and permafrost;
- Changes in sea levels and polar ice cover;
- Shifts in plant growth and growing season; and
- Changes in the geographic extent of species range, habitat and forest cover.

Climate change and related extreme weather events are of concern to many segments of society and sectors of the economy. Two approaches for considering and addressing climate change in project planning are through:

- Reducing a project's impact on climate change (climate change mitigation) and

- Increasing the project's and local ecosystem's resilience to climate change (climate change adaptation).

Before knowing what mitigation or adaptation is appropriate for a project, it is important to consider and understand the potential impacts that a project may have on climate change, the potential impacts that climate change may have on a project, and the impact of the project on the local environment's resilience to climate change.

A Project's Impacts on Climate Change

In the last several decades, the relationship between human generated (anthropogenic) greenhouse gas emissions and rising greenhouse gas concentrations in the atmosphere has become more clearly understood. Most recently, the global scientific community has provided evidence that the rise of greenhouse gas emissions is influencing climate patterns, hydrology, ecosystems and ocean chemistry. Any greenhouse gas emission from a project or landscape change that affects the removal of carbon dioxide from the atmosphere or the storage of carbon on the landscape potentially contributes to global climate changes.

The ministry considers focussing efforts on reducing greenhouse gas emissions and avoiding increases in the levels of these gases in the atmosphere to be in keeping with the principle of pollution prevention and the precautionary approach.

Impacts of Climate Change on a Project

Climate change and extreme weather events are of concern to many segments of society and sectors of the economy. Impacts of climate change range from property-specific concerns such as flooding and sewer overflow or ice storm damage; regional-level issues such as changes in agricultural productivity and ecosystem resilience, to system-wide impacts on water demand and electricity consumption. Any weather event related to climate change that exerts an influence on a project may be considered an impact of climate change on a project.

Many jurisdictions worldwide are implementing programs and policies that increase the adaptive capacity and resilience of human-built structures and land use activities. Planning processes for long-term projects are beginning to consider greater variation in future climate scenarios, resulting in projects that are more adaptable, more resilient and less likely to cause negative environmental effects. The ministry considers this to be a prudent and diligent approach to project planning.

3. Considering a Project's Impacts on Climate Change

Many types of projects planned through environmental assessment processes will have an impact on the atmosphere through the emission of greenhouse gases or through changes to the landscape which alter the ecosystems' ability to remove carbon dioxide from the atmosphere (e.g., changes to site and vicinity plant cover). These impacts on the atmosphere and the landscape can contribute to climate change. Landscape changes are often described in terms of carbon stocks, sinks and sources; proponents of natural resource related projects should consult Appendix B for treatment of carbon stocks as sinks versus sources.

This section provides proponents with an overview of how a proposed project's impacts on climate change may be considered in environmental assessment processes. This section is partly modelled on existing climate change guidance from the Nova Scotia Department of the Environment and the Canadian Environmental Assessment Agency (see references in Appendix D).

Proponents should include evaluation criteria, such as greenhouse gas emissions and impacts on carbon sinks, in the assessment of alternatives and alternative methods. In concluding an environmental assessment study, the proponent should also include a statement in their study report about how climate change was considered in the environmental assessment and how the preferred alternative (project) is expected to perform with climate change considered. The following approach may assist in completing the climate change consideration.

A proponent considering the potential impacts on climate change of the project (or its alternatives) could begin by assessing the expected direct greenhouse gas emissions of the project/alternatives and whether the project/alternatives will positively or negatively affect the storage of carbon or removal of carbon dioxide from the atmosphere. The proponent could undertake this consideration by addressing questions such as the following:

1. How might the project/alternatives generate greenhouse gas emissions or affect carbon storage or the removal of carbon dioxide from the atmosphere?
2. To what extent have the project/alternatives already taken into account impacts on climate change in project planning?
3. Are there alternative methods to implement the project that would reduce any adverse contributions to a changing climate?
4. How might the project/alternatives give rise to climate change impacts, positive or negative, on Indigenous people and/or communities?
5. What commitments can be made to reduce the impacts on climate change from the project over time, i.e., when the project is implemented?

Approaches to addressing these questions include:

1. How might the project/alternative generate greenhouse gas emissions or affect carbon storage or the removal of carbon dioxide from the atmosphere?

   A proponent may need to consider all direct and indirect greenhouse gas emissions that would be generated by the project, or indirectly stimulated by its implementation. A proponent may need to consider changes in local hydrology and vegetation that could result in changes to the carbon sequestration and storage capacity of a local landscape feature (e.g., wood lot, soils, shrubbery).

2. To what extent have the project/alternatives already taken into account impacts on climate change in project planning?

   A proponent may need to review existing features of the project and detail those features which may reduce greenhouse gas emissions, like energy and water efficiency measures or adaptive re-use of buildings or structures to reduce new energy or material demands. A proponent may need to identify impact management measures intended to limit the project's interference with the local landscape, plant cover, and other natural features. A proponent may wish to describe contributions to or investments in natural spaces projects that offset or mitigate the project's climate change impacts.

3. Are there alternative methods to implement the project that would reduce any adverse contributions to a changing climate?

   A proponent should consider alternative methods to project implementation in order to reduce the project's greenhouse gas emissions or any negative impacts on carbon storage or the removal of carbon dioxide from the atmosphere. This may entail aspects of the proposed project's scheduling, footprint, operation, or function. For example, a proponent could consider the scheduling and roll-out of construction activities in a way and at a time of year that would limit the negative impacts on the vegetation of the site and vicinity. A proponent may need to consult industry standards, best practices, and best available technology, in identifying alternative methods.

4. How might the project/alternatives give rise to climate change impacts, positive or negative, on Indigenous people and/or communities?

   A proponent will need to undertake special considerations where an environmental assessment project could affect Indigenous communities and interests. See description of Far North and Traditional Knowledge on pages 25-26.

5. What commitments can be made to reduce the impacts on climate change from the project over time, i.e., when the project is implemented?

   During the project planning phase, a proponent could consider near-term potential policy or technology developments that could have bearing on the project when implemented. A proponent could consider and make commitments about ongoing assessment of best practices, continual improvement, or the ability to adopt technology that will further reduce greenhouse gas emissions, especially for projects with long lifespans.

This generic approach to climate change consideration could potentially inform a variety of environmental assessment studies and processes, or be adapted to a variety of activities, proposals, and plans including those involving components of the built and natural environment.

Approaches to Considering Project Impacts on Climate Change

Many projects that are planned in accordance with the *Environmental Assessment Act* will result in the generation of greenhouse gas emissions in the construction, operation and decommissioning of the project. For example, greenhouse gas emissions like carbon dioxide could be emitted from heavy vehicles during the construction of a wastewater collection system, treatment plant, municipal road, or dam. Impacts on atmospheric levels of greenhouse gases could also occur through changes that alter the landscape's ability to store carbon or remove carbon dioxide from the atmosphere. Emissions of methane may be generated from a waste management project that involves the landfilling of organic waste.

Advancements in technology have provided greater opportunities to limit greenhouse gas emissions. For example, if a project involves a new building or structure that requires heating, cooling, and lighting, there may be an opportunity to reduce carbon emissions associated with these systems. Measures such as using low carbon and/or renewable energy sources, insulation, and even changes in the design and layout of the structure can reduce the life-time generation of carbon emissions arising from the project.

Business-as-Usual[1] vs. Climate-Focussed Approaches

A proponent has several means to demonstrate that climate change impacts have been factored into project planning. A proponent could make a comparison between two scenarios involving the same project. The first scenario would be the project's greenhouse gas emissions where climate change mitigation measures were not factored into the project design (business-as-usual). The

[1] "business-as-usual" assumes that future development trends follow those of the past and no changes in policies will take place (source: Intergovernmental Panel on Climate Change).

second scenario would be the project's greenhouse gas emissions where climate change mitigation measures were factored into the project design (climate-focussed).

Or, a proponent could rely on a comparison of the greenhouse gas emissions of the planned project to the average of similar existing facilities to demonstrate how project planning took into measures to reduce or offset greenhouse gas emissions.

Finally, a proponent could compare the greenhouse gas emissions of the preferred alternative to the other alternatives to demonstrate how the preferred alternative would lead to lower greenhouse gas emissions.

These comparisons could be detailed in a qualitative or quantitative manner.

Qualitative Consideration of the Impacts on Climate Change

A qualitative consideration of a project's potential impacts on climate change can be carried out by using the steps shown in Table 2: Qualitative Consideration of Greenhouse Gas Emissions. To begin, a proponent would consider what the project would be like if no particular regard was given to climate change mitigation measures (business-as-usual).

In step two, the proponent could review the project plan to identify any project features or planned measures that could mitigate climate change, e.g., the use of different technologies, energy efficiency, waste reduction measures, building materials, site re-vegetation, and other factors.

In step three, the proponent would document the identified features and measures and where possible, detail the avoided greenhouse gas emissions and enhancements to carbon storage that would result by implementing the project in the climate change consideration included in the environmental assessment study.

1. Consider what the project would be like if climate change mitigation was not a priority (business-as-usual).
2. Review the project as planned to identify any measures that could contribute to climate change mitigation. (climate-focussed).
3. Document any measures that could reduce or avoid greenhouse gas emissions and enhance carbon storage when the project is implemented.

Table 2: Qualitative Consideration of Project-related Greenhouse Gas Emissions

The outcome of step three is primarily expected and should be documented in a proponent's environmental assessment report. A proponent may document the outcome of all steps if needed to make the climate change consideration clearer and more meaningful to understand.

Quantitative Consideration of Impacts on Climate Change

A quantitative consideration of a project's potential impacts on climate change could be carried out in a manner similar to the qualitative consideration but with the added step of quantifying greenhouse gas emission reductions by incorporating climate change mitigation measures.

Quantifying greenhouse gas emission reductions requires some understanding of emission calculations, emission estimation factors, and the global warming potential of various greenhouse gases. References are included in Appendix C for proponents seeking approaches to quantifying project-related greenhouse gas emissions. Proponents may also draw upon information from manufacturers about project-related equipment and materials, such as energy consumption ratings, embodied energy, recycled content, and emission estimates, to characterize the project's reduced impact on climate change. Where emission factors or ratings are used, the proponent is advised to cite the source so that the results are replicable and traceable.

The ministry recognizes that the calculation or estimation of greenhouse gas emissions is difficult for many environmental assessment project types. The effort may be warranted only where emissions of carbon dioxide, methane, or other gases are significant, e.g., natural gas fired generating station or landfill, or if the proponent requires quantification of emissions for other purposes such as regulatory reporting requirements.

A quantitative consideration of a project would begin by describing and quantifying the project's greenhouse gas emissions as if the project were to be implemented with no particular regard for climate change mitigation measures (business-as-usual). The greenhouse gas emissions of the alternatives to the project or the average of similar facilities could also be used as the point of comparison.

The next step would be to describe and quantify the greenhouse gas emissions of the project where it includes all proposed climate change mitigation measures to be incorporated (climate-focussed).

The final step is to describe and quantify the potential avoided greenhouse gas emissions and improvements to carbon storage that could be achieved by implementing the project with climate change mitigation measures (see Figure 1: Quantifying Greenhouse Gas Emissions below).

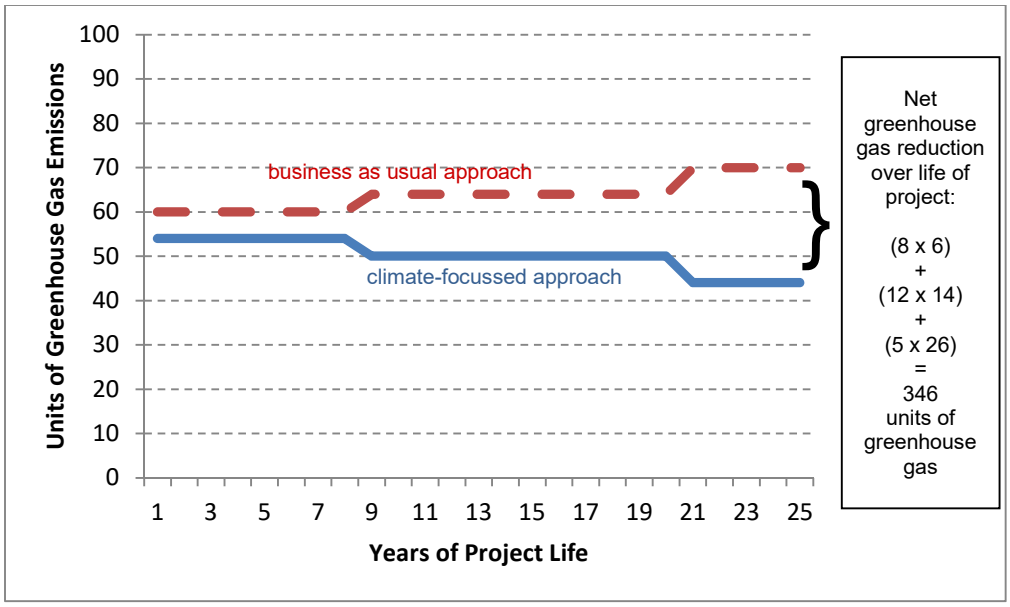


Figure 1: Quantifying Greenhouse Gas Emission Reductions

4. Considering the Impacts of Climate Change on a Project

A number of environmental assessment principles are key to successful planning and approval under the *Environmental Assessment Act.*

One principle is that an environmental assessment consider all aspects of the environment, including the interrelationships between various components of the environment. Environmental assessments typically evaluate the effects of the project on the environment. Climate change requires that environmental assessments also consider the impacts the environment (climate) could have on the project. The latter consideration helps to address any unintended risks or impacts to human health or the environment when climate impacts are added to the project's effects on the environment.

Proponents should include evaluation criteria such as extreme weather events in their screening of alternatives, and alternative methods. Proponents should also include in their study report, a statement about how climate change was considered in the environmental assessment, specifically in relation to the preferred alternative (project).

Broad Consideration of Impacts of Climate Change on a Project

Proponents could consider the potential impacts of climate change on a proposed project by addressing the following questions:

1. How vulnerable is the proposed project to a changing climate during its construction, operation, decommissioning, or post-closure?
2. Does the proposed project directly or indirectly contribute to the vulnerability or resilience of surrounding ecosystems to climate change?
3. Are there potential impacts that climate change may exert on the proposed project that may pose a risk to the environment?
4. Are there alternative methods of carrying out the proposed project that could reduce the negative impacts of climate change on the project thereby reducing the risk to the local environment?
5. Could the project, with the impacts of future climate change factored in, result in disruption to lands or waters associated with Indigenous cultural resources?

Approaches to addressing these questions could include:

1. How vulnerable is the proposed project to a changing climate during its construction, operation, decommissioning, or post-closure?

   A proponent would need to consult existing project plans and documentation, historical and present climate data, and future climate projections. The effect of variation in climate parameters such as temperature, precipitation, wind gust, or others, on the proposed project and its alternatives over time, could be considered. If any of the climate variation aggravates any of the environmental effects of the project, this should be identified in the environmental assessment study and measures considered to manage the impacts.

2. Does the proposed project directly or indirectly contribute to or diminish the resilience of surrounding ecosystems to climate change?

   The inventory of environmental features carried out as part of the environmental assessment study assists in understanding and describing the environment surrounding the project. This step will help to assess how the project may affect the surrounding environment's ability to be resilient and maintain its adaptive capacity to climate change. A proponent would need to consult historical, present, and future climate information in the area of the undertaking or project.

   Specifically, a proponent could examine the effect of projected changes in temperature, precipitation, or other features of the local environment when the project is implemented compared to if the project was not implemented. For example, could the project's alteration of local drainage patterns exacerbate impacts to water resources projected to occur with climate change? How might this affect the health and resiliency of the surrounding forest and wetlands?

3. Are there potential impacts that climate change may exert on the proposed project that may pose a risk to the environment?

   A proponent may need to review existing features of the project and detail those features which may reduce the risk of climate change. A proponent may need to consult existing project plans and documentation, and present and future climate data, to carry out such a consideration.

   In considering the impacts of climate change on a project, a proponent should be aware that the environmental effects of a project may be greater when coupled with the projected climate changes. For example, a project's demand on a local water supply may need to factor in a projected decline in water supply due to climate changes such as warmer temperatures and increased evaporation.

4. Are there alternative methods of carrying out the proposed project that could reduce the negative impacts of climate change on the project thereby reducing the risk to the local environment?

   A proponent may need to consult industry standards, best practices and best available technology in relation to existing project plans and documentation, future climate projections, and the potential environmental effects under current and changing climate conditions.

   A proponent should be aware of future climate change risks in the area of a project that may necessitate consideration of alternative methods. For example, a proponent of a storage yard with extensive paved surfaces in a location where climate change projections include more frequent and severe rain events, may need to consider alternative methods in order to reduce impervious surfaces and limit runoff to nearby water bodies.

   In order to reduce future climate-related risks to the local environment, a proponent could consider climate change adaptation measures that increase resilience of any aspect of the proposed project's design, operation and function which could be susceptible to climate variability.

5. Could the proposed project, with the impacts of future climate change factored in, result in disruption to lands or waters associated with Indigenous cultural resources.

   A proponent may need to consider whether the project coupled with climate change could exacerbate the project's anticipated environmental effects and pose additional challenges facing Indigenous communities in a particular area. Existing challenges reported by Indigenous communities include decreased availability of traditional foods and need of reliable infrastructure and transportation corridors.

Detailed Consideration of Impacts of Climate Change on a Project

Table 3: Conceptual Approach to Considering Impacts of Climate Change on a Project provides an approach for a detailed consideration of the impacts of climate change on a project in the planning stage. The project components in this example could be altered to better suit projects involving wildlife habitat, ecosystem protection, or other components of the natural environment.

The generic examples in Table 3: Conceptual Approach to Considering Impacts of Climate Change on a Project demonstrate that consideration of climate change impacts in project planning could involve many points of analysis, or interactions, for example:

COLUMN 1 Climate Variable		COLUMN 2 Generic Project Component
Temperature extremes • High • Low • Warmest / coldest period Precipitation (Rain) • Freezing rain • Intensity • Flooding return period • Wettest / driest period • Total annual Precipitation (Snow) • Snow load • Snow water equivalent Wind Speed • Extreme gusts • Gale, hurricane force winds, tornados • Fog, hail, lightning	***If the frequency, severity, or duration of any of the variables in Column 1 changes, what will be the effect on any component in Column 2?***[1,2]	Utilities • Air intake • Water intake • Drainage / wastewater • Electrical and gas • Fire and Safety • Communications • Transport (road, rail) Operations • Maintenance • Continuity • Reliability Administration • Personnel • Occupational Safety • Insurance / liability Buildings • Structural integrity • Fatigue / stress / failure

Table 3: Conceptual Approach to Considering Impacts of Climate Change on a Project

- What effect, if any, would a projected change in maximum wind gust have on project-related communications installations?
- What effect could a short-term disruption of utility services due to an extreme climate event have on project operations?
- What effect would a projected increase in certain precipitation events, fog, or snow conditions have for staff mobility, waterway navigation, access to natural resource operations, or access to equipment vital to project operation? Could any variation in a climate variable be significant enough to warrant additional project consideration?

Not all points of analysis or interactions between climate and the project need to be considered to the equivalent degree. For example, increased precipitation could be a significant concern for a roadway project. Drought, low precipitation, or low soil moisture conditions could be of greater concern to projects involving public water supplies or components of the natural environment, like forests, protected areas, or natural resource operations. Nevertheless, all climate

[1] Approach is adapted from that formulated by the Public Infrastructure Engineering Vulnerability Committee, see Appendix A. or www.pievc.ca.

[2] Neither the list of climate variables nor generic project components is meant to be exhaustive. Examples are provided for illustrative purposes.

parameters with potential to interact with a project should be defined and considered at a screening level to fully understand which interactions pose higher risk.

The projected magnitude of future climate variation would factor into the determination of which, if any, project components require greater consideration. Most importantly, proponents need to be aware of the potential of future variability of climate parameters, and what impacts, positive or negative, this variability could have on the environmental effects of a proposed project.

Proponents should also document any uncertainty related to either downscaling climate change projections to specific sites, or expected impacts to the environment or project, within the environmental assessment. For example, a proponent may not be able to precisely predict an impact because of time frame, geographic scale, complexity, or other factors. In this case, the proponent could discuss why the impact may vary, identify the expected range of impacts, and identify the level of certainty associated with the climate change consideration.

5. Outcomes of Climate Change Impacts Consideration

This section provides examples of how proponents can prepare and incorporate climate change impact considerations into their terms of reference and environmental assessment processes. The consideration of climate change impacts can also be incorporated into streamlined environmental assessment processes.

Environmental Assessments

Considering climate change in the terms of reference for an environmental assessment should commit he proponent to considering climate change impacts in related project studies prepared in support of the environmental assessment report.

Considering climate change in an environmental assessment should result in the proponent refining and documenting measures for dealing with climate change impacts as the undertaking moves toward implementation stage. Examples could include adapted design or maintenance schedules, additional studies, and revised operating procedures.

Processes that Establish or Renew Class Environmental Assessments

Considering climate change in the development or review of class environmental assessments could result in a description of how the proponent would consider climate change impacts in environmental assessments for that class of projects. For example, climate change impacts may be incorporated as criteria for evaluating alternatives to and alternative methods of implementing the undertaking.

Streamlined Environmental Assessment Processes

Considering climate change in streamlined environmental assessment processes and studies could result in the inclusion of a commitment on how the proponent will implement climate change adaptation and mitigation measures during the detailed design phase of any given project.

The consideration of climate change impacts in environmental assessments enables a proponent to demonstrate due diligence in relation to reducing the impacts of climate change in relation to the project proposal.

6. Documenting Climate Change Impacts in Environmental Assessment

Environmental assessments are able to consider and document relationships between climate change, environment, and the project, i.e.:

- the project's potential impacts on climate change; and
- the potential impact of climate change on the project.

Broadly, these climate change considerations involve:

- Reviewing the potential for a project to generate greenhouse gas emissions and affect carbon sinks;
- Assessing the vulnerability of the project to changing climatic conditions; and
- Examining the impact of a project on the environment's adaptive capacity.

The following guidance applies primarily to the preparation of individual environmental assessments, but may also be considered relevant to proponents of larger scale projects of class environmental assessment processes. Ministry reviews of assessment documentation will evaluate the extent to which climate change impacts were considered during the planning and environmental assessment processes. The documentation of a climate change considerations may vary depending on the undertaking.

Documenting Climate Change Considerations in Environmental Assessment

An environmental assessment can track and document climate change considerations like other environmental components such as air, water, and natural features. Climate change considerations could be added to the following chapters of the environmental assessment:

- Existing Environment
- Environmental Effects
- Cumulative Effects (where applicable).

The climate change consideration section would be enhanced by the inclusion of historical climate data for the study area (where available) and representation of data through charts, graphs, and tables. This will facilitate the ability of the reviewers to identify trends. Comparing historical information to future climate

projections provides a clearer understanding of the likely impacts and vulnerabilities of a project from climate change impacts. Proponents could include any of the following information for the study area in the "Existing Environment" section:

- A graph showing annual and/or monthly high and low temperatures and precipitation amounts along with projected changes based on best available climate modeling results.
- A discussion of the freeze/thaw cycles in the local area and nearby waterways and potential effect to or from the undertaking.
- A map showing the contours, location, and extent of the local floodplain based on historical flood information.

The consideration of climate change in an environmental assessment could result in a proponent including:

- An analysis of alternatives with respect to their potential contributions to climate change, as well as their potential vulnerability from the impacts of climate change.
- A consideration of climate change mitigation measures with respect to avoiding, minimizing, or offsetting impacts of the undertaking on climate change.
- A consideration of climate change impacts in any alternative screening process.

Additional Considerations

The following guidance may be relevant to proponents of either individual or class environmental assessment processes.

Existing Climate Change Strategies

Proponents may wish to draw upon or make reference to their own, or other existing climate change strategies or policies in carrying out an environmental assessment. For example, the proponent of a road project may consider including references to the jurisdiction's policies or programs aimed at reducing greenhouse gas emissions through car-pooling, or the promotion of cycling or electric vehicles. Proponents should consider whether making reference to existing climate change strategies or policies alone is sufficient as a consideration of climate change, or whether a more detailed consideration of climate change should be carried out when conducting project-specific environmental assessment studies. Documentation of the results of this consideration should be included as part of project reporting.

Regional Government Plans and Master Plans

Many regional municipalities in Ontario have developed master plans for water, sewer, transportation, and other services, and some have included reference to future climate change impacts in these plans and/or their Official Plans. Proponents are encouraged to consider master plan documents in relation to relevant project specific environmental assessment studies and processes. Proponents are encouraged to consider whether climate change impacts should be considered at a project level, i.e., beyond a consideration made within master plan documents, or whether the considerations made within the planning documents have implications for project-level planning.

Emergency Management Plans

Ontario municipalities are required to have an emergency management program under the *Emergency Management and Civil Protection Act* (EMPCPA). The EMCPA, administered by the Ministry of Community Safety and Correctional Services (MCSCS), also requires municipalities to adopt emergency response plans to describe the method by which the municipality and its agencies will respond to an emergency. MCSCS also has guidance available to assist municipalities interested in preparing an emergency plan related to a flood emergency. A municipal proponent may be able to draw upon its emergency management program or plans in documenting the consideration of climate change impacts on a project as proposed as part of an environmental assessment process.

Operation of Project, Service

In certain instances, the temporary loss of project service or function due to climate related extremes might be an acceptable project design or adaptation approach. For example, in rural areas, some roads and rights-of-way are operational on a weather-permitting or seasonal basis. A road may become impassable due to flooding or drifting snow for several weeks per year and may be temporarily closed. The risk of brief closures could be acceptable for the community that uses the road. If so, this consideration could form part of the conception of the project from the outset. Before conditions like this are applied in project planning, design, and operation, the proponent should consult with the affected community, reach a shared understanding of this risk, and document this understanding.

Conversely, if a road or right-of-way is vitally needed by a community as the principal or only route to medical care or other vital services, then the community may have little tolerance for service disruption. This would be the case whether or not the source of disruption was a weather-related event. In this instance the community's tolerance to risk of closure is low, and the road should be planned, designed, built, and operated to a very high standard.

Projects in the Far North of Ontario

Some Indigenous communities, especially in the Far North of Ontario, have already experienced significant impacts related to climate change which have affected the reliability of winter/ice roads, resulted in water quality issues, and caused community flooding. Such impacts could continue to pose challenges for communities.

The consideration of climate change impacts in project planning is particularly important in regions where climate change is projected to occur at a greater pace or extent. This includes much of northern and western Ontario, where projected surface temperature change is among the most significant of all regions of the province.

Ministry staff carrying out reviews of environmental assessment documentation will need to consider whether the proponent has taken climate change into account when developing the environmental assessment.

Factors that the ministry has considered or specified to be included in the terms of reference for environmental assessment projects in the Far North include:

- Assessment of how the proponent's construction practices, operational procedures, and the design of the undertaking, will respond to storms, flooding, drought, fires, or other severe weather events resulting from climate change.
- Assessment of how the site will be decommissioned to ensure resilience to climate change impacts.
- Discussion and assessment of whether climate change scenarios could alter the anticipated effects on the environment and affect the adaptive capacity of the ecosystem.
- Discussion and assessment of impacts of all phases and components of the project on air quality and climate change, including assessment of emission rates of greenhouse gases.
- Discussion and assessment of project's contribution to climate change related to the disturbance of the peatlands and release of carbon and other greenhouse gases.
- Description of proposed mitigation measures to avoid, offset, or minimize the contribution of the project to climate change.

Traditional Ecological Knowledge

In some cases, a proponent can reduce a project's climate change impacts on Indigenous people by working with affected Indigenous communities to identify potential climate change concerns or opportunities related to the project. A community may decide to share traditional ecological knowledge with the proponent to document knowledge regarding particular areas and relay concerns of community members. A proponent could then involve the community in

creating and implementing impact mitigation measures to address those concerns or provide for enhanced protection of the environment.

This Guide is intended to provide proponents and other interested persons with an understanding of how climate change impacts could be considered as part of an environmental assessment. The ministry regards a climate change impact consideration to be a demonstration of responsible planning and due diligence. Questions about a specific project or environmental assessment should be referred to the ministry staff assigned to the project or environmental assessment.

Those interested in information about Ontario's environmental assessment process should consult the ministry's website or contact the ministry at the address below to obtain process, consultation, and mediation guidance.

Ministry of the Environment and Climate Change
Client Services and Permissions Branch
135 St. Clair Avenue West
Toronto, Ontario M4V 1L5 Canada

Telephone: 416-314-8001
Toll Free: 1-800-461-6290
Fax: 416-314-8452
E-mail: MOECCpermissions@ontario.ca
Website: www.ontario.ca/environmentalassessments

In addition, the ministry has developed guidance materials for the following key elements of the environmental assessment process:

- Class environmental assessments
- Consultation
- Coordinating federal and provincial environmental assessment requirements
- Electricity projects
- Environmental assessments
- Glossary
- How to make a Part II Order request
- Making a hearing request
- Mediation
- Terms of reference
- Transit projects
- Waste management projects

Appendix A

Examples of Considering Climate Change Impacts in Project Planning

Overview of the Work of the Public Infrastructure Engineering Vulnerability Committee (see www.pievc.ca)

Engineers Canada, Natural Resources Canada, and partner organizations established the Public Infrastructure Engineering Vulnerability Committee (the committee) in 2005 to assess the challenge to the built environment posed by climate change. The committee includes representation from all three levels of government in Canada as well as many non-governmental organizations.

Since 2008, the committee has carried out a series of studies and the development of a protocol for assessing the vulnerability of a range of infrastructure to changing climatic conditions. The committee's approach has involved a broad and systematic review of infrastructure vulnerability to climate change.

The committee originally studied four categories of public infrastructure: buildings; roads and associated structures; storm water and wastewater systems; and water resources. Initial "scoping" studies examined the current state of each infrastructure, availability of climate data, and indicators of adaptive capacity.

The initial studies formed the basis for Engineers Canada to develop an engineering protocol, known as the PIEVC Engineering Protocol or "the Protocol". To date, it has been used to assess the vulnerability and climate risk of over 40 various types and sizes of infrastructure systems across Canada. For example, the Protocol was used to assess the vulnerability of water resources infrastructure as described in two of the case studies in Appendix A, those for the Toronto and Region Conservation Authority and the Union Water Supply System in southwestern Ontario.

One of the key challenges identified through the committee was the traditional reliance on historical data to design long-lasting, safe, and reliable infrastructure. New practices will require the accommodation of increased uncertainties because modelling results which characterize future climate are never as accurate as historical data. This creates a challenge to existing infrastructure design approaches and practices. As a first step to dealing with this challenge, the committee structured a two-part approach:

- Evaluate the vulnerability of Canada's infrastructure to the impacts of climate change from an engineering perspective; and,

- Derive key findings of the vulnerability assessment to inform the review of design, operation, and maintenance codes, standards and practices.

Based on the committee's approach, the engineering profession is developing new design and operational practices to withstand changing climate conditions – both extremes and gradual changes.

Toronto and Region Conservation Authority: Flood Control Dam Water Resources Infrastructure Assessment

Key Points of Analysis: The risks of various climate events increasing in occurrence between approximately the 1970s and 2050s and the vulnerabilities these pose to flood control dams.

The climate change analysis and projections portion of this study included the establishment of a set of climate parameters describing climatic and meteorological phenomena relevant to the geographic areas of the Claireville and G. Ross Lord flood control dams. The analysis resulted in the determination of general probability scores reflective of the occurrence of each phenomenon, both historically and in the future.

Climate parameters were selected on the basis of relevance to the region (southern Ontario) given the region's known seasonal variability. Parameter selection was also based on those with the potential to present vulnerability to the infrastructure and its components as a result of either extreme or persistent occurrences. In this evaluation, parameter usefulness was based on three factors:

- usefulness of the climate parameter in determining vulnerability;
- availability of information; and
- ability to relate this information to a probability.

In total, more than twenty parameters were selected including five-day total rainfall, heavy rain, ice storm, heat wave and hurricane/tropical storm occurrence, cold wave, freeze thaw, and snow accumulation.

The following parameters were predicted to have a greater probability of occurrence between the historical (1970s to 2000s) and future (2040s to 2070s) time periods: heat wave, heavy rain, five-day total rainfall, ice storm, and hurricane/tropical storm. The parameters: cold wave, freeze thaw, and snow accumulation were predicted to have a lower probability of occurrence, with reference to the two time periods.

Follow-up actions from the evaluation, for consideration, included:

- a review of emergency operational plans to ensure they are adequate for all types of extreme climate events – rain, snow, ice, and high winds;
- a review of backup systems by simulating various catastrophic events, e.g., a loss of electrical power plus a loss of cellphone network;
- maintaining dam-side operator's residences to minimize the travel time of operators during severe weather events; and
- developing emergency response plans for a number of climate events that have low risk of occurrence but would result in extremely severe impacts. These events are heavy long-term rainfall, ice storms, lightning, hurricane/tropical storms, and tornados.

Intensity Duration Frequency Curves – Road, Highway, Urban Drainage Design

Key Points of Analysis: Design implications for storm sewer, road, and highway drainage infrastructure from rain events of various frequencies, intensities, and durations.

When designing drainage infrastructure such as culverts, bridges, sewer systems, and roadside ditches, good estimates of peak rainfall intensity are essential. Quality rainfall data enable designers to make calculations that meet drainage capacity design standards and avoid the over- or under-design of drainage elements. Design flow rates for a particular area are typically estimated using rainfall Intensity Duration Frequency curves. The curves summarize extreme rainfall patterns for a particular location, by representing the statistical relationship of rainfall intensity corresponding to storm duration and frequency, by graph or table.

The ministry has obtained climate model results which allow the generation of Intensity Duration Frequency curves over an extensive time frame for locations throughout Ontario (see Drainage in Appendix C). Curves created using projected (future) climate conditions can be compared to curve information from the present or past to assess the significance of changes to climate on a localized basis.

Research through the University of Western Ontario has assessed the variation in Intensity Duration Frequency curves used by the City of London to account for changing climatic conditions, as the design of municipal wastewater management infrastructure (sewers, storm water management ponds or detention basins, street curbs and gutters, catchbasins, swales) is typically based on these curves.

Ontario's Ministry of Transportation has funded the development of a web-based tool that provides Intensity Duration Frequency curves for provincial highway design at any location across Ontario using up-to-date data from Environment Canada. Updating Intensity Duration Frequency curves as additional data and

new techniques become available is essential so that if or when a change in key climate variables occurs, this occurrence is reflected in a timely fashion.

Highway 407 East Extension – Effect of the Environment on the Project

Key Points of Analysis: Effect of eight climatic variables on the construction and operation of a major highway development.

As part of a Comprehensive Study Report pursuant to the former *Canadian Environmental Assessment Act* (CEAA), the Ontario Ministry of Transportation conducted an evaluation of the potential effect of the environment on the preferred route selection for the Highway 407 East Extension. CEAA requirements included the identification of likely effects, mitigation measures, and residual effects after mitigation is applied. The proponent carried out a high-level evaluation of the potential effects of the environment on the project. The evaluation was conducted in consultation with experts on climate change. Some of the climate phenomena and effects which were identified and evaluated included:

Lightning

- A potential increase in lightning strikes on light standards and other tall structures associated with highway development. Mitigation measures include back-up systems for critical electrical systems.

Hail

- Increased frequency of hail storms on the operation of the proposed highway. Mitigation measures include restrictions to operations in accordance with standard Ministry of Transportation practices.

Heavy Rain/Flooding

- Design standards for major watercourse crossing structures based on the Regional Storm event (Hurricane Hazel) to prevent potential flooding effects.

Fog

- Mitigation measures include installation of reflective markers on the roadway surface.

Drought

- Where long term effects to groundwater cannot be avoided at major fills or deep cuts, long-term engineering / foundation design measures will be undertaken as appropriate. Specific outfall control measures will be implemented for all storm water management facilities to prevent erosion of the receiving streams, with specific attention to outfalls to the deeper valleys

and at many of the high sensitivity watercourses in the eastern portion of the study area.

The proponent concluded at the outcome of the evaluation that after taking into consideration the likelihood of extreme weather and incorporating mitigation measures (some of which are described above) no residual adverse effects of the environment on the project were anticipated. After the evaluation, the proponent concluded that the probability of weather events of such extremity to cause damage or major disruption in the area of the 407 East Transportation Corridor was low.

Climate Change Risk Assessment and Vulnerability Analysis of a Municipal Water Treatment System in Southwestern Ontario

Key Points of Analysis: To assess the potential impacts of climate change on public infrastructure and to advance planning and prioritization of adaptation strategies. A case study of a municipal drinking water treatment system.

The Union Water Supply System (UWSS) is a municipal water supply system jointly owned by the Ontario municipalities of Leamington, Kingsville, Essex, and Lakeshore. Treated water from UWSS is supplied to the four owner municipalities for local distribution to residents, businesses, and the agricultural sector.

In 2012, the Ministry of the Environment and Climate Change procured the services of Engineers Canada to assess the vulnerability of the UWSS infrastructure to the potential impacts of future climate and provide recommendations for operational modifications to address potential impacts.

The primary objective of the study was to identify the areas within the current design, construction, operation, and management of the UWSS that are at an increased or decreased risk of failure and/or damage due to potential changes in climatic conditions. The study was carried out using Engineers Canada's Public Infrastructure Engineering Vulnerability Committee Protocol (version 10) and delivered recommendations for remedial action and/or further study.

The climate change analysis and projections portion of the study included the establishment of a set of climate parameters describing climatic and meteorological phenomena relevant to the geographic areas of the UWSS service area. This included: high temperature, low temperature, heat wave, cold wave, extreme diurnal temperature variability, freeze-thaw, heavy rain, sustained high temperature in winter with snow on ground, heavy 5-day total rainfall, winter rain, freezing rain, ice storm, heavy snow, snow accumulation, blowing snow/blizzard, lightning, hailstorm, hurricane/tropical storm, high wind, tornado, drought/dry period, and heavy fog. Climate parameter selection for the study was based on a parameter's potential to present vulnerability to the

infrastructure and its components as a result of either an extreme or persistent occurrence.

Future climate projections were analyzed using climate model outputs from Environment Canada's Canadian Climate Change Scenario Network Plots, the Intergovernmental Panel on Climate Change 4th Assessment Report Regional Climate Projections chapter (and others, where applicable), and scientific journal articles presenting regional and local projections and predictions.

The following interactions were assessed as having the highest risk scores for both existing and future climate conditions:

- Lightning's impact on communications, transformers, transmission lines, and data acquisition systems
- The impact of blowing snow or a blizzard on chemical storage
- The impact of lake water level on the emergency water intake

Some of the recommendations arising from the study include:

- Review the emergency response policies and procedures for various components of the UWSS
- Review the potential need for the existing emergency water intake (and potential modifications to it) to be investigated to ensure it remains functional during lower lake levels
- Accelerate modifications to older storage tanks to ensure adequate circulation of water in storage
- Investigate the condition of electrical transformers
- Continue to monitor the risks identified through the assessment, particularly as components continue to age

Appendix B

Considering Climate Change Impacts in Natural Resource Project Planning

Some projects involving natural resources, particularly forests, soils, and wetlands, may result in aspects of climate change mitigation and adaptation being undertaken in the same measure. For example, reforesting lands will result in removing carbon from the atmosphere (mitigation). The same initiative may result in a landscape better adapted to reducing the impacts of climate extremes – tree cover can provide shade and cooling for soils and buildings, and delay the rate of overland drainage from intense precipitation events (adaptation). For reasons such as this, climate change impact considerations for natural resource projects may vary somewhat from other project types. Specific variations include:

Carbon Stock

Carbon stock is the quantity of carbon in a carbon pool. Carbon pool refers to a physical component or components of the climate system where carbon is stored. Examples of carbon pools are forest biomass, wood products, soils, and the atmosphere. The carbon stock in a pool can change due to the difference between additions of carbon and losses of carbon. When the losses are larger than the additions, the carbon stock becomes smaller and the pool acts as a source to the atmosphere; when the losses are smaller than the additions, the pools acts as a sink to the atmosphere.

Climate Change Impacts Consideration

The outcome of a climate change impacts consideration for natural resource projects may include an assessment of ecological integrity and resilience as part of, or in addition to, mitigation and adaptation.

The outcome of a climate change consideration is an undertaking or project that has taken into account the means to reduce its direct greenhouse gas emissions and impacts on carbon sinks/sources, that is more resilient to projected changes in climate, and that helps to maintain the ecological integrity of the local environment through an assessment of present and future environmental impacts in the face of a changing climate.

Case Study – Climate Change Considerations in MNRF's Class Environmental Assessment Processes

The Ministry of Natural Resources and Forestry (MNRF) has identified a way in which climate change considerations may be accounted for in their class environmental processes.

Class Environmental Assessment for Parks Protected Areas and Conservation Reserves (Class EA-PPCR)

There are several ways that consideration of climate change is inherently built into the Class EA-PPCR process.

The screening criteria in Table 3.1 of MNRF's Class EA-PPCR is used to rate the potential net effect of a proposed project against criteria in the categories of:

- natural environmental considerations;
- land use, resource management considerations;
- social, cultural, and economic considerations; and,
- aboriginal considerations.

These criteria incorporate potential effects related to climate change. For example, the screening table includes evaluation of several criteria related to assessing effects of projects on ecosystem resilience and adaptive capacity, as well as effects to air and water quality, land subject to natural or human-made hazards, drainage or flooding, and permafrost.

The Class EA-PPCR provides guidance for assessing the significance of environmental effects, including elements related to consideration of climate change, such as geographic extent, duration, and frequency of effects, direct and indirect effects, and cumulative effects.

As part of the Class EA-PPCR process, mitigation must be identified to reduce effects on environmental components, including measures that would reduce effects from or on climate change. MNRF is proposing to add descriptions of typical mitigation measures to include examples of mitigation measures specific to climate change.

Additionally, the Class EA-PPCR process outlines the need for project monitoring, which allows for assessment of predicted effects with respect to acceptable outcomes, which may include effects as a result of a changing climate and the potential to identify remedial actions.

Consideration of Climate Change in the Class Environmental Assessment for Resource Stewardship and Facilities Development (Class EA-RSFD)

The screening criteria in Table 3.1 of the Class EA-RSFD are used to rate the potential net effect of a proposed project against criteria in the categories of:

- natural environmental considerations;
- land use, resource management considerations;
- social, cultural, and economic considerations; and,
- aboriginal considerations.

The criteria allow for consideration of potential effects related to climate change (e.g. air and water quality, water quantity (flows and levels, drought response), and land subject to natural or human-made hazards).

MNRF is proposing to add direction specific to climate change impacts consideration in the application of the screening criteria, e.g.,

> *"The effects of climate change are pervasive, alter the composition and function of Ontario's ecosystems, and include more frequent extreme weather events (e.g., flooding, drought, and wind storms) that compromise or destroy infrastructure with significant implications to the future health and well-being of people and their communities.*
>
> *Consideration should be given to the known and anticipated effects of climate change on a proposed project and whether the project description includes adequate mitigation and adaptation options."*

MNRF is also proposing generic examples of typical mitigation measures for use by environmental assessment project staff. The examples provide more detail in responding to paragraph 5 of subsection 14(2) of the *Environmental Assessment Act* (description of mitigation measures for undertakings subject to the class environmental assessment). The examples of mitigation measures will include those which mitigate the impacts of climate change.

Appendix C

Availability and Use of Climate Model Results

Sources of climate model results that focus on Ontario and other evaluation tools are available for climate change impacts consideration.

Ontario Climate Change Scenarios

Climate model results have been generated for Ontario and can be used in the evaluation of future climate change impacts. Data can be downloaded from various websites to construct climate scenarios, as well as data used as input variables for further downscaling.

Climate data are provided as long-term (usually 3 decades) averages or time-series at daily, monthly, seasonal, or annual scales. Long-term average climate information is available for the baseline period (1961–1990 or 1981-2010) and three future periods (2011–2040, 2041–2070, and 2071–2100), while time series are available continuously from 1960 to 2100. In addition to the typical climate variables (temperature and precipitation), extreme climate indices (i.e. heat waves, IDF curves, and droughts) are also available as well. While climate data is available at many sources, Ontario-specific high resolution regional climate data can be found at:

Ontario Climate Change Data Portal

and

Ontario Climate Change Projections

These are the two major data portals with the most up-to-date climate change information when this document was written, developed by partner academic institutions with funding from the ministry.

Canadian Climate Data and Scenarios

The Canadian Climate Data and Scenarios (CCDS) site is an interface for distributing climate change information. The goals of CCDS are to:

- Support climate change impact and adaptation research in Canada and other countries;
- Support stakeholders requiring scenario information for decision making and policy development;
- Provide access to Canadian research on the development of scenarios and adaptation research.

Scientific Literature

Proponents are encouraged to consult the peer reviewed scientific literature as a matter of good practice and due diligence. The following papers are two examples.

Gula, J. and Peltier, W.R. 2012. Dynamical downscaling over the Great Lakes Basin of North America using the WRF Regional Climate Model: The impact of the Great Lakes System on regional greenhouse warming, Jnl. of Climate, 25, (Nov.), 7723-7742, doi: 10.1175/JCLI-D-11-00388.1

Mckenney, D. W., Hutchinson, M. F., Papadopol, P., Lawrence, K., Pedlar, J. H., Campbell, K., Owen, T. (2011). Customized Spatial Climate Models for North America. *American Meteorological Society*, 1611–1622. doi:10.1175/BAMS-D-10-3132.1

Drainage Information

Information about, and tools for, generating Intensity Duration Frequency curves are available through:

Ministry of the Environment and Climate Change

AR4:A1B. Dynamically-downscaled climate projections with the PRECIS model under A1B emissions scenario, projected rainfall intensity-duration-frequency (IDF) curves and daily and hourly time series data for climate change impact assessment.

Ministry of Transportation

The IDF Curve Lookup is a web-based application provided by the Ontario Ministry of Transportation (MTO) for the purpose of retrieving Intensity-Duration-Frequency (IDF) curves.

Greenhouse Gas Emission Quantification and Reporting

Ontario Regulation and Guideline for Greenhouse Gas Emissions Reporting

Ontario filed a new Quantification, Reporting, and Verification of Greenhouse Gas Emissions Regulation O. Reg. 143/16 made under the *Climate Change Mitigation and Low-carbon Economy Act, 2016* on May 19, 2016, to support implementation of Ontario's cap and trade program. The new Quantification, Reporting and Verification of Greenhouse Gas Emissions Regulation (the "QRV Regulation") and

incorporated Guideline took effect on January 1, 2017, and applies to activities carried out by persons on and after January 1, 2017. The Guideline and QRV Regulation support the collecting and public reporting on industrial greenhouse gas emissions.

National and International

Technical Guidance on Reporting Greenhouse Gas Emissions / Facility Greenhouse Gas Emissions Reporting Environment and Climate Change Canada (December 2016)

2006 IPCC Guidelines for National Greenhouse Gas Inventories - Volume 3 -Industrial Processes and Product Use

Appendix D

Additional Resources

Published Sources of Climate Change Consideration in Project Planning, Environmental Assessment

For additional reference, approaches, and methods for incorporating climate change considerations in project planning and environmental assessment, see:

- Alberta Environment. February 2011. Guide to Preparing Environmental Impact Assessment Reports in Alberta.
- Canadian Environmental Assessment Agency. November 2003. Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners.
- Engineers Canada, Public Infrastructure Engineering Vulnerability Committee (PIEVC). November 2007. City of Portage la Prairie: Water Resources Infrastructure Assessment Phase II – Pilot Study.
- Engineers Canada, Public Infrastructure Engineering Vulnerability Committee (PIEVC). April 2008. Adapting to Climate Change: Canada's First National Engineering Vulnerability Assessment of Public Infrastructure.
- Intergovernmental Panel on Climate Change (IPCC). 2014: Summary for policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32.
- Ministry of Natural Resources and Ontario Centre for Climate Impacts and Adaptation Resources. 2011. A Practitioner's Guide to Climate Change Adaptation in Ontario's Ecosystems.
- Ministry of Transportation. 2012. Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects.
- Nova Scotia Environment. February 2011. Guide to Considering Climate Change in Project Development in Nova Scotia.
- Toronto and Region Conservation Authority. June 2010. National Engineering Vulnerability Assessment of Public Infrastructure to Climate Change: Toronto and Region Conservation Authority Flood Control Dam Water Resources Infrastructure Assessment.

- Warren, F.J. and Lemmen, D.S., editors (2014): Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation; Government of Canada, Ottawa, ON, 286p.

Glossary

The definitions in this glossary are intended to assist the reader in understanding the terms used in this Guide. The definitions for some of these terms were derived from the Fourth and Fifth Assessment Reports (AR4, AR5) of the Intergovernmental Panel on Climate Change (2007, 2013) and the Report of the Expert Panel on Climate Change Adaptation (2009). For terms that are also contained in the *Environmental Assessment Act*, the wording and meaning contained in the *Environmental Assessment Act* shall prevail.

adaptation
Adaptation is the process of adjustment in the built and natural environments in response to actual or expected climate change and its impacts. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate change and its impacts.

In natural resources management, adaptation seeks to address the vulnerability of species or natural systems and processes by reducing threats, enhancing resilience, engaging people, and improving knowledge.

adaptive capacity
Adaptive capacity is the ability or potential of a species or ecological system to respond successfully to climate variability and change.

alternative methods
Alternative methods of carrying out the proposed undertaking are different ways of doing the same activity. Alternative methods could include consideration of one or more of the following: alternative technologies, alternative methods of applying specific technologies, alternative sites for a proposed undertaking, alternative design methods, and alternative methods of operating facilities associated with a proposed undertaking.

carbon sink
A carbon sink is any process, activity, or mechanism that removes carbon dioxide from the atmosphere. Examples of carbon sinks include, but are not limited to, oceans, forests, soils, peatlands, and wetlands.

carbon source
A carbon source is any process, activity, or mechanism that releases carbon dioxide into the atmosphere. Carbon sources may be anthropogenic, as in the combustion of fossil fuels, or natural in origin, as when plants release carbon dioxide into the atmosphere through respiration.

carbon stock

Carbon stock is the quantity of carbon in a carbon pool. Carbon pool refers to a physical component of the climate system where carbon is stored. Examples of carbon pools are forest biomass, wood products, soils, and the atmosphere.

climate change

Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.

climate change impacts

The term "climate change impacts" refers to both a project's impacts on climate change and the impacts to a project from climate change.

impacts of climate change

The impacts of climate change refers to the consequences of climate change on natural and human systems, such as on projects and the resulting environmental effects.

impacts on climate change

Impacts on climate change refers to a project's greenhouse gas emissions and any changes to carbon sinks, i.e., changes to the landscape that alters its ability to remove carbon dioxide from the atmosphere. These project effects could lead to increased levels of greenhouse gases in the atmosphere.

environment[*]

The *Environmental Assessment Act* defines "environment" to mean:

(a) air, land or water,
(b) plant and animal life, including human life,
(c) the social, economic and cultural conditions that influence the life of humans or a community,
(d) any building, structure, machine or other device or thing made by humans,
(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
(f) any part or combination of the foregoing and the interrelationships between any two or more of them,
in or of Ontario.

impact management measures

[*] An asterisk (*) beside a defined term indicates that the term is defined in the *Environmental Assessment Act.*

Measures which can lessen potential negative environmental effects or enhance positive environmental effects are referred to impact management measures. These measures could include mitigation, compensation, or community involvement.

mitigation (climate change)

Mitigation in the context of climate change refers to the use of measures or actions to avoid or reduce greenhouse gas emissions, to avoid or reduce impacts on carbon sinks, or to protect, enhance, or create carbon sinks.

proponent*

"Proponent" means a person who,
(a) carries out or proposes to carry out an undertaking, or
(b) is the owner or person having charge, management or control of an undertaking.

resilience

Resilience is the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.

terms of reference

An approved terms of reference sets out the framework for the planning and decision-making process to be followed by the proponent during the preparation of an environmental assessment. In other words, it is the proponent's work plan for what is going to be studied. The environmental assessment must be prepared in accordance with the approved terms of reference.

undertaking*

"Undertaking" means,
(a) an enterprise or activity or a proposal, plan or program in respect of an enterprise or activity by or on behalf of Her Majesty in right of Ontario, by a public body or public bodies or by a municipality or municipalities,
(b) a major commercial or business enterprise or activity or a proposal, plan or program in respect of a major commercial or business enterprise or activity of a person or persons other than a person or persons referred to in clause (a) that is designated by the regulations, or
(c) an enterprise or activity or a proposal, plan or program in respect of an enterprise or activity of a person or persons, other than a person or persons referred to in clause (a), if an agreement is entered into under section 3.0.1 in respect of the enterprise, activity, proposal, plan or program.
(Undertaking is also referred to as "project" in this Guide for brevity).

vulnerability

The degree to which components of the natural and built environment are susceptible to, and unable to withstand, the adverse impacts of climate change is referred to as vulnerability. Vulnerability is a function of the character, magnitude, and rate of climate change combined with the sensitivity and adaptive capacity of a system or thing.

Client's Guide to Preliminary Screening for Species at Risk

Ministry of the Environment, Conservation and Parks

Species at Risk Branch, Permissions and Compliance

DRAFT - May 2019

Table of Contents

1.0 Purpose, Scope, Background and Context

1.1 Purpose of this Guide

This guide has been created to:

- help clients better understand their obligation to gather information and complete a preliminary screening for species at risk before contacting the ministry,
- outline guidance and advice clients can expect to receive from the ministry at the preliminary screening stage,
- help clients understand how they can gather information about species at risk by accessing publicly available information housed by the Government of Ontario, and
- provide a list of other potential sources of species at risk information that exist outside the Government of Ontario.

It remains the client's responsibility to:

- carry out a preliminary screening for their projects,
- obtain best available information from all applicable information sources,
- conduct any necessary field studies or inventories to identify and confirm the presence or absence of species at risk or their habitat,
- consider any potential impacts to species at risk that a proposed activity might cause, and
- comply with the *Endangered Species Act* (ESA).

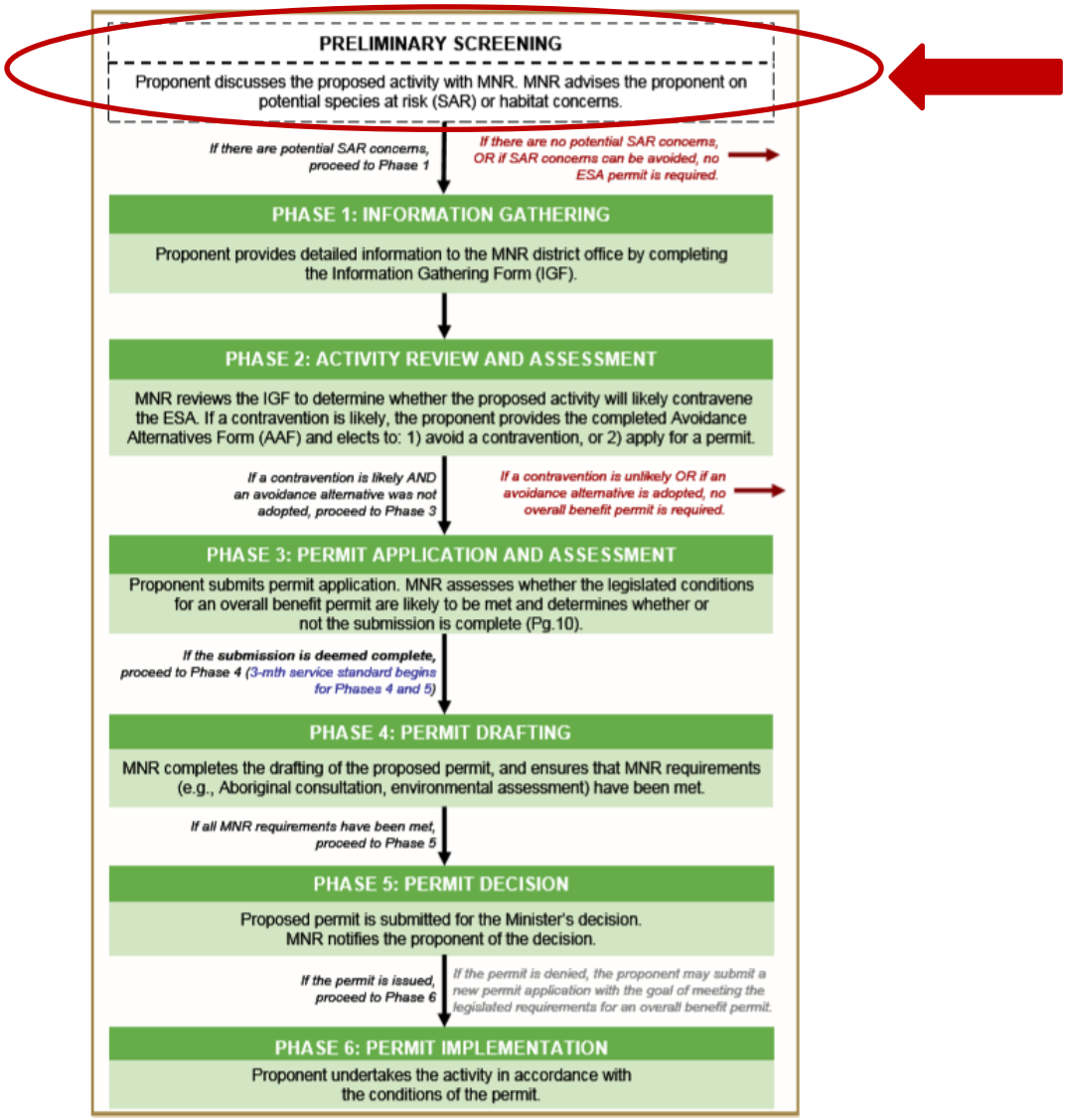
To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide, at a minimum, prior to contacting Government of Ontario ministry offices for further information or advice.

1.2 Scope

This guide is a resource for clients seeking to understand if their activity is likely to impact species at risk or if they are likely to trigger the need for an authorization under the ESA. It is not intended to circumvent any detailed site surveys that may be necessary to document species at risk or their habitat nor to circumvent the need to assess the impacts of a proposed activity on species at risk or their habitat. This guide is not an exhaustive list of available information sources for any given area as the availability of information on species at risk and their habitat varies across the province. This guide is intended to support projects and activities carried out on Crown and private land, by private landowners, businesses, other provincial ministries and agencies, or municipal government.

1.3 Background and Context

To receive advice on their proposed activity, clients must first determine whether any species at risk or their habitat exist or are likely to exist at or near their proposed activity, and whether their proposed activity is likely to contravene the ESA. Once this step is complete, clients may contact the ministry at SAROntario@ontario.ca to discuss the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. At this stage, the ministry can provide advice and guidance to the client about potential species at risk or habitat concerns, measures that the client is considering to avoid adverse effects on species at risk or their habitat and whether additional field surveys are advisable. This is referred to as the "Preliminary Screening" stage. For more information on additional phases in the diagram below, please refer to the *Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits* policy available online at https://www.ontario.ca/page/species-risk-overall-benefit-permits. Please note: any reference to MNR in the diagram is replaced by MECP.



2.0 Roles and Responsibilities

To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide prior to contacting Government of Ontario ministry offices for further information or advice.

Step 1: Client seeks information regarding species at risk or their habitat that exist, or are likely to exist, at or near their proposed activity by referring to all applicable information sources identified in this guide.

Step 2: Client reviews and consider guidance on whether their proposed activity is likely to contravene the ESA (see section 3.4 of this guide for guidance on what to consider).

Step 3: Client gathers information identified in the checklist in section 4 of this guide.

Step 4: Client contacts the ministry at SAROntario@ontario.ca to discuss their preliminary screening. Ministry staff will ask the client questions about the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. Ministry staff will also ask the client for their interpretation of the impacts of their activity on species at risk or their habitat as well as measures the client has considered to avoid any adverse impacts.

Step 5: Ministry staff will provide advice on next steps.

Option A: Ministry staff may advise the client they can proceed with their activity without an authorization under the ESA where the ministry is confident that:

- no protected species at risk or habitats are likely to be present at or near the proposed location of the activity; or
- protected species at risk or habitats are known to be present but the activity is not likely to contravene the ESA; or
- through the adoption of avoidance measures, the modified activity is not likely to contravene the ESA.

Option B: Ministry staff may advise the client to proceed to Phase 1 of the overall benefit permitting process (i.e. Information Gathering in the previous diagram), where:

- there is uncertainty as to whether any protected species at risk or habitats are present at or near the proposed location of the activity; or
- the potential impacts of the proposed activity are uncertain; or
- ministry staff anticipate the proposed activity is likely to contravene the ESA.

3.0 Information Sources

Land Information Ontario (LIO) and the Natural Heritage Information Centre (NHIC) maintain and provide information about species at risk, as well as related information about fisheries, wildlife, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory approvals and planning processes.

The information available from LIO or NHIC and the sources listed in this guide should not be considered as a substitute for site visits and appropriate field surveys. Generally, this information can be regarded as a starting point from which to conduct further field surveys, if needed. While this data represents best available current information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in more remote parts of the province. The absence of species at risk location data at or near your site does not necessarily mean no species at risk are present at that location. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats.

Information on the location (i.e. observations and occurrences) of species at risk is considered sensitive and therefore publicly available only on a 1km square grid as opposed to as a detailed point on a map. This generalized information can help you understand which species at risk are in the general vicinity of your proposed activity and can help inform field level studies you may want to undertake to confirm the presence, or absence of species at risk at or near your site.

Should you require specific and detailed information pertaining to species at risk observations and occurrences at or near your site on a finer geographic scale; you will be required to demonstrate your need to access this information, to complete data sensitivity training and to obtain a Sensitive Data Use License from the NHIC. Information on how to obtain a license can be found online at https://www.ontario.ca/page/get-natural-heritage-information.

Many organizations (e.g. other Ontario ministries, municipalities, conservation authorities) have ongoing licensing to access this data so be sure to check if your organization has this access and consult this data as part of your preliminary screening if your organization already has a license.

3.1 Make a Map: Natural Heritage Areas

The Make a Natural Heritage Area Map (available online at https://www.ontario.ca/page/make-natural-heritage-area-map provides public access to natural heritage information, including species at risk, without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify generalized species at risk information, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk has been generalized to a 1-kilometre grid to mitigate the risks to the species (e.g. illegal harvest, habitat disturbance, poaching).

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map; however, information included in this application is available digitally through Land Information Ontario (LIO) at https://www.ontario.ca/page/land-information-ontario.

3.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large provincial corporate database called the LIO Warehouse and can be accessed online through the LIO Metadata Management Tool at https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

While most data are publicly available, some data may be considered highly sensitive (i.e. nursery areas for fish, species at risk observations) and as such, access to some data maybe restricted.

3.3 Additional Species at Risk Information Sources

- The Breeding Bird Atlas can be accessed online at http://www.birdsontario.org/atlas/index.jsp?lang=en
- eBird can be accessed online at https://ebird.org/home
- iNaturalist can be accessed online at https://www.inaturalist.org/
- The Ontario Reptile and Amphibian Atlas can be accessed online at https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas
- Your local Conservation Authority. Information to help you find your local Conservation Authority can be accessed online at https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/

  Local naturalist groups or other similar community-based organizations
- Local Indigenous communities
- Local land trusts or other similar Environmental Non-Government Organizations
- Field level studies to identify if species at risk, or their habitat, are likely present or absent at or near the site.
- When an activity is proposed within one of the continuous caribou ranges, please be sure to consider the caribou Range Management Policy. This policy includes figures and maps of the continuous caribou range, can be found online at https://www.ontario.ca/page/range-management-policy-support-woodland-caribou-conservation-and-recovery

3.4 Information Sources to Support Impact Assessments

- Guidance to help you understand if your activity is likely to adversely impact species at risk or their habitat can be found online at https://www.ontario.ca/page/policy-guidance-harm-and-harass-under-endangered-species-act and https://www.ontario.ca/page/categorizing-and-protecting-habitat-under-endangered-species-act
- A list of species at risk in Ontario is available online at https://www.ontario.ca/page/species-risk-ontario. On this webpage, you can find out more about each species, including where is lives, what threatens it and any specific habitat protections that apply to it by clicking on the photo of the species.

4.0 Check-List

Please feel free to use the check list below to help you confirm you have explored all applicable information sources and to support your discussion with Ministry staff at the preliminary screening stage.

- ✓ Land Information Ontario (LIO)
- ✓ Natural Heritage Information Centre (NHIC)
- ✓ The Breeding Bird Atlas
- ✓ eBird
- ✓ iNaturalist
- ✓ Ontario Reptile and Amphibian Atlas
- ✓ List Conservation Authorities you contacted:_____

  _____
- ✓ List local naturalist groups you contacted:_____

  _____
- ✓ List local Indigenous communities you contacted:_____

  _____
- ✓ List any other local land trusts or Environmental Non-Government Organizations you contacted:_____

  _____
- ✓ List and field studies that were conducted to identify species at risk, or their habitat, likely to be present or absent at or near the site: _____

  _____
- ✓ List what you think the likely impacts of your activity are on species at risk and their habitat (e.g. damage or destruction of habitat, killing, harming or harassing species at risk):_____

  _____

A PROPONENT'S INTRODUCTION TO THE DELEGATION OF PROCEDURAL ASPECTS OF CONSULTATION WITH ABORIGINAL COMMUNITIES

DEFINITIONS

The following definitions are specific to this document and may not apply in other contexts:

Aboriginal communities – the First Nation or Métis communities identified by the Crown for the purpose of consultation.

Consultation – the Crown's legal obligation to consult when the Crown has knowledge of an established or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. This is the type of consultation required pursuant to s. 35 of the *Constitution Act, 1982*. Note that this definition does not include consultation with Aboriginal communities for other reasons, such as regulatory requirements.

Crown – the Ontario Crown, acting through a particular ministry or ministries.

Procedural aspects of consultation – those portions of consultation related to the process of consultation, such as notifying an Aboriginal community about a project, providing information about the potential impacts of a project, responding to concerns raised by an Aboriginal community and proposing changes to the project to avoid negative impacts.

Proponent – the person or entity that wants to undertake a project and requires an Ontario Crown decision or approval for the project.

I. PURPOSE

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that may adversely impact that right. In outlining a framework for the duty to consult, the Supreme Court of Canada has stated that the Crown may delegate procedural aspects of consultation to third parties. This document provides general information about the Ontario Crown's approach to delegation of the procedural aspects of consultation to proponents.

This document is not intended to instruct a proponent about an individual project, and it does not constitute legal advice.

II. WHY IS IT NECESSARY TO CONSULT WITH ABORIGINAL COMMUNITIES?

The objective of the modern law of Aboriginal and treaty rights is the *reconciliation* of Aboriginal peoples and non-Aboriginal peoples and their respective rights, claims and interests. Consultation is an important component of the reconciliation process.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. For example, the Crown's duty to consult is triggered when it considers issuing a permit, authorization or approval for a project which has the potential to adversely impact an Aboriginal right, such as the right to hunt, fish, or trap in a particular area.

The scope of consultation required in particular circumstances ranges across a spectrum depending on both the nature of the asserted or established right and the seriousness of the potential adverse impacts on that right.

Depending on the particular circumstances, the Crown may also need to take steps to accommodate the potentially impacted Aboriginal or treaty right. For example, the Crown may be required to avoid or minimize the potential adverse impacts of the project.

III. THE CROWN'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

The Crown has the responsibility for ensuring that the duty to consult, and accommodate where appropriate, is met. However, the Crown may delegate the procedural aspects of consultation to a proponent.

There are different ways in which the Crown may delegate the procedural aspects of consultation to a proponent, including through a letter, a memorandum of understanding, legislation, regulation, policy and codes of practice.

If the Crown decides to delegate procedural aspects of consultation, the Crown will generally:

- Ensure that the delegation of procedural aspects of consultation and the responsibilities of the proponent are clearly communicated to the proponent;
- Identify which Aboriginal communities must be consulted;
- Provide contact information for the Aboriginal communities;
- Revise, as necessary, the list of Aboriginal communities to be consulted as new information becomes available and is assessed by the Crown;
- Assess the scope of consultation owed to the Aboriginal communities;

- Maintain appropriate oversight of the actions taken by the proponent in fulfilling the procedural aspects of consultation;
- Assess the adequacy of consultation that is undertaken and any accommodation that may be required;
- Provide a contact within any responsible ministry in case issues arise that require direction from the Crown; and
- Participate in the consultation process as necessary and as determined by the Crown.

IV. THE PROPONENT'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

Where aspects of the consultation process have been delegated to a proponent, the Crown, in meeting its duty to consult, will rely on the proponent's consultation activities and documentation of those activities. The consultation process informs the Crown's decision of whether or not to approve a proposed project or activity.

A proponent's role and responsibilities will vary depending on a variety of factors including the extent of consultation required in the circumstance and the procedural aspects of consultation the Crown has delegated to it. Proponents are often in a better position than the Crown to discuss a project and its potential impacts with Aboriginal communities and to determine ways to avoid or minimize the adverse impacts of a project.

A proponent can raise issues or questions with the Crown at any time during the consultation process. If issues or concerns arise during the consultation that cannot be addressed by the proponent, the proponent should contact the Crown.

a) What might a proponent be required to do in carrying out the procedural aspects of consultation?

Where the Crown delegates procedural aspects of consultation, it is often the proponent's responsibility to provide notice of the proposed project to the identified Aboriginal communities. The notice should indicate that the Crown has delegated the procedural aspects of consultation to the proponent and should include the following information:

- a description of the proposed project or activity;
- mapping;
- proposed timelines;
- details regarding anticipated environmental and other impacts;
- details regarding opportunities to comment; and
- any changes to the proposed project that have been made for seasonal conditions or other factors, where relevant.

Proponents should provide enough information and time to allow Aboriginal communities to provide meaningful feedback regarding the potential impacts of the project. Depending on the nature of consultation required for a project, a proponent also may be required to:

- provide the Crown with copies of any consultation plans prepared and an opportunity to review and comment;
- ensure that any necessary follow-up discussions with Aboriginal communities take place in a timely manner, including to confirm receipt of information, share and update information and to address questions or concerns that may arise;
- as appropriate, discuss with Aboriginal communities potential mitigation measures and/or changes to the project in response to concerns raised by Aboriginal communities;
- use language that is accessible and not overly technical, and translate material into Aboriginal languages where requested or appropriate;
- bear the reasonable costs associated with the consultation process such as, but not limited to, meeting hall rental, meal costs, document translation(s), or to address technical & capacity issues;
- provide the Crown with all the details about potential impacts on established or asserted Aboriginal or treaty rights, how these concerns have been considered and addressed by the proponent and the Aboriginal communities and any steps taken to mitigate the potential impacts;
- provide the Crown with complete and accurate documentation from these meetings and communications; and
- notify the Crown immediately if an Aboriginal community not identified by the Crown approaches the proponent seeking consultation opportunities.

b) What documentation and reporting does the Crown need from the proponent?

Proponents should keep records of all communications with the Aboriginal communities involved in the consultation process and any information provided to these Aboriginal communities.

As the Crown is required to assess the adequacy of consultation, it needs documentation to satisfy itself that the proponent has fulfilled the procedural aspects of consultation delegated to it. The documentation required would typically include:

- the date of meetings, the agendas, any materials distributed, those in attendance and copies of any minutes prepared;
- the description of the proposed project that was shared at the meeting;
- any and all concerns or other feedback provided by the communities;
- any information that was shared by a community in relation to its asserted or established Aboriginal or treaty rights and any potential adverse impacts of the proposed activity, approval or disposition on such rights;

- any proposed project changes or mitigation measures that were discussed, and feedback from Aboriginal communities about the proposed changes and measures;
- any commitments made by the proponent in response to any concerns raised, and feedback from Aboriginal communities on those commitments;
- copies of correspondence to or from Aboriginal communities, and any materials distributed electronically or by mail;
- information regarding any financial assistance provided by the proponent to enable participation by Aboriginal communities in the consultation;
- periodic consultation progress reports or copies of meeting notes if requested by the Crown;
- a summary of how the delegated aspects of consultation were carried out and the results; and
- a summary of issues raised by the Aboriginal communities, how the issues were addressed and any outstanding issues.

In certain circumstances, the Crown may share and discuss the proponent's consultation record with an Aboriginal community to ensure that it is an accurate reflection of the consultation process.

c) Will the Crown require a proponent to provide information about its commercial arrangements with Aboriginal communities?

The Crown may require a proponent to share information about aspects of commercial arrangements between the proponent and Aboriginal communities where the arrangements:

- include elements that are directed at mitigating or otherwise addressing impacts of the project;
- include securing an Aboriginal community's support for the project; or
- may potentially affect the obligations of the Crown to the Aboriginal communities.

The proponent should make every reasonable effort to exempt the Crown from confidentiality provisions in commercial arrangements with Aboriginal communities to the extent necessary to allow this information to be shared with the Crown.

The Crown cannot guarantee that information shared with the Crown will remain confidential. Confidential commercial information should not be provided to the Crown as part of the consultation record if it is not relevant to the duty to consult or otherwise required to be submitted to the Crown as part of the regulatory process.

V. WHAT ARE THE ROLES AND RESPONSIBILITIES OF ABORIGINAL COMMUNITIES' IN THE CONSULTATION PROCESS?

Like the Crown, Aboriginal communities are expected to engage in consultation in good faith. This includes:

- responding to the consultation notice;
- engaging in the proposed consultation process;
- providing relevant information;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigate any adverse impacts.

Some Aboriginal communities have developed tools, such as consultation protocols, policies or processes that provide guidance on how they would prefer to be consulted. Although not legally binding, proponents are encouraged to respect these community processes where it is reasonable to do so. Please note that there is no obligation for a proponent to pay a fee to an Aboriginal community in order to enter into a consultation process.

To ensure that the Crown is aware of existing community consultation protocols, proponents should contact the relevant Crown ministry when presented with a consultation protocol by an Aboriginal community or anyone purporting to be a representative of an Aboriginal community.

VI. WHAT IF MORE THAN ONE PROVINCIAL CROWN MINISTRY IS INVOLVED IN APPROVING A PROPONENT'S PROJECT?

Depending on the project and the required permits or approvals, one or more ministries may delegate procedural aspects of the Crown's duty to consult to the proponent. The proponent may contact individual ministries for guidance related to the delegation of procedural aspects of consultation for ministry-specific permits/approvals required for the project in question. Proponents are encouraged to seek input from all involved Crown ministries sooner rather than later.

Stea, Cassie

From: Slattery, Barbara (MECP) <barbara.slattery@ontario.ca>
Sent: Friday, March 19, 2021 4:01 PM
To: Brittany Bryans; Jones, Lee Anne/TOR
Cc: Badali, Mark (MECP)
Subject: Revised Acknowledgement Letter - Lake Huron Water Treatment Plan Disinfection and Storage
Attachments: Lake Huron Water Treatment Plant Disinfection and Storage Revised Acknowledgement letter.docx

Good afternoon,

It has come to my attention that I did not provide you with a complete list of the First Nations communities in my acknowledgement letter of February 26th. Attached please find the corrected and complete list.

I apologize for the inconvenience that my error may have caused.

Thank you

Barb Slattery, EA/Planning Coordinator
Ministry of the Environment, Conservation and Parks
Project Review Unit, Environmental Assessment Branch
(365) 366-8185

Ontario

Ministry of the Environment, Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Direction des évaluations environnementales

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

365-366-8185
Via email only

March 19, 2021

Brittany Bryans
Lake Huron And Elgin Water Systems

Lee Anne Jones
Jacobs

Re: REVISION to Response to Notice of Commencement
Lake Huron Water Treatment Plant and Disinfection Class EA

This letter is in response to the Notice of Commencement for the Lake Huron Water Treatment Plan and Disinfection Class EA recently issued by Lake Huron and Elgin Water Systems. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Schedule "B" process under the MEA Class EA will be to continue with the direction provided by the recently completed LHPWSS Master Water Plan Update (2020) which identified the need to improve disinfection and increase water storage to meet water demands to the year 2038. Accordingly, the City of London's Regional Water Supply Division, on behalf of the LHPWSS, has initiated a Schedule B Municipal Class Environmental Assessment to confirm and refine the preferred alternative to enhance disinfection at the water treatment plant and meet the water storage requirements, while providing the plant with flexibility to implement energy management and other operational strategies.

As part of the EA, it is expected that impacts to source protection, climate change adaptation and mitigation and impacts to species at risk and their habitats will all be considered along with a discussion of all permits and approvals that may be required to implement the identified improvements. Resources to assist in meeting these expectations are included with this letter.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that it's duty to consult has been fulfilled where such a duty is triggered. Although the duty to consult with Aboriginal Peoples is a duty of the Crown, the Crown may

delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

Your proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to your proposed project**, the MECP is delegating the procedural aspects of rights-based consultation to you through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information you have provided to date and the Crown`s preliminary assessment you are required to consult with the following communities who have been identified as potentially affected by your proposed project:

- Aamjiwnaang First Nation
- Bkejwanong (Walpole Island)
- Caldwell First Nation
- Chippewas of Kettle and Stony Point
- Chippewas of the Thames First Nation
- Oneida Nation of the Thames
- Munsee-Delaware Nation

Steps that you may need to take in relation to Aboriginal consultation for your proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process" which can be found at the following link: https://www.ontario.ca/document/consultation-ontarios-environmental-assessment-process Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments

You must contact the Director of Environmental Approvals and Permissions Branch under the following circumstances after discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right
- Consultation has reached an impasse
- A Part II Order request or elevation request is expected

The Director of the Environmental Assessment and Permissions Branch can be notified either by email with the subject line "Potential Duty to Consult" by mail, email or fax at the addresses provided below:

Email:	enviropermissions@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Approvals and Permissions Branch 135 St. Clair Avenue West, 1st Floor Toronto, ON, M4V 1P5

The MECP will then assess the extent of any Crown duty to consult and will consider whether additional steps should be taken, including what role you will be asked to play in them.

Royal Assent was given on July 22nd to Bill 197 which made changes to the provincial environmental assessment process. Proponents are still required to submit a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the Proponent.

Now however, the Notice of Completion is to advise that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding **potential adverse impacts to constitutionally protected Aboriginal and treaty rights,** Part II Order requests on those matters should be addressed in writing to:

Minister Jeff Yurek
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
ClassEAnotices@ontario.ca

Please note that you cannot proceed with any identified improvements until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, you may not proceed after this time if:

- a Part II Order request has been submitted to the ministry regarding **potential adverse impacts to constitutionally protected Aboriginal and treaty rights**, or
- the Director has issued a Notice of Proposed order regarding some aspect of the project.

If other concerns with the Project File and/or EA process are made known to the minister, or determined following a review of the Project File, the Minister reserves the right to issue an order on his or her own initiative within a specified time period. Within the 30 days following the Notice of Completion, the Director would first issue a Notice of Proposed Order to the City if the Minister is considering an order for the project. At this time, the Director may request that additional information be submitted. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

If you have any questions or require clarification on any of the points provided herein, please contact me at 365-366-8185 or via email at Barbara.slattery@ontario.ca

I also take this opportunity to advise you that effective as of March 31st, I will be retired from the ministry so all further correspondence on this EA should be directed to Mark Badali, also copied on this email.

With best regards,

EA/Planning Coordinator
Encl.

Stea, Cassie

From: MNRF Ayl Planners (MNRF) <MNRF.Ayl.Planners@ontario.ca>
Sent: Monday, February 8, 2021 9:56 AM
To: bbryans@huronelginwater.ca; Jones, Lee Anne/TOR
Cc: Stea, Cassie
Subject: [EXTERNAL] RE: Notice of Commencement - Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment
Attachments: image001.wmz; CE801200_LakeHuron_NoticeCommencement_Final.pdf; NHGuide_MNRF_2019-04-01.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Ministry of Natural Resources and Forestry **Ministère des Richesses naturelles et des Forêts**

Ontario

February 8, 2021

Brittany Bryans, P.Eng.
Research and Process Optimization Engineer, Regional Water Supply
Lake Huron and Elgin Area Water Systems
235 North Centre Road, Suite 200
London, Ontario N5X 4E7
519-930-3505 ext. 4470
bbryans@huronelginwater.ca

Lee Anne Jones, P.Eng.
Project Manager
Jacobs
245 Consumers Road, Suite 400
Toronto, Ontario M2J 1R3
(416) 499-9000 X 73616
leeanne.jones@jacobs.com

Subject: Notice of Commencement - Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment

The Ministry of Natural Resources and Forestry (MNRF) received the attached notice for the proposed Lake Huron Water Treatment Plant Disinfection and Storage Upgrades project. Thank you for circulating this information to our office, however, please note that we have not completed a screening of natural heritage or other resource values for the project at this time. Please also note

that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

This response provides information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, and engaging with the MNRF for advice as needed.

Natural Heritage & Endangered Species Act

In order to provide the most efficient service possible, the attached Natural Heritage Information Request Guide has been developed to assist you with accessing natural heritage data and values from convenient online sources.

It remains the proponent's responsibility to complete a preliminary screening for each project, to obtain available information from multiple sources, to conduct any necessary field studies, and to consider any potential environmental impacts that may result from an activity. We wish to emphasize the need for the proponents of development activities to complete screenings prior to contacting the Ministry or other agencies for more detailed technical information and advice.

The Ministry continues to work on updating data housed by Land Information Ontario and the Natural Heritage Information Centre, and ensuring this information is accessible through online resources. Species at risk data is regularly being updated. To ensure access to reliable and up to date information, please contact the Ministry of the Environment, Conservation and Parks at SAROntario@ontario.ca.

Petroleum Wells & Oil, Gas and Salt Resource Act

There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best known data on any wells recorded by MNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the Library website in order to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Gas and Salt Resource Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.

Public Lands Act & Lakes and Rivers Improvement Act

Some projects may be subject to the provisions of the *Public Lands Act* or the *Lakes and Rivers Improvement Act*. Please review the information on MNRF's web pages provided below regarding when an approval is required or not. Please note that many of the authorizations issued under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*: https://www.ontario.ca/page/crown-land-work-permits
- For more information about the *Lakes and Rivers Improvement Act*: https://www.ontario.ca/document/lakes-and-rivers-improvement-act-administrative-guide

After reviewing the information provided, if you have not identified any of MNRF's interests stated above, there is no need to circulate any subsequent notices to our office.

If you have any questions or concerns, please feel free to contact me.

Sincerely,
Karina

Karina Černiavskaja, District Planner
Ministry of Natural Resources and Forestry
Email: MNRF.Ayl.Planners@ontario.ca

Ontario

As part of providing accessible customer service, please let me know if you have any accommodation needs or require communication supports or alternate formats.

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Monday, February 01, 2021 11:43 AM
To: Stea, Cassie <Cassie.Stea@jacobs.com>
Cc: Jones, Lee Anne/TOR <LeeAnne.Jones@jacobs.com>; Brittany Bryans <bbryans@huronelginwater.ca>
Subject: Notice of Commencement - Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment

Hello,

The City of London's Regional Water Supply Division, on behalf of the Lake Huron Primary Water Supply System, is conducting a Class Environmental Assessment for Disinfection and Storage Upgrades at the Lake Huron Water Treatment Plant, located in Grand Bend, Ontario.

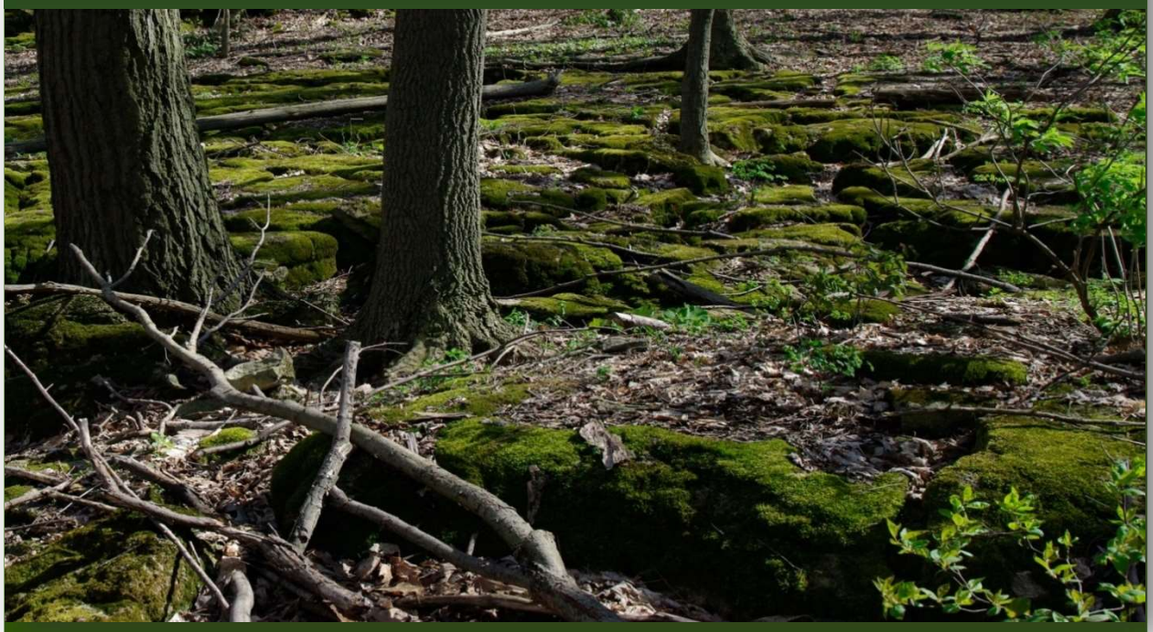
Please see the attached Notice of Study Commencement for additional information. If you would like to provide comments or have further questions, please contact a member of the Project Team listed in the attached notice.

Regards,
Cassie Stea

Cassie Stea | Jacobs | Water Engineer-in-Training
People, Places & Solutions | Toronto, Canada

Ministry of Natural Resources and Forestry

Ontario



Natural Heritage Information Request Guide

Regional Operations Division, Ministry of Natural Resources & Forestry

Update – April 1, 2019

Table of Contents

1.0 Background, Purpose and Scope

1.1 Background

The Ministry of Natural Resources and Forestry (MNRF) maintains a substantial amount of natural heritage information. The Government of Ontario is committed to transparency, customer service, and making information more publicly accessible. Access to natural heritage information is critical to informing municipal planning processes, development activities, and other initiatives such as science and research. To make natural heritage information more accessible and better understood, this document consolidates available MNRF natural heritage information and outlines how this information can be accessed.

1.2 Purpose of this Guide

The purpose of this guide is three-fold:

1. To provide a directory of natural heritage information sources available from the MNRF;
2. To reduce wait times for users to access the data, especially considering that much of the information is open and accessible; and
3. To help users efficiently access available data.

It remains the proponent's responsibility to:

- Complete a preliminary screening for their projects,
- Obtain available information from multiple sources,
- Conduct any necessary field studies, and
- Consider any potential environmental impacts that may result from a proposed activity.

To provide the most efficient service possible, proponents should complete natural heritage screenings **prior** to contacting Government of Ontario Ministry offices or other agencies for more detailed technical information and advice. This guide provides detailed information on where and how to access information to screen a study area in advance of consulting with Ministries.

1.3 Scope

MNRF maintains and provides information related to its resource management and land use planning mandate, including natural heritage, fisheries, wildlife, mineral aggregate resources, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory

approvals and planning processes. This guide has been created to help users navigate the available natural heritage information to support various activities. This guide additionally provides a list of other sources of information beyond MNRF, although it is not intended to be an exhaustive list of available sources.

This guide does not replace the Natural Heritage Reference Manual but is intended to support it. This guide is not intended to circumvent any field studies that may be necessary to document features and assess impacts.

This guide is a resource for proponents during project planning. Reviewing the layers listed in the appendices will enable proponents to prepare for both proponent and government led Environmental Assessments. For projects proposed on crown land, MNRF is the permitting agency and there may be additional initial screening requirements. Further studies may be required depending on the nature and location of the project.

1.4 Audience

The intent of this public guide is to make it easier for the proponents and consultants to access relevant information. This guide will also help internal Ministry staff who are responding to information requests or site screenings.

1.5 Disclaimer

The information available from MNRF and the sources listed below in the appendices should **not be considered as a substitute for site visits and appropriate field surveys.** Generally, information available from MNRF can be regarded as a starting point from which to conduct further field studies, if needed. While this data represents MNRF's best available current information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. There are many areas where MNRF does not currently have information. On-site assessments can better verify site conditions, identify natural features and values and confirm presence of species at risk and/or their habitats.

This guide will be updated from time to time. For a current version of this guide, please contact your local or regional Government of Ontario Ministry office. Up-to-date contact information for Ministry offices can be obtained through the Government of Ontario Employee and Organization Directory, Info-GO, available at http://www.infogo.gov.on.ca/infogo/home.html.

2.0 Data Resources

2.1 Make a Map: Natural Heritage Areas

The MNRF maintains the Make a Natural Heritage Area Map: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US which provides public access to natural heritage information without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify natural heritage features, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Make a Natural Heritage Area Map should be consulted as a first step in screening for natural heritage features. This tool does not provide access to all of the MNRF's natural heritage information and some layers may be incomplete.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk, rare plant communities and wildlife concentration areas has been generalized to a 1-kilometre grid.

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- provincial parks and conservation reserves,
- Areas of Natural and Scientific Interest,
- Wetlands,
- Woodlands, and
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map, however, information included in this application is available digitally through Land Information Ontario: https://www.ontario.ca/page/land-information-ontario (LIO).

2.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large corporate database called the LIO Warehouse and can be discovered through the LIO Metadata Management Tool: https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

The LIO Metadata Management Tool helps users to find, assess and access GIS data and houses up to 350 data and information products. Geospatial data are available through this tool, including (but not limited to):

- **Aquatic Resource Area (ARA) data classes:** general fisheries spatial data including water body type, thermal regime and fish species
- **Spawning Area (fish)**
- **Nursery Area (fish)**
- **Nesting Site (birds)**
- **Areas of Natural and Scientific Interest (ANSIs)**
- **Wetlands**
- **Wintering Area (deer, moose, etc.)**
- **Fire (Potential Hazardous Forest Types for Wildland Fire**

Appendix A links MNRF's authoritative, relevant data sets to the location in the LIO Database where the data can be downloaded.

Note that while most data is publicly available, some data may be considered highly sensitive (i.e., Nursery Areas for fish, species at risk observations), and as such, restrictions are in place limiting access to this information.

2.3 Species at Risk

For detailed information on species at risk, please visit Make a Natural Heritage Areas Map or contact the Ministry of Environment, Conservation and Parks at SAROntario@ontario.ca.

2.4 Public Agencies

Ministries, Municipalities and Conservation Authorities may have proposed infrastructure work that requires screening. In these instances, these broader public sector organizations should contact the appropriate Ministry Office to explore more efficient ways to access information and make decisions. This could include entering into data sharing agreements. Please note that many public agencies already have ongoing data sharing agreements in place with LIO and the Natural Heritage Information Centre (NHIC).

2.5 For Additional Information

For information pertaining to corporate data, contact LIO for support by email at lio@ontario.ca or by telephone at 705-755-1878.

For further information pertaining to the NHIC, including data sharing agreements, please email NHICrequests@ontario.ca or call 705-755-2159.

There may be circumstances where a local Government of Ontario office should be consulted for additional information and/or technical advice. For instance, projects proposed on Crown Land should be discussed early in the project planning process with local MNRF District staff.

A listing of District offices can be found on this web page https://www.ontario.ca/page/ministry-natural-resources-and-forestry-regional-and-district-offices

Appendix A: Natural Heritage Mapping Resources

The table below provides users links to maps and GIS data depicting natural heritage. This list is intended to help guide a natural heritage screening exercise. Click in the *Information Source* column for hyperlinks.

Information Source	Theme	Instructions for using this information
Wetland	Significant Wetlands	Use field" WETLAND_SIGNIFICANCE = Evaluated-Provincial" for provincially significant wetlands.
	Coastal Weltands	Use field"COASTAL_IND=Yes" for Coastal Wetlands
	Fish & Wildlife, Wetlands	Support evaluation and identification of habitat and wetlands. Please consult user guide for details. Consult the User Guide for more information.
Make a Natural Heritage Areas Map	Endangered and Threatened Species	Turn on the NHIC 1 km Grid square and use the Find… tool to query for species intersecting the grid. Consult the User guide for more information.
	Fish & Wildlife Habitat	Turn on the NHIC 1 km Grid square and use the Find… tool to query for species intersecting the grid. Consult the User guide for more information.
Provincially Tracked Species 1KM Grid	Endangered and Threatened Species	Use field "SARO_STAUS= 'Endangered' or SARO_STATUS='Threatened'" for Endangered and Threatened species.
Wintering Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Aquatic Feeding Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Breeding Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Calving Fawning Site	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.

Information Source	Theme	Instructions for using this information
Den Site	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Feeding Area, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Habitat Planning Range	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Mineral Lick	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Nesting Site	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Nursery Area, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Resting Area	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Staging Area, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
Travel Corridor, Wildlife	Wildlife Habitat	Supports evaluation and identification of wildlife habitat.
ANSI	Significant Areas of Natural and Scientific Interest	Use the field "ANSI_SIGNIFICANCE = Provincial" if you need to view only Provincially Significant ANSI. Consult the User Guide for more information.
Wooded Area	Woodlands	Supports evaluation and identification of significant woodlands and wildlife habitat
ARA Line Segment	Fish Species and Habitat	Supports evaluation and identification of fish habitat by indicating fish species present in the water feature. Consult the User Guide for more information.

Information Source	Theme	Instructions for using this information
ARA Polygon Segment	Fish Species and Habitat	Supports evaluation and identification of fish habitat by indicating fish species present in the water feature. Consult the User Guide for more information.
	At Capacity Lake Trout Lakes	Use field" AT_DEVELOPMENT_CAPACITY_IND = Yes" for designated at capacity lakes
Aquatic Resource Area (ARA) Survey Point	Fish Species	Supports evaluation and identification of fish habitat by indicating fish species present at that location. Consult the User Guide for more information.
Spawning Area	Fish Habitat	Supports evaluation and identification of fish habitat
Nursery Area, Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Staging Area, Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Feeding Area, Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Travel Corridor Fish	Fish Habitat	Supports evaluation and identification of fish habitat
Ecoregion	Ecoregions	Used to determine what ecoregion covers your area
Natural heritage System Area	Natural Heritage System	Identifies Natural Heritage System Areas within the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, the Niagara Escarpment Plan and the Growth Plan for the Greater Golden Horseshoe. Consult this guide for more information.
Breeding Bird Atlas	Wildlife Habitat	Provides additional information on the location of Breeding Birds
eBird	Wildlife Habitat	Provides additional information on bird sightings

Information Source	Theme	Instructions for using this information
Ontario Reptile and Amphibian Atlas	Wildlife Habitat	Provides additional information on Reptile and Amphibian sightings
iNaturalist	Fish & Wildlife Habitat	Provides additional information on fish & wildlife sightings

Appendix B: Natural Heritage Information Resources

The table below provides users links to Natural Heritage policies and documentation that should be referenced when conducting a natural heritage screening exercise. Click in the *Information Source* column for hyperlinks

Information Source	Theme	Description
https://www.ontario.ca/document/water-work-timing-window-guidelines	Water Work Timing windows	An information source that can be used to determine in-water work timing windows
Inland Lakes designated for Lake Trout management	Fish Habitat	A list of lakes in Ontario that are managed as Lake Trout lakes
Significant wildlife habitat guide	Wildlife Habitat	Provides detailed information on the identification, description and prioritization of significant wildlife habitat.
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 6E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 6E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 7E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 7E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 5E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 5E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 3E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 3E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 3W	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 3E
Significant wildlife habitat ecoregional criteria schedules: Ecoregion 4E	Wildlife Habitat	Provides detailed information on the description, criteria, information sources and assessment methods for significant wildlife habitat in Ecoregion 3E
Significant wildlife habitat mitigation support tool	Wildlife Habitat	Provides advice and recommendations on how to mitigate wildlife habitat during a development process
Natural heritage reference manual	Natural Heritage	Provides guidance for implementing the natural heritage policies of the Provincial policy Statement

Appendix C: Other information Sources

The table below provides users links to other data and resources that could be relevant when screening for development. Click in the *Information Source* column for hyperlinks

Information Source	Theme
Crown Land Use Policy Atlas	Crown Land
Make a Topographic Map	Base Data Mapping
Pits and Quarries	Aggregates
Aggregate resources policies and procedures	Aggregates
Aggregate resources study	Aggregates
Exploring for and extracting oil, natural gas and salt resources	Oil, Gas and Salt Resources
Petroleum wells	Oil, Gas and Salt Resources
Great Lakes – St. Lawrence River System and Large inland lakes: Technical Guides for flooding, erosion and dynamic beaches in support of natural hazards policies 3.1 of the provincial policy statement	Hazards
Adaptive Management of Stream Corridors in Ontario including Natural Hazards Technical Guides	Hazards
The Wildland Fire Risk Assessment and Mitigation Reference Manual	Hazards

Information Source	Theme
Public Lands Act	Crown Land
Crown land work permits	Crown Land
Aggregate resources	Aggregates
Lakes and Rivers Improvement Act	Crown Land
Licence to collect fish for scientific or education purposes	Fish
https://www.ontario.ca/search/data-catalogue	Base Data mapping
Fire - Potential Hazardous Forest Types for Wildland Fire	Hazards
MNR Region	Base Data mapping
MNR District	Base Data mapping
GeoBase	Base Data mapping
Mining Lands Administration System (MLAS) – Map Viewer	Mines
Geoconnections	Base Data mapping

Information Source	Theme
Ministry of Northern Development and Mines Mapping and link to Geology Ontario databases	Mines
Ministry of Environment, Conservation and Parks Data	Environment
National Air Photo Library	Aerial photos
Archives Ontario Aerial Photography	Aerial photos
GEOGratis	Base Data mapping
County Soils Maps	Base Data mapping
Forest Fire Info Map	Hazards
Agricultural Information Atlas	Agriculture
Crown Land Automated Internet Mapping System	Mines
COSINE	Base Data mapping
GEONAME	Base Data mapping
Government-wide data inventory	Base Data mapping

Stea, Cassie

From: Harvey, Joseph (MHSTCI) <Joseph.Harvey@ontario.ca>
Sent: Thursday, February 25, 2021 2:44 PM
To: Jones, Lee Anne/TOR
Cc: Barboza, Karla (MHSTCI); Stea, Cassie; bbryans@huronelginwater.ca
Subject: [EXTERNAL] File 0013680: Notice of Commencement - Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment
Attachments: 2021-02-25_LakeHuronWaterTreatment-MHSTCI-Ltr.pdf

Lee Anne Jones,

Please find attached MHSTCI's comments on the above referenced project notice. Do not hesitate to contact me with any questions or concerns.

Regards,

Joseph Harvey | Heritage Planner (A)
Heritage, Tourism and Culture Division | Programs and Services Branch | Heritage Planning Unit
Ministry of Heritage, Sport, Tourism and Culture Industries
401 Bay Street
17th Floor, Suite 1700
Toronto, ON M7A 0A7
613.242.3743
Joseph.Harvey@ontario.ca

Ministry of Heritage, Sport, Tourism and Culture Industries

Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7
Tel: 613.242.3743

Ministère des Industries du Patrimoine, du Sport, du Tourisme et de la Culture

Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto, ON M7A 0A7
Tél: 613.242.3743

Ontario

February 25, 2021 EMAIL ONLY

Lee Anne Jones, P.Eng.
Project Manager
Jacobs
245 Consumers Road, Suite 400
Toronto, Ontario M2J 1R3
leeanne.jones@jacobs.com

MHSTCI File	**:**	**0013680**
Proponent	**:**	**Lake Huron Primary Water Supply System**
Subject	**:**	**Notice of Study Commencement – Schedule B MCEA**
Project	**:**	**Lake Huron Water Treatment Plant Disinfection and Storage Upgrades**
Location	**:**	**The LHPWSS Service Area includes; The City of London, The Municipality of Bluewater, The Municipality of Lambton Shores, The Township of Lucan-Biddulph, The Municipality of Middlesex Centre, The Municipality of North Middlesex, The Municipality of South Huron, and The Municipality of Strathroy-Caradoc.**

Dear Lee Anne Jones:

Thank you for providing the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) with the Notice of Study Commencement for the above-referenced project. MHSTCI's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage.

Under the EA process, the proponent is required to determine a project's potential impact on cultural heritage resources.

Project Summary
The recently completed LHPWSS Master Water Plan Update (2020) identified the need to improve disinfection and increase water storage at the LHWTP, to meet water demands to the year 2038. The City of London's Regional Water Supply Division, on behalf of the LHPWSS, has therefore initiated a Schedule B Municipal Class Environmental Assessment to confirm and refine the preferred alternative to enhance disinfection at the water treatment plant and meet the water storage requirements, while providing the plant with flexibility to implement energy management and other operational strategies.

Identifying Cultural Heritage Resources
While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Archaeological Resources
This EA project may impact archaeological resources and should be screened using the MHSTCI *Criteria for Evaluating Archaeological Potential* to determine if an archaeological assessment is needed. MHSTCI archaeological sites data are available at *archaeology@ontario.ca*. If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licenced under the *OHA*, who is responsible for submitting the report directly to MHSTCI for review.

Built Heritage Resources and Cultural Heritage Landscapes
A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken for the entire study area during the planning phase and will be summarized in the EA Report. This study will:

1. Describe the existing baseline cultural heritage conditions within the study area by identifying all known or potential built heritage resources and cultural heritage landscapes, including a historical summary of the study area. MHSTCI has developed screening criteria that may assist with this exercise: *Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Landscapes*.

2. Identify preliminary potential project-specific impacts on the known and potential built heritage resources and cultural heritage landscapes that have been identified. The report should include a description of the anticipated impact to each known or potential built heritage resource or cultural heritage landscape that has been identified.

3. Recommend measures to avoid or mitigate potential negative impacts to known or potential built heritage resources and cultural heritage landscapes. The proposed mitigation measures are to inform the next steps of project planning and design.

Given that this project covers a large study area, MHSTCI recommends that the Cultural Heritage Report is carried out so that step 1 described above is undertaken early in the planning process. Then, steps 2 and 3 can be undertaken once the preferred alternatives have been selected.

Environmental Assessment Reporting

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MHSTCI whether any technical cultural heritage studies will be completed for this EA project, and provide them to MHSTCI before issuing a Notice of Completion or commencing any work on the site. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, do not hesitate to contact me.

Sincerely,

Joseph Harvey
Heritage Planner
joseph.harvey@Ontario.ca

Copied to: Brittany Bryans, Research and Process Optimization Engineer, Lake Huron and Elgin Area Water Systems
Cassie Stea, Water Engineer-in-Training, Jacobs

Stea, Cassie

From: Jones, Lee Anne/TOR
Sent: Wednesday, February 17, 2021 12:34 PM
To: Stea, Cassie
Subject: FW: Hydro One Response: Lake Huron Water Treatment Plant Disinfection and Storage Upgrades
Attachments: 20210217-NoticeOfCommence-Lake Huron Water Treatment Plant Disinfection and Storage Upgrades.pdf

Please log
thanks

From: SecondaryLandUse@HydroOne.com <SecondaryLandUse@HydroOne.com>
Sent: Wednesday, February 17, 2021 9:32 AM
To: bbryans@huronelginwater.ca
Cc: Jones, Lee Anne/TOR <LeeAnne.Jones@jacobs.com>
Subject: [EXTERNAL] Hydro One Response: Lake Huron Water Treatment Plant Disinfection and Storage Upgrades

Please see the attached for Hydro One's Response.

Hydro One Networks Inc
SecondaryLandUse@HydroOne.com

Hydro One Networks Inc
483 Bay St
Toronto, ON

February 17, 2021

Re: Lake Huron Water Treatment Plant Disinfection and Storage Upgrades

Attention:
Brittany Bryans, P.Eng. Research and Process Optimization Engineer, Regional Water Supply Lake Huron and Elgin Area Water Systems

Thank you for sending us notification regarding (Lake Huron Water Treatment Plant Disinfection and Storage Upgrades). In our preliminary assessment, we have confirmed that Hydro One has existing high voltage Transmission facilities within your study area (see map attached). At this time we do not have sufficient information to comment on the potential resulting impacts that your project may have on our infrastructure. As such, we must stay informed as more information becomes available so that we can advise if any of the alternative solutions present actual conflicts with our assets, and if so; what resulting measures and costs could be incurred by the proponent. Note that this response does not constitute approval for your plans and is being sent to you as a courtesy to inform you that we must continue to be consulted on your project.

In addition to the existing infrastructure mentioned above, the applicable transmission corridor may have provisions for future lines or already contain secondary land uses (e.g., pipelines, watermains, parking). Please take this into consideration in your planning.

Also, we would like to bring to your attention that should (Lake Huron Water Treatment Plant Disinfection and Storage Upgrades) result in a Hydro One station expansion or transmission line replacement and/or relocation, an Environmental Assessment (EA) will be required as described under the Class Environmental Assessment for Minor Transmission Facilities (Hydro One, 2016). This EA process would require a minimum of 6 months for a Class EA Screening Process (or up to 18 months if a Full Class EA were to be required) to be completed. Associated costs will be allocated and recovered from proponents in accordance with the Transmission System Code. If triggered, Hydro One will rely on studies completed as part of the EA you are current undertaking.

Consulting with Hydro One on such matters during your project's EA process is critical to avoiding conflicts where possible or, where not possible, to streamlining processes (e.g., ensuring study coverage of expansion/relocation areas within the current EA). Once in receipt of more specific project information regarding the potential for conflicts (e.g., siting, routing), Hydro One will be in a better position to communicate objections or not objections to alternatives proposed.

If possible at this stage, please formally confirm that Hydro One infrastructure and associated rights-of-way will be completely avoided, or if not possible, allocate appropriate lead-time in your project schedule to collaboratively work through potential conflicts with Hydro One, which ultimately could result in timelines identified above.

In planning, note that developments should not reduce line clearances or limit access to our infrastructure at any time. Any construction activities must maintain the electrical clearance from the transmission line conductors as specified in the Ontario Health and Safety Act for the respective line voltage.

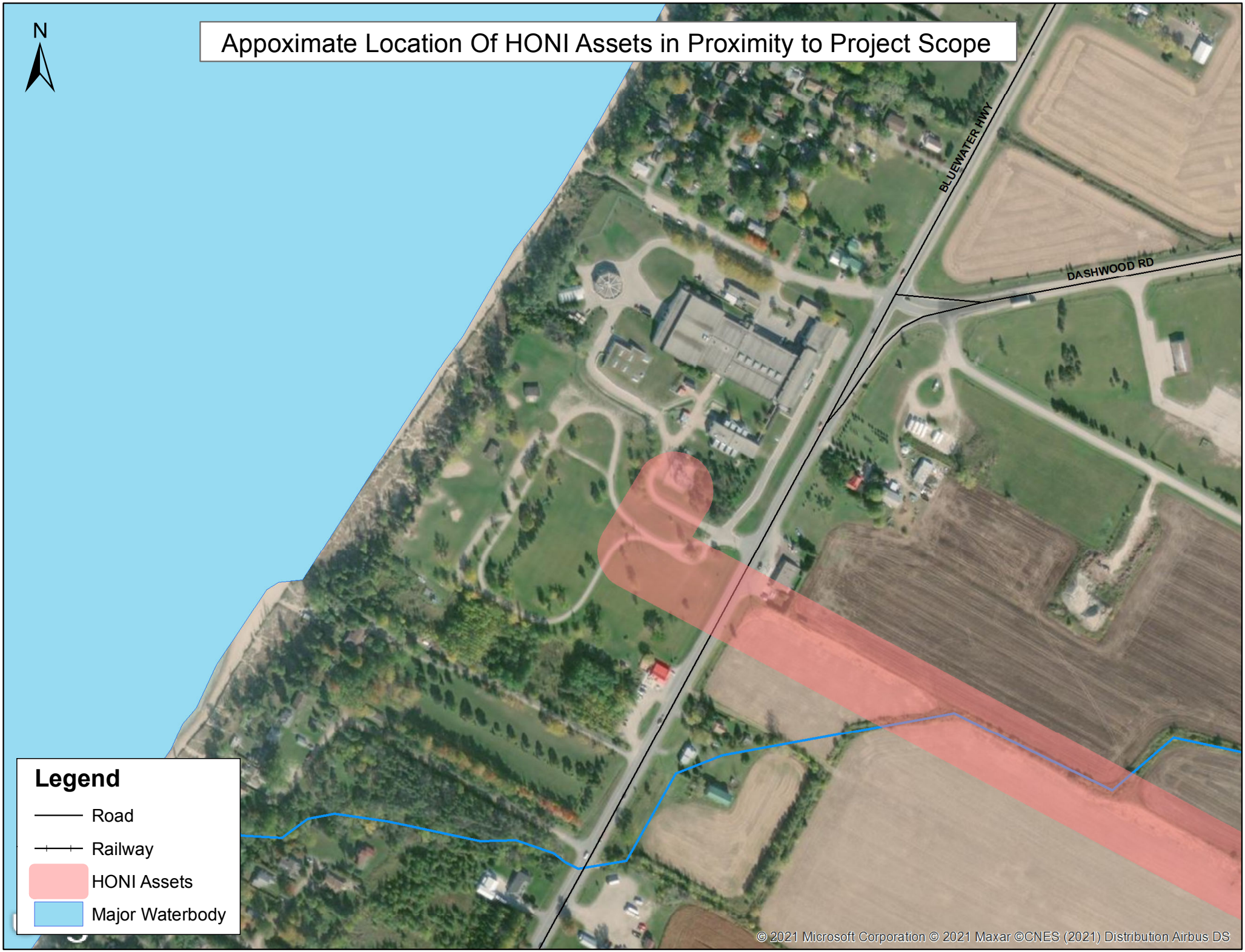
Be advised that any changes to lot grading or drainage within, or in proximity to Hydro One transmission corridor lands must be controlled and directed away from the transmission corridor.

Please note that the proponent will be held responsible for all costs associated with modifications or relocations of Hydro One infrastructure that result from your project, as well as any added costs that may be incurred due to increased efforts to maintain said infrastructure.

We reiterate that this message does not constitute any form of approval for your project. Hydro One must be consulted during all stages of your project. Please ensure that all future communications about this and future project(s) are sent to us electronically to secondarylanduse@hydroone.com

Sent on behalf of,

Secondary Land Use
Asset Optimization
Strategy & Integrated Planning
Hydro One Networks Inc.


Appoximate Location Of HONI Assets in Proximity to Project Scope
N
BLUEWATER HWY
DASHWOOD RD
Legend
Road
Railway
HONI Assets
Major Waterbody
© 2021 Microsoft Corporation © 2021 Maxar ©CNES (2021) Distribution Airbus DS

Stea, Cassie

From: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Sent: Friday, January 21, 2022 10:01 AM
To: Stea, Cassie; SECONDARY LAND USE Department
Cc: Yu, Ray; Waller, Monique/KWO
Subject: [EXTERNAL] RE: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Cassie and team,
Thank you for your email.

I will review your proposal with our team and will advise whether it can be entertained.
One of the challenges is that we have to maintain supply to the water treatment plant while modifications are ongoing.

Another consideration is that if this option is considered, all costs will be charged to the proponent.

Thanks and have a good weekend
Matey

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Tuesday, January 18, 2022 4:07 PM
To: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Cc: Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>
Subject: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

To whom it may concern,

An email was sent to this address on February 1, 2021 with the Notice of Commencement for the Lake Huron Water Treatment Plant (WTP) Environmental Assessment (EA) project. The project is looking at alternatives to improve disinfection and storage at the Lake Huron WTP in Grand Bend, Ontario (address is 71155 Bluewater Highway). We are currently assessing and developing the short-list of alternatives for the EA, and we are looking at implementing a new sub-grade reservoir south of the existing plant (in Port Blake Park) as part of the alternatives.

It has been identified that there is a conflict with the proposed location of the new reservoir and two above-ground 115kV Hydro One poles (see screenshots below). Our understanding is that the two poles and associated hydro lines are part of the transmission grid (circuit L7S) feeding out the water treatment plant (from the substation). An option that the project team is considering would be to relocate the two hydro poles to another location within the park (likely closer to the Bluewater Hwy and not too far from where they are now), and we wanted to consult with Hydro One to determine Hydro One's opinion on this option and what considerations that need to be made. If desired, we would be happy to hold a virtual meeting to discuss this directly with you. Please advise.


77200 ON-21
Grand Bend, Ontario
Google
Street View - Jun 2018
Lake Huron Water Supply System
Park

Kind regards,
Cassie

Cassie Stea | Jacobs | Water/Wastewater Engineer-in-Training
People, Places & Solutions | Toronto, Canada
M: 604-724-3601 | cassie.stea@jacobs.com

Stea, Cassie

From: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Sent: Wednesday, April 13, 2022 11:27 AM
To: Stea, Cassie; SECONDARY LAND USE Department
Cc: Yu, Ray; Waller, Monique/KWO; Henderson, Emma/KWO
Subject: [EXTERNAL] RE: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

Hi Cassie
Thank you for the clarification.
This should be more than enough.

Matey

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Monday, April 11, 2022 10:38 AM
To: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Cc: Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>; Henderson, Emma/KWO <Emma.Henderson@jacobs.com>
Subject: RE: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

Hello Matey,

As we are currently still in the EA process, I will note that the exact distance from the proposed new reservoir and associated structures may change slightly during the preliminary design of the preferred alternative. But based on the information we currently have now, the new reservoir/UV facility itself will have an offset of approximately 25-30 metres from the electrical substation, and an offset of approximately 60 metres or so from the two Hydro One poles.

Kind regards,
Cassie

From: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Sent: Wednesday, April 6, 2022 4:49 PM
To: Stea, Cassie <Cassie.Stea@jacobs.com>
Cc: Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>; Henderson, Emma/KWO <Emma.Henderson@jacobs.com>; SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Subject: [EXTERNAL] RE: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

Hi Cassie
Thank you for the note and the update.
We are happy to see that the location of the reservoir has been moved and there will be no impact to our line.

The sketch below doesn't show the distance between the Hydro One structure and the reservoir facility – I don't want to assume it – could you please share how far it is set?

Thanks
Matey

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Tuesday, April 5, 2022 12:00 PM
To: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Cc: Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>; Henderson, Emma/KWO <Emma.Henderson@jacobs.com>
Subject: RE: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

Hello Matey,

I am following up on this email to inform you and your team at Hydro One that we are no longer proposing to site the new reservoir in the previously mentioned location (see email below on January 18, 2022). The reservoir and associated piping is now proposed for a location closer to the west side of property, as indicated by the red circle in the image below. As such, the potential need/conflict to relocate the two above-ground Hydro One poles (and associated wires) is no longer anticipated.

Please let us know if you have any further questions or comments regarding this. Otherwise, ahead of the EA completion, please advise if there are any specific mitigation measures that Hydro One would like to be documented regarding the protection of the two Hydro One poles during construction or design.

It is noted that the proposed reservoir piping alignment (which currently appears to slightly impinge on the approximate HONI Asset area [red shaded] provided in a letter from Hydro One on February 17, 2021) will be confirmed and refined during the preliminary design process and avoidance with the Hydro One ROW will be implemented to the extent possible.

DRAFT FIGURE

Thank you,
Cassie Stea

Cassie Stea | Jacobs | Water/Wastewater Engineer-in-Training
People, Places & Solutions | Toronto, Canada
M: 604-724-3601 | cassie.stea@jacobs.com

From: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Sent: Friday, January 21, 2022 10:01 AM
To: Stea, Cassie <Cassie.Stea@jacobs.com>; SECONDARY LAND USE Department

<Department.SecondaryLandUse@hydroone.com>
Cc: Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>
Subject: [EXTERNAL] RE: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

Good morning Cassie and team,
Thank you for your email.

I will review your proposal with our team and will advise whether it can be entertained.
One of the challenges is that we have to maintain supply to the water treatment plant while modifications are ongoing.

Another consideration is that if this option is considered, all costs will be charged to the proponent.

Thanks and have a good weekend
Matey

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Tuesday, January 18, 2022 4:07 PM
To: SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Cc: Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>
Subject: Hydro One Poles Inquiry - Lake Huron Water Treatment Plant EA

To whom it may concern,

An email was sent to this address on February 1, 2021 with the Notice of Commencement for the Lake Huron Water Treatment Plant (WTP) Environmental Assessment (EA) project. The project is looking at alternatives to improve disinfection and storage at the Lake Huron WTP in Grand Bend, Ontario (address is 71155 Bluewater Highway). We are currently assessing and developing the short-list of alternatives for the EA, and we are looking at implementing a new sub-grade reservoir south of the existing plant (in Port Blake Park) as part of the alternatives.

It has been identified that there is a conflict with the proposed location of the new reservoir and two above-ground 115kV Hydro One poles (see screenshots below). Our understanding is that the two poles and associated hydro lines are part of the transmission grid (circuit L7S) feeding out the water treatment plant (from the substation). An option that the project team is considering would be to relocate the two hydro poles to another location within the park (likely closer to the Bluewater Hwy and not too far from where they are now), and we wanted to consult with Hydro One to determine Hydro One's opinion on this option and what considerations that need to be made. If desired, we would be happy to hold a virtual meeting to discuss this directly with you. Please advise.


77200 ON-21
Grand Bend, Ontario
Google
Street View - Jun 2018
Lake Huron Water
Supply System
Park

Kind regards,
Cassie

Cassie Stea | Jacobs | Water/Wastewater Engineer-in-Training
People, Places & Solutions | Toronto, Canada
M: 604-724-3601 | cassie.stea@jacobs.com

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Stea, Cassie

From: Don Giberson <dgiberson@southhuron.ca>
Sent: Tuesday, February 23, 2021 11:20 AM
To: Stea, Cassie
Cc: Jones, Lee Anne/TOR; Brittany Bryans
Subject: [EXTERNAL] RE: Notice of Commencement - Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment

Cassie,

Thank you for providing the Notice of Study Commencement for this project. The Municipality of South Huron has no comments at this time, but request that you keep us informed as we have a specific interest in Port Blake Park. Please direct any future correspondence on this file to my attention.

Don Giberson
Director of Infrastucture and Development
Municipality of South Huron
519-235-0310 Ext 226
dgiberson@southhuron.ca

From: Stea, Cassie [mailto:Cassie.Stea@jacobs.com]
Sent: Monday, February 1, 2021 11:43 AM
To: Stea, Cassie <Cassie.Stea@jacobs.com>
Cc: Jones, Lee Anne/TOR <LeeAnne.Jones@jacobs.com>; Brittany Bryans <bbryans@huronelginwater.ca>
Subject: Notice of Commencement - Lake Huron Water Treatment Plant Disinfection and Storage Upgrades Class Environmental Assessment

Hello,

The City of London's Regional Water Supply Division, on behalf of the Lake Huron Primary Water Supply System, is conducting a Class Environmental Assessment for Disinfection and Storage Upgrades at the Lake Huron Water Treatment Plant, located in Grand Bend, Ontario.

Please see the attached Notice of Study Commencement for additional information. If you would like to provide comments or have further questions, please contact a member of the Project Team listed in the attached notice.

Regards,
Cassie Stea

Cassie Stea | Jacobs | Water Engineer-in-Training
People, Places & Solutions | Toronto, Canada

Stea, Cassie

From: Don Giberson <dgiberson@southhuron.ca>
Sent: Tuesday, June 14, 2022 12:15 PM
To: Stea, Cassie
Cc: Yu, Ray; Jeremy Becker; Dan Best; Shawn Young
Subject: [EXTERNAL] RE: Lake Huron WTP Environmental Assessment Consultation Meeting - Follow Up Discussion/Questions

Follow Up Flag: Follow up
Flag Status: Completed

Cassie,

We have the following questions/comments and they are sorted by category:

Operational impacts on South Huron water distribution system

- How does this project affect the regulatory CT time and chlorine residual at the existing connections to the distribution system?
- Where does the reservoir discharge?…….into the head works of the water treatment plant or to the transmission mains outside the plant?
- How is it pumped into the water system…….or does it operate by gravity?
- Can the reservoir discharge directly/indirectly into the 350mm watermain on Highway #21?
- Is the emergency storage available for all water system users; and how is it allocated.

Impact on Port Blake Park

- Is the proposed location compatible with the continued use as a day park.
- Does the proposed location impact the existing washroom or associated waterservice and septic system/weeping bed.
- Is the proposed reservoir above/below grade, or partially below grade?
- Can the top of the reservoir be used for any recreational purposes?
- Will the proposed reservoir have a drain; and where is the drain proposed to be located?
- Is a de-chlorination facility proposed on the reservoir drain?
- Will a 1.83m high security fence be installed around the reservoir site.
- Will the proposed reservoir necessitate the separation and relocation of the existing park entrance off Highway #21.

Other

- How will the installation of the reservoir impact the proposed MTO intersection improvement (roundabout) at Highway #21 and County Road #83.

Don Giberson
General Manager of Infrastructure and Development
Municipality of South Huron
519-235-0310 Ext 226
dgiberson@southhuron.ca

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Tuesday, June 14, 2022 9:46 AM
To: Don Giberson <dgiberson@southhuron.ca>
Cc: Yu, Ray <Ray.Yu@jacobs.com>
Subject: RE: Lake Huron WTP Environmental Assessment Consultation Meeting - Follow Up Discussion/Questions

Hello Don,

I am following up on your last email as you had indicated you would be sending some follow up questions/comments based on our discussion during the pre-consultation meeting – I don't believe we have received those questions/comments yet. I am not sure if the intention was to provide your further comments through the online Public Information Centre (PIC) – if so, please be advised that the PIC is now closed as of June 10. However, please feel free to send us your comments/questions/concerns via email anytime.

Thank you for providing the information below regarding steps for further consultation once the project proceeds into next design stages.

Kind regards,
Cassie

From: Don Giberson <dgiberson@southhuron.ca>
Sent: Thursday, May 26, 2022 5:10 PM
To: Stea, Cassie <Cassie.Stea@jacobs.com>
Cc: Josh Self <jself@huronelginwater.ca>; Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>; Brittany Bryans <bbryans@huronelginwater.ca>; Marcy McKillop <mmckillop@huronelginwater.ca>; Henderson, Emma/KWO <Emma.Henderson@jacobs.com>; Vanessa Culbert <vculbert@southhuron.ca>
Subject: [EXTERNAL] RE: Lake Huron WTP Environmental Assessment Consultation Meeting - Follow Up Discussion/Questions

Cassie,

I apologize for the technical difficulties…….my laptop was to sync with my office PC (which doesn't have a microphone). I have a few questions/concerns and will send those to you tomorrow. With respect to the Site Plan Approval process, I'll arrange for our Planning Coordinator to contact you directly and provide the SPA requirements. A pre-consultation meeting is a great idea and is normally scheduled early in the design process. Site plan Approval is separate from the Building Permit; however, SPA would be required prior to issuance of a Building Permit. It is preferred if consultation with the ABCA was done as part of the SPA process. This avoids unnecessary duplication and any misunderstandings. Storm Water Management will be required and SWM requirements can be discussed at the Pre-consultation meeting. Mitigation requirements during construction are mostly environmental (noise, vibration, erosion, silt control) and continued operation of the day park. We would also like to see more control over the disposal of excess soil from the project and avoid the issues that occurred during the RMF project.

Our main concerns are the impact on Port Blake Park, entrance off Highway #21, intersection improvements at #83 & #21 and potential operational impacts on the South Huron water distribution system.

Don Giberson
General Manager of Infrastructure and Development
Municipality of South Huron
519-235-0310 Ext 226
dgiberson@southhuron.ca

From: Stea, Cassie <Cassie.Stea@jacobs.com>
Sent: Thursday, May 26, 2022 4:46 PM
To: Don Giberson <dgiberson@southhuron.ca>
Cc: Josh Self <jself@huronelginwater.ca>; Yu, Ray <Ray.Yu@jacobs.com>; Waller, Monique/KWO <Monique.Waller@jacobs.com>; Brittany Bryans <bbryans@huronelginwater.ca>; Marcy McKillop

<mmckillop@huronelginwater.ca>; Henderson, Emma/KWO <Emma.Henderson@jacobs.com>
Subject: Lake Huron WTP Environmental Assessment Consultation Meeting - Follow Up Discussion/Questions

Hello Don,

We are sorry that you ran into microphone issues part-way through the call but wanted to thank you for your time and being willing to meet with us. Based on the information we presented this afternoon, do you have any comments, concerns, questions?

Attached is a copy of the slide deck from today's meeting, including Slide 20 which has a list of questions we were hoping you could provide some information on. The questions are as follows:

- In general, are there any concerns or preliminary comments?
- Site Plan submission/approval:
  - What requirements will be needed as part of the Site Plan submission? Are any special requirements anticipated?
  - A second consultation meeting is anticipated to be held at a later design stage to discuss the Site Plan Approval in more detail. Would a consultation meeting for this be required during the preliminary design or detailed design stage?
  - Is the Site Plan submission coordinated with Building Permit?
  - Ausable Bayfield Conservation Authority (ABCA) has indicated they will be commenting party during the Site Plan approvals process. Coordination with them will need to be completed.
  - From a stormwater management (SWM) perspective, what requirements does South Huron have?
- Are there any specific mitigation requirements during construction that the Municipality would like documented in the EA Project File?

As mentioned during the meeting, the Public Information Centre (PIC) for this project is scheduled to commence tomorrow. An email will be sent to you tomorrow with a link to a form with the PIC presentation/survey through which you can also provide your comments there.

Kind regards,
Cassie

Cassie Stea | Jacobs | Water/Wastewater Engineer-in-Training
People, Places & Solutions | Toronto, Canada
M: 604-724-3601 | cassie.stea@jacobs.com

-----Original Appointment-----
From: Stea, Cassie
Sent: Wednesday, May 25, 2022 11:07 AM
To: Stea, Cassie; Don Giberson; Yu, Ray; Waller, Monique/KWO; Brittany Bryans; Marcy McKillop; Elisa Skoett; Henderson, Emma/KWO
Cc: Dan Best; Jeremy Becker; Josh Self
Subject: Lake Huron WTP Environmental Assessment Consultation Meeting - Rescheduled
When: Thursday, May 26, 2022 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Hello all,

This invite is for a consultation meeting between Jacobs, LHPWSS, and South Huron regarding the Lake Huron Water Treatment Plant Disinfection and Storage Upgrades EA.

Kind regards,

Cassie

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Stea, Cassie

From: Jones, Lee Anne/TOR
Sent: Wednesday, February 3, 2021 6:11 AM
To: Stea, Cassie
Subject: FW: [EXTERNAL] Re: Lake Huron Water Treatment Plant Disinfection and Storage Upgrades - Class Environmental Assessment Notice of Study Commencement

Cassie
Please create a log for comments received and save in a common directory.

thanks

From: [redacted]
Sent: Tuesday, February 2, 2021 5:38 PM
To: Jones, Lee Anne/TOR <LeeAnne.Jones@jacobs.com>
Cc: Brittany Bryans <bbryans@huronelginwater.ca>
Subject: [EXTERNAL] Re: Lake Huron Water Treatment Plant Disinfection and Storage Upgrades - Class Environmental Assessment Notice of Study Commencement

Thanks Lee Anne for your email clarifying the Notice letter I received. I have forwarded your email to a fellow Director of our Cottage Association who has agreed to pass it on to all of our members. That should help relieve any anxiety that might have been prompted by the Notice.

Take care,

[redacted]

Sent from my iPad

> On Feb 2, 2021, at 3:27 PM, Jones, Lee Anne/TOR <LeeAnne.Jones@jacobs.com> wrote:
>
> Good afternoon [redacted],
>
> Thank you for calling this afternoon and providing your feedback on the Notice for the above-noted project.
>
> I can clarify that the project will be investigating water storage and treatment upgrades within the property occupied by the Lake Huron WTP. The intent of the Project Footprint shown in Figure 1 is to identify the extent of the neighbourhood that will be taken into consideration in evaluating impacts of construction activities that may be identified for the plant site.
>
> We look forward to engaging with you and the community as the project progresses over the coming months. In the meantime, if you have any further questions or comments, I can be reached at 416 561 1396.
>
> Thank you

Lee Anne Jones, P. Eng. | Jacobs | Senior Project Manager|
416.499.0090 X 73616 | 416.561.1396 cell | LeeAnne.Jones@jacobs.com | www.jacobs.com

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