Appendix B1 – Public Information Centre Materials and Summary Reports

Stakeholder List

Region of Niagara
2021 Biosolids Master Plan Update
Stakeholder Contact List

Contact Method	Stakeholder Name	Organization	Category (e.g. Utilities, Provincial, Ministry)	Internal / External	Title / Role	Address Line 1	Address Line 2	City / Province	Postal Code	Contact Email	Contact Phone Number	Comments
	Indigenous Communities											
Email & Mail	Chief Mark B. Hill	Six Nations of the Grand River	Indigenous Communities	External	Chief	2498 Chiefswood Road	P.O. Box 5000	Ohsweken , ON	N0A 1M0	ma.kh.1@s.xnat.ons.ca	519-445-2201	Six Nations Chief as of Jan 2021 - previously was Chief Ava Hill for 2016 MSP, South Niagara Falls & Baker Road PPCP
Email & Mail	Dawn LaForme	Six Nations of the Grand River	Indigenous Communities	External	Secretary	2498 Chiefswood Road	P.O. Box 5000	Ohsweken , ON	N0A 1M0	dlaforme@sixnations.ca		
Email & Mail	Tanya Hill-Montour	Six Nations of the Grand River	Indigenous Communities	External	Archaeology Supervisor - Six Nations Lands & Resources	2498 Chiefswood Road	P.O. Box 5000	Ohsweken , ON	N0A 1M0	tanyahill-montour@sixnations.ca	(519) 753-0665	
Email & Mail	Tayler Hill	Six Nations of the Grand River				2498 Chiefswood Road	P.O. Box 5000	Ohsweken , ON	N0A 1M0	tayler.hill@sixnations.ca		
Email & Mail	Lonny Bomberry	Six Nations of the Grand River	Indigenous Communities	External	Director of Lands and Resources	2498 Chiefswood Road	P.O. Box 5000	Ohsweken , ON	N0A 1M0	lonnybomberry@sixnations.ca	519-753-0665	
	Arleen Maracle	Six Nations of the Grand River	Indigenous Communities	External	Community Liaison Officer	2498 Chiefswood Road	P.O. Box 5000	Ohsweken , ON	N0A 1M0	a.leemma@s.xnat.ons.ca		
Email & Mail	Todd Williams	Haudenosaunee Development Institute	Indigenous Communities	External	Archaeology Coordinator	2634 6th Line Road	P.O. Box 714, Suite 600	Ohsweken , ON	N0A 1M0	t[illegible]@h[illegible]		
Email & Mail	Raechelle Williams	Haudenosaunee Development Institute	Indigenous Community	Haudenosaunee Development Institute	Environmental Monitor	2634 6th Line Road	P.O. Box 714, Suite 600	Ohsweken , ON	N0A 1M0	janicewilliams@hdi.land		
Email & Mail	Janice Bomberry	Haudenosaunee Development Institute	Indigenous Community			2634 6th Line Road	P.O. Box 714, Suite 600	Ohsweken , ON	N0A 1M0	janicehdi@gmail.com		
Email		Haudenosaunee Development Institute	Indigenous Community							info@hdi.land		
	Leroy Hill	Haudenosaunee Confederacy Chiefs Council	Indigenous Community							ohahokta@hotmail.com		
	Wayne Hill	Haudenosaunee Confederacy Chiefs Council	Indigenous Community							tworowarchaeology@gmail.com		
Email & Mail	Abby LaForme	Mississaugas of the Credit First Nation	Indigenous Community	External	Acting Consultation Coordinator	2634 6th Line Road	P.O. Box 714, Suite 600	Ohsweken , ON	N0A 1M0	abby.LaForme@mncfn.ca		replaced MCFN.consultation@mncfn.ca email
Email		Mississaugas of the Credit First Nation								DOCA.Admin@mncfn.ca		
Email & Mail	Cathie Jamieson	Mississaugas of the Credit First Nation			Environment Sustainability Councillor	2789 Mississauga Road	R.R. #6	Hagersville, ON	N0A 1H0	cathiej@mncfn.ca		
Email & Mail	Mark LaForme	Mississaugas of the Credit First Nation	Indigenous Communities	External	Director of Consultation and Accommodation	2789 Mississauga Road	R.R. #6	Hagersville, ON	N0A 1H0	Mark.Laforme@mncfn.ca	905-768-4260	
Email & Mail	Adam LaForme	Mississaugas of the Credit First Nation				2789 Mississauga Road	R.R. #6	Hagersville, ON	N0A 1H0	Adam.LaForme@mncfn.ca		
Email & Mail	Adrian Blake	Mississaugas of the Credit First Nation			Field Archaeologist	2789 Mississauga Road	R.R. #6	Hagersville, ON	N0A 1H0	Adrian.Blake@mncfn.ca	905-979-3862	
Email & Mail	Chief R. Stacey LaForme	Mississaugas of the Credit First Nation	Indigenous Communities	External	Chief	2789 Mississauga Road	R.R. #6	Hagersville, ON	N0A 1H0	stacey.laforme@mncfn.ca	905-979-9254	
Email & Mail	RoseAnne Archibald	Assembly of First Nations	Indigenous Communities	External	Regional Chief, Ontario	468 Queen Street E.	Suite 400	Toronto, ON	M5A 1T7	ORCEA@coo.org	416-597-1266	
Email & Mail	Geoff Stonefish	Association of Iroquois and Allied Indians	Indigenous Communities	External	Office Manager	387 Princess Avenue		London, ON	N6B 2A7		519.434.2761	
Email	Derrick Pont	Metis Nation of Ontario	Indigenous Communities	External		3250 Schmon Parkway	Unit 1A	Thorold, ON	L2V 4Y6	niagarametiscouncil@gmail.com	905-682-3487	Metis does not accept hard copy notices. To send electronically only.
Email	Dr. Mark Knell	Metis Nation of Ontario	Indigenous Communities	External	Manager, Environmental Assessments and Regulatory Issues		311-75 Sherborne Street	Toronto, ON	M5A 2P9			Metis does not accept hard copy notices. To send electronically only.
Email		Metis Nation of Ontario								consultations@metisnation.org		
Email & Mail	Derek Pont	Niagara Region Metis Council	Indigenous Communities	External	President	46 King Street	Suite 201-203	Welland, ON	L3B 3H9	pontdj@hotmail.com		
Email & Mail	Jennifer Dockstader	Fort Erie Native Friendship Centre			Executive Director	796 Buffalo Road		Fort Erie, ON	L2A 5H2	executivedirector@fenfc.org	905-871-8931	
Email & Mail		Niagara Regional Native Centre				382 Airport Road		Niagara-on-the-Lake, ON	L0S 1J0		905-688-6484	
	Federal Agencies											
Email	Derrick Beach	Canadian Section International Niagara Board of Control	Federal	External	Secretary	867 Lakeshore Road		Burlington ON	L7S 1A1	derrick.beach@canada.ca		
Email	Anjala Puvananathan	Canadian Environmental Assessment Agency	Federal	External	Regional Director	55 St. Clair Avenue East	Room 907	Toronto ON	M4T 1M2	anjala.puvananathan@ceaa-acee.gc.ca		
Mail		Department of Fisheries and Oceans Canada	Federal	External	Regional Director, Ecosystems Management	867 Lakeshore Road		Burlington, ON	L7S 1A1			
Email	Wes Plant	Department of Environment and Climate Change Canada			Manager Environmental Assessment Ontario Section	4905 Dufferin Street		Downsview ON	M3H 5T4	wesley.plant@canada.ca		
Mail	Shannon Doyle	Department of Indigenous and Northern Affairs Canada	Federal	External	Regional Manager Lands	655 Bay Street	7th Floor	Toronto ON	M5G 2K4		416-973-5282	
Mail		Department of Indigenous and Northern Affairs Canada	Federal	External	Senior Environmental Advisor	655 Bay Street	7th Floor	Toronto, ON	M5G 2K4			
Mail		Department of Indigenous and Northern Affairs Canada	Federal	External	Environmental Assessment Coordinator	655 Bay Street	7th Floor	Toronto ON	M4T 1M2			
Mail		Federal Economic Development Agency for Southern Ontario	Federal	External	Manager of Program Delivery Infrastructure Operations	151 Yonge Street	3rd floor	Toronto ON	M5C 2W7			
Mail	Alex Sirianni	Federal Economic Development Agency for Southern Ontario	Federal	External	Program Policy Advisor	151 Yonge Street	3rd floor	Toronto, ON	M5C 2W7			
Mail	Kitty Ma	Health Canada	Federal	External	Regional Environmental Assessment Coordinator	180 Queen Street West		Toronto ON	M5V 3X3			
Email	Monique Mousseau	Transport Canada	Federal	External	Regional Manager Environment and Engineering	4900 Yonge Street	Suite 300	Toronto ON	M2N 6A5	monique.mousseau@tc.gc.ca		
Email	Devon Smith	Transport Canada	Federal	External	Regional Manager, Navigable Water Protection Program	4900 Yonge Street		North York, ON	M2N 6A5	devon.smith@tc.gc.ca	416-952-0388	
Email	TBD	Canadian Food Inspection Agency			Pre-market Application Submissions Office	59 Camelot Drive		Ottawa ON	K1A 0Y9	cfia.paso-bpdpm.acia@inspection.gc.ca	1-855-212-7695	
	Provincial Agencies											
Email (Separate Submission)		Ministry of the Environment, Conservation and Parks	Provincial	External	Project Information Form - Online Submission	West Central Region				eanotification.wcregion@ontario.ca		Email Only - separate submission
Email & Mail	Joan Del Villar	Ministry of the Environment, Conservation and Parks	Provincial	External	EA & Planning Coordinator, West Central Region	119 King St. W	12th Floor	Hamilton, ON	L8P 4Y7	Joan.DelVillarCuicas@ontario.ca		Joan will identify additional MECP contacts for study involvement
Email	Lisa Benvenuti	Ministry of the Environment Conservation and Parks	Provincial	External	Waste Management Representative - Niagara District Office					[illegible]	905-704-3900 / 905-321-3532	
Email	Jennifer Harvard	Ministry of Northern Development Mines, Natural Resources and Forestry	Provincial	External	Lands & Water Technical Specialist					jennifer.harvard@ontario.ca	519-826-4933	
Email	David Denyes	Ministry of Northern Development Mines Natural Resources and Forestry	Provincial	External	Fish & Wildlife Technical Specialist					David.Denyes@ontario.ca		
Email	Ian Thornton	Ministry of Northern Development Mines Natural Resources and Forestry								ian.thornton@ontario.ca		
Mail	Ian Hagman	Ministry of Northern Development, Mines, Natural Resources and Forestry	Provincial	External	District Manager, Guelph	1 Stone Road W	Ontario Government Building	Guelph, ON	N1G 4Y2			
Email	Susan Cooper	Ministry of Northern Development Mines Natural Resources and Forestry			Natural Heritage and Land Use Planning Advisor	300 Water Street	2nd Floor	Peterborough ON	K9J 3C7	susan.cooper@ontario.ca		
Email	Lisa Mysliicki	Infrastructure Ontario	Provincial	External	Environmental Advisor	1 Dundas Street West	Suite 2000	Toronto ON	M5G 2L5	lisa.mysliicki@infrastructureontario.ca		
Email	Colleen Fitzgerald-Hubble	Ministry of Agriculture, Food and Rural Affairs	Provincial	External	Director, Environmental Management Branch	1 Stone Road West	3rd Floor S	Guelph, ON	N1G 4Y2	colleen.fitzgerald-hubble@ontario.ca		
Email	Anneleis Eckert	Ministry of Agriculture, Food and Rural Affairs			Rural Planner Western Region	6484 Wellington Road 7		Elora ON	N0B 1S0	anneleis.eckert@ontario.ca		
Email	Adam Redish	Ministry of Economic Development Employment and Infrastructure	Provincial	External	Assistant Deputy Minister Infrastructure Policy Division	777 Bay Street	21st Floor	Toronto ON	M5G 2N4	adam.redish@ontario.ca	416-314-5148	
Email	Dawn Palin Rokosh	Ministry of Infrastructure	Provincial	External	Director Infrastructure Policy Division	900 Bay Street	8th Floor	Toronto ON	M7A 2E1	dawn.palin.rokosh@ontario.ca		
Mail	Alex Earthy	Ministry of Municipal Affairs and Housing	Provincial	External	Senior Housing Advisor	777 Bay Street	17th Floor	Toronto, ON	M5G 2E5			
Email	Jennifer Hay	Ministry of Heritage Sport Tourism and Culture	Provincial	External	Regional Advisor St. Catharines Office	301 St. Paul Street	9th Floor	St. Catharines ON	L2R 7R4	jennifer.hay@ontario.ca	905-704-3951	
Email	Ellen Bennett	Ministry of Transportation	Provincial	External	Area Contracts Engineering - Central Region	159 Sir W Ilam Hearst Ave		Toronto ON	M3M 0B7	ellen.bennett@ontario.ca		
Email	Glenn Dunphy	Ministry of Transportation	Provincial	External	Regional Manager, Regional Operations - Central West	1550 Enterprise Rd	2nd Floor, Suite 228	Mississauga, ON	L4W 4P4	glenn.dunphy@ontario.ca	905-564-5265	
Email	Jonathan Boone	Ministry of Transportation	Provincial	External	Head - Construction and Engineering	301 St. Paul Street	2nd Floor	St. Catharines ON	L2R 7R4	jonathan.boone@ontario.ca	905-704-2601	
Email	Xin Weng	Ministry of Transportation			Area Manager Hamilton/Niagara	159 Sir W Ilam Hearst Ave	4th Floor	Toronto ON	M3M 0B7	xin.weng@ontario.ca		
Mail		Ministry of Indigenous Affairs	Provincial	External		160 Bloor Street East		Toronto, ON	M7A 2E6			
Email	Marcelo Gruosso	Niagara Parks Commission	Provincial	External	Senior Director Engineering Parking & Transportation	7400 Portage Road	P.O. Box 150	Niagara Falls ON	L2E 6T2	mgruosso@niagaraparks.com		
Email	Kim Peters	Niagara Escarpment Commission	Provincial	External	Senior Strategic Advisor	232 Guelph Street		Georgetown ON	L7G 4B1	Kim.Peters@ontario.ca	905-877-5191	
Mail	Michael Baran	Niagara Escarpment Commission	Provincial	External	Planner	232 Guelph Street	3rd Floor	Georgetown ON	L7G 4B1			
Email	Cheryl Tansony	Niagara Escarpment Commission	Provincial	External	Senior Planner	232 Guelph Street		Georgetown, ON	L7G 4B1	Cheryl.Tansony@ontario.ca>	905-703-5354	Noted that the NEC is interested in being involved in the study
Email	Ken Bieger	Niagara Falls Bridge Commission	Provincial	External	General Manager	5365 Military Road		Lewiston, NY	14092	kbieger@niagarafallsbridges.com	905-354-5641	Requires U.S. Postage with mailout
Mail	Sheryl Bennett	Ontario Provincial Police	Provincial	External	Senior Officer - Accommodation Services Section	777 Memorial Avenue	1st Floor	Orillia ON	L3V 7V3		(705)329-6111	
Mail		Ontario Provincial Police	Provincial	External	Bureau Commander	777 Memorial Avenue	3rd Floor	Orillia ON	L3V 7V3			
Email	Mary Silverthorn	Ontario Provincial Police	Provincial	External	Provincial Commander	777 Memorial Avenue	3rd floor	Orillia ON	L3V 7V3	opp.communityrelations@opp.ca		
Mail	Al Squires	Ontario Provincial Police	Provincial	External	Bureau Commander	777 Memorial Avenue	3rd floor	Orillia, ON	L3V 7V3			
Email	Ron Rienas	Peace Bridge Authority	Provincial	External	General Manager	100 Queen Street		Fort Erie ON	L2A 3S6	rr@peacebridge.com	905-871-1608	
Mail	Kingsley Laurin	Ministry of the Attorney General Aboriginal Justice Division	Provincial	External	Director	720 Bay Street	4th Floor	Toronto ON	M7A 2S9			
Mail		Ministry of Indigenous Affairs	Provincial	External		160 Bloor Street East	4th Floor	Toronto, ON	M7A 2E6			
Mail	George McCaw	Ministry of Agriculture, Food and Rural Affairs	Provincial	External	Director Environmental Management Branch	1 Stone Road W		Guelph ON	N1G 4Y2			
Mail	Karen Maxwell	Ministry of Economic Development Employment and Infrastructure	Provincial	External	Assistant Deputy Minister Infrastructure Policy	900 Bay Street	5th Floor	Toronto ON	M7A 1C2			
Mail	Scott Kirkham	Ministry of Municipal Affairs and Housing	Provincial	External	Manager of Stakeholder Relations	777 Bay Street	2nd Floor	Toronto, ON	M5G 2E5			
	Conservation Authorities											
Email	Adam Aldworth	Niagara Peninsula Conservation Authority	Conservation Authority	External	Ecology Technician - Planning & Regulations	250 Thorold Road West	3rd Floor	Welland ON	L3C 3W2	aaldworth@npca.ca		
Email	Steve Miller	Niagara Peninsula Conservation Authority			Senior Manager Water Resources	-	3rd Floor	Welland ON	L3C 3W2	smiller@npca.ca		
Email	Joshua Diamond	Niagara Peninsula Conservation Authority	Conservation Authority	External	Water Quality Specialist	250 Thorold Road West	3rd Floor	Welland, ON	L3C 3W2	jdiamond@npca.ca		
Email	Natalie Green	Niagara Peninsula Conservation Authority	Conservation Authority	External	Project Manager Niagara River Remedial Action Plan	250 Thorold Road West	3rd Floor	Welland ON	L3C 3W2	ngreen@npca.ca		
	Rail & Transit											
Email	Daniel Salvatore	CN Rail	Rail/Transit	External	Regional Community Affairs Manager	1 Administration Avenue		Concord ON	L4K 1B9	daniel.salvatore@cn.ca		
Email	Michael Vallins	CN Rail	Rail/Transit	External	Manager Public Works	1 Administration Avenue		Concord ON	L4K 1B9	michael.vallins@cn.ca		
Mail		CN Rail	Rail/Transit	External	CN railway yard	277 Front Street	Suite 503	Toronto ON	M5W 1L7			
Mail	Mark Hallman	CN Rail	Rail/Transit	External		277 Front Street	Suite 503	Toronto ON	L5C 4R3			
Mail	Jack Carello	CP Rail	Rail/Transit	External		1290 Central Parkway West	Suite 800	Mississauga ON				
Email	Jennifer Benedict	CP Rail			Manager Public Works	1290 Central Parkway West	Suite 800	Mississauga ON	L5C 4R3	jennifer_benedict@cpr.ca		
Email	Josie Tomei	CP Rail	Rail/Transit	External	Specialist Real Estate Sales and Acquisitions	1290 Central Parkway West	Suite 800	Mississauga ON	L5C 4R3	josie_tomei@cpr.ca		
Email	Jason Ryan	Go Transit	Rail/Transit	External	Manager of Environmental Programs					jason.ryan@gotransit.com		
Email	Les.ie Woo	GO Transit/Metrolinx	Provincial	External	Chief Planning Officer Planning and Policy	97 Front Street West		Toronto ON	M5J 1E6	les.ie.woo@metrolinx.com	416-202-5918	
Email	Ali Mir Mahmood	TransCanada Pipelines	Rail/Transit	External	Project Manager Eastern Region	1020 Rymal Road		Hamilton ON	L8W 3N6	mir_ali@transcanada.com		
Mail	Chuck Horne	TransCanada Pipelines	Rail/Transit	External	Canada Pipeline Operations Eastern Region	1020 Rymal Road		Hamilton ON	L8W 3N6			
Email	Gordon Gretchen	TransCanada Pipelines	Rail/Transit	External	Community Relations Liaison Eastern Region	1020 Rymal Road		Hamilton ON	L8W 3N7	gretchen_gordon@transcanada.com		
Email	Ian Chisholm	TransCanada Pipelines	Rail/Transit	External	Maintenance Manager Maple/Niagara Facilities Eastern Region	1020 Rymal Road		Hamilton ON	L8W 3N6	ian_chisholm@transcanada.com		
Mail	Mark Eadden	Trans Canada Pipelines	Rail/Transit	External	Supervisor Right-of-Way	675 Cochrane Drive		Markham ON	L3R 0B8			
	Utilities											
Email	Robert Manco	Bell Canada	Utilities	External						robert.manco@bell.ca		
Email	Craig Strabychuk	Bell Canada	Utilities (Hospital Contact)	External						craig.strabychuk@bell.ca		
Email	Bill McKenzie	Bell Canada	Utilities	External	Niagara Implementation Manager Access Network Provisioning	63 Kino Street 2nd Floor	P.O. Box 190	St. Catharines ON	L2R 3H6	w.illam.mckenzie@bell.ca		
Mail	Patrick Beaudoin	Canadian Niagara Power Inc.	Utilities	External	Planning Engineer	1130 Bertie Street	P.O. Box 1218	Fort Erie ON	L2A 5S1			
Mail	Teresa DiFelice	Canadian Automobile Association- South Central Ontario	Utilities	External	Director Government and Community Relations	60 Commerce Valley Drive East		Thornhill ON	L3T 7P9			
Email	Tony Tsai	Canadian Automobile Association- South Central Ontario	Utilities	External	Director Corporate Communications	60 Commerce Valley Drive East		Thornhill ON	L3T 7P9	ttsa@caasco.ca		
Mail	John Pendykoski	Cogeco Cable Hamilton/Niagara	Utilities	External	System Project Planner	7170 McLeod Road		Niagara Falls ON	L2G 3H2	john.pendykoski@cogeco.com		
Email	Craig Krueger	Cogeco Cable Niagara	Utilities	External	Planner					craig.krueger@cogeco.com		
Mail	Randy Leppert	Cogeco Cable Niagara	Utilities	External	Lead OSP Infrastructure Delivery	7170 McLeod Road		Niagara Falls ON	L2G 3H2	randy.leppert@cogeco.com	289-296-6228	
Email		Canadian Niagara Power Inc.	Utilities	External						customer.service@cnpower.com		customer is checking for who the best contact is and will let us know
Email	Adam Chitussi	Enbridge Gas Inc.	Utilities (Hospital Contact)	External						adam.chitussi@enbridge.com		
Email	Debbie Felicetti	Enbridge Gas Inc.	Utilities (Hospital Contact)	External						Debbie.Felicetti@enbridge.com		
Email	Rob D'Onofrio	Enbridge Gas Inc.	Utilities	External	Planning & Design Special Projects	3401 Schmon Parkway	P.O. Box 1051	Thorold ON	L2V 5A8	robert.donofrio@enbridge.com		
Mail	Rhonda Nicholson	Enbridge Gas Inc.	Utilities	External	Manager Planning & Customer Connections	3401 Schmon Parkway	P.O. Box 1051	Thorold ON	L2V 5A8			
Email		Enbridge Pipelines Inc.	Utilities	External	Notifications					notifications@enbridge.com		replaced Ann Newman - use for all future correspondence keep on list

Region of Niagara
2021 Biosolids Master Plan Update
Stakeholder Contact List

Contact Method	Stakeholder Name	Organization	Category (e.g. Utilities, Provincial, Ministry)	Internal / External	Title / Role	Address Line 1	Address Line 2	City / Province	Postal Code	Contact Email	Contact Phone Number	Comments
Email	Kathy Sullivan-Shaw	Grimsby Power Incorporated	Utilities	External	Executive Assistant	231 Roberts Road		Grimsby ON	L3M 5N2	kathys@grimsbypower.com	905-945-5437 ext. 263	
Email	Barbara Lattimer	Grimsby Power Incorporated	Utilities	External	Executive Assistant	231 Roberts Road		Grimsby ON	L3M 5N2	barbara@grimsbypower.com		
Email		Hydro One Networks	Utilities	External						secondarylandusе@hydroone.com		Received letter reply on Jun 14, 2022 in response to PIC 1/Notice of Commencement. Confirmed we are using correct email. They confirm that no Hydro One Transmission assets are in subject area.
Mail	Timothy Curtis Warner	Niagara-on-the-Lake Hydro Inc.	Utilities	External	President	8 Henegan Road	P O Box 450	Virgil ON	L0S 1T0			
Email		Niagara Peninsula Energy Inc.	Utilities (Hospital Contact)	External		7447 Pin Oak Drive		Niagara Falls ON	L2E 6S9	info@npei.ca		
Email	Jim Sorley	Niagara Peninsula Energy Inc.	Utilities	External	Director of Engineering Services	2676 Clifford Street		Smithville ON	L0R 2A0	jim.sorley@npei.ca	905.327.1782	
Email	Mario Rosano	Niagara Peninsula Energy Inc.	Utilities	External	Senior Engineering Technician	7447 Pin Oak Drive		Niagara Falls ON	L2E 6S9	mario.rosano@npei.ca		
Mail	Yang Xiao	Niagara Peninsula Energy Inc.	Utilities	External		2676 Clifford Street		Smithville ON	L0R 2A0			
Email	Jeremy Sm th	Niagara Region Broadband Networks	Utilities (Hospital Contact)	External						jeremy.smith@nrbn.ca		
Email	Mark Kuhlmann	Niagara Region Broadband Networks	Utilities	External	Construction Coordinator	4343 Morrison St		Niagara Falls ON	L2E 6Z9	fieldops@nrbn.ca OR mark.kuhlmann@nrbn.ca		Two emails provided for Contact; mark.kuhlman@nrbn.ca is unde iverable
Email	Kent Keeler	Ontario Power Generation	Utilities	External	Senior Manager Production Support	14000 Niagara River Parkway	R.R. #1	Niagara-on-the-Lake ON	L0S 1J0	kent.keeler@opg.com		
Email	Kevin Jones	Ontario Power Generation	Utilities	External	Plant System Support Manager (Acting)	14000 Niagara River Parkway	R R #1	Niagara-on-the-Lake ON	L0S 1J0	ke jones@opg com	905-371-6331	
Mail	Jessica Polak	Ontario Power Generation	Utilities	External	VP Operations - Niagara Operations	14000 Niagara River Parkway	R.R. #1	Niagara-on-the-Lake ON	L0S 1J0			
Email	Frederic Sua	Telus	Utilities (Hospital Contact)	External						frederic.sua@telus.com		
Mail	Ross Peever	Welland Hydro Electric System Corporation	Utilities	External	President, CEO and Secretary	950 East Main Street	P.O. Box 280	Welland ON	L3B 5P6			
	Schoolboards & Interest Groups											
Email	Jason Rodrigue	Conseil Scolaire Viamode	School Boards	External	Surintendante des affaires	1 Promenade Vanier		Welland ON	L3B 1A1	fournierf@csviamonde.ca		
Email	Martin Bertrand	Conseil Scolaire Viamode	School Boards	External	Director of Education	116 Cornelius Parkway		Toronto ON	M6L 2K5	bertrandm@csviamonde.ca		
Email	Clair Francoeur	Conseil Scolaire Viamode	School Boards	External	Director of Communications and Marketing	55 Avenue Pelham		Toronto ON	M6N1A5	francoeurc@csviamonde.ca		
Email	M kale Andree Joly	Conseil Scolaire catholique MonAvenir	School Boards	External	Directrice du Service des relations corporative	110 Avenue Drewry		Toronto ON	M2M 1C8	mjolv@csdccs.edu.on.ca		
Email	Mario Nantel	Conseil Scolaire catholique MonAvenir	School Boards	External	Director of Transportation Services	110 Avenue Drewry		Toronto ON	M2M 1C8	mnante@csdccs.edu.on.ca		
Email	Catherine Audet	Conseil Scolaire catholique MonAvenir	School Boards	External	Communications Advisor	110 Avenue Drewry		Toronto ON	M2M 1C8	caudet@csdccs.edu.on.ca		
Mail	Warren Hoshizaki	District School Board of Niagara	School Boards	External	Director of Education	191 Carlton Street		St. Catharines ON	L2R 7P4			
Email	Sue Mabee	District School Board of Niagara	School Boards	External	Supervisor of Planning	191 Carlton Street		St Catharines ON	L2R 7P4	sue mabee@dsbn org		
Email	Kim Yielding	District School Board of Niagara	School Boards	External	Chief Communications Officer					kim.yielding@dsbn.org		
Mail	Len Falkiner	Canadian Section International Niagara Board of Control	Secretary	External		867 Lakeshore Road	P.O. Box 5050	Bur ington ON	L7R 4A6			
Mail	Susan Murray	Friends of the Greenbelt		External	VP Communications and Operations	661 Yonge Street, #500		Toronto ON	M4Y 1Z9		416-960-0001	
Email		Greater Niagara Chamber of Commerce	Interest and Stakeholder Groups	External		80 King's Street	Unit 3	St. Catharines ON	L2R 7G1	info@gncc.ca	905-684-2361	
Mail		Lundy's Lane BIA	Interest and Stakeholder Groups	External		P.O. Box 26008	Lundy's Lane R.P.O.	Niagara Falls ON	L2G 7X2		905-401-8247	
Email	Kathy Levinski	Niagara Catholic District School Board	School Boards	External	Catholic Education Centre	427 Rice Road		Welland ON	L3C 7C1	kathy.levinski@ncdsb.com		
Email	Craig Martin	Niagara College	School Boards	External	Energy & Asset Manager	135 Taylor Road S S #4		Niagara-on-the-Lake ON	L0S 1J0	crmartin@niagaracollege ca	905-641-2252 x 7356	was forwarded Notice of Commencement email and requested to be added to the list
Email	Dr. Dan Patterson	Niagara College	School Boards	External	President Niagara-on-the-Lake Campus	135 Taylor Road S S #4		Niagara-on-the-Lake ON	L0S 1J0	president@niagaraco lege.ca		
Mail	Kevin Sm th	Niagara Emergency Medical Services	Manager of Operations	External	Emergency Services Division	509 Glendale Avenue East		Niagara-on-the-Lake ON	L0S 1J0			
Email	Ben Embir	Niagara Health								ben.embir@niagarahealth.on.ca		
Email	Donald Hall	Niagara Health								donald.hall@niagarahealth.on.ca		
Email	Ed Lucchetta	Niagara Home Builders Association	President	External		34 Scott Street		St. Catharines ON	L2R1C9	info@niagarahomebuilders.ca		
Email	Chuck McShane	Niagara Home Builders Association	Interest and Stakeholder Groups	External	Executive Officer	34 Scott Street		St. Catharines ON	L2R1C9	chuck@nhba.ca and info@niagarahomebuilders.ca		
Mail	Geoffrey Skaftfeld	Niagara Regional Police	Superintendent of Executive Services	External	Executive Services	68 Church Street		St. Catharines ON	L2R 3C6			
Mail	Tony Miele	Ontario Rea ty Corporation		External		77 Wellesley Street West	11th Floor	Toronto ON	M7A 2G3			
Email	Magdalena Kaiser	Ontario Wine Country	Interest and Stakeholder Groups	External	Director of Public Relations - Tourism and Marketing	4890 Victoria Avenue North	P.O. Box 4000	Vineland ON	L0R 2E0	magdalena@wmao.ca	905-562-8070 ext 228	
	Third Party Biosolids Contractors and End Users											
Email	Geoff Boyd	Walker Industries			Vice President	2800 Thorold Townline Road		Niagara Falls ON	L2E 6S4	dboyd@walkerind.com		
Email	Tom Harz	Walker Industries			Operations Manager	2800 Thorold Townline Road		Niagara Falls ON	L2E 6S4	tharz@walkerind.com		
Email	Greg Marotta	Thomas Nutrient Solutions			President	70 Beach Road		Ham lton ON	L8L 8K3	greg.marotta@thomasnutrientsolutions.com	905-455-8808	
Email	Nadine Gill-Aarts	Ontario Federation of Agriculture			Zone 5 (Halton, Ham lton, Niagara) Representative	200 Hanlon Creek Boulevard,		Guelph, ON	N1C 0A1	nadine.gill@ofa.on.ca	289-687-7477	
	Area Municipalities											
	THOROLD											
Email	Clerk Donna Delvecchio	City of Thorold	Municipal Clerk	Internal (Local Municipalities)	Clerk City of Thorold					clerk@thorold.com		
Email	Geoff Holman	City of Thorold	PW Director	Internal (Local Municipalities)	Director of Public Works					geoff.holman@thorold.com		
	GRIMSBY											
Email	Clerk Sarah Kim	Town of Grimsby	Municipal Clerk	Internal (Local Municipalities)	Clerk, Grimsby					skim@grimsby.ca		
Email	Brandon Wartman	Town of Grimsby	PW Director	Internal (Local Municipalities)	Director of Public Works					bwartman@grimsby.ca		
Email	Marvin Ingebrigtsen	Town of Grimsby	Public Works/Engineering	Internal (Local Municipalities)	Manager of Engineering					mingebrigtsen@grimsby.ca		
Email	Walter Basic	Town of Grimsby	Planning & Development	Internal (Local Municipalities)	Director of Planning Bu lding & Bylaw					wbasic@grimsby.ca		
	NIAGARA FALLS											
Email	Clerk Bill Matson	City of Niagara Falls	Municipal Clerk	Internal (Local Municipalities)	Clerk Niagara Falls					bmatson@niagarafalls.ca		
Email	Eric Nickel	City of Niagara Falls	PW Director	Internal (Local Municipalities)	Director of Municipal Works					enickel@niagarafalls.ca		
Email	Selene Tudini	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Executive Coordinator					studini@niagarafalls.ca		
Email	Kent Schachowskoj	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Infrastructure and Asset Manager					kschachowsko @niagarafalls.ca		
Email	Alex Herlovitch	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Director of Planning, Development & Building Services					aherlovitch@niagarafa ls.ca		
Email	Bob Chambers	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Manager of Transit Operations					bchambers@niagarafalls.ca		
Email	Karl Dren	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Director-Transportation Services					kdren@niagarafalls.ca		
Email	Brian Dick	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Senior Planner					bdick@niagarafalls.ca		
Email	Serge Feliceti	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Director Business Development					sfeliceti@niagarafalls.ca		
Email	Jeff Guarasci	City of Niagara Falls	Planning & Development	Internal (Local Municipalities)	Parks in the City Committee Recreation & Culture					jguarasci@niagarafalls.ca		
Email	Adam Allcock	City of Niagara Falls								aallcock@niagarafalls.ca		
	PELHAM											
Email	Clerk Nancy Bozzato	Town of Pelham	Municipal Clerk	Internal (Local Municipalities)	Clerk Pelham					nbozzato@pelham.ca		
Email	Jason Marr	Town of Pelham	PW Director	Internal (Local Municipalities)	Director of Public Works					jmarr@pelham.ca		
Email	Barb Wiens	Town of Pelham	Planning & Development	Internal (Local Municipalities)	Director of Planning & Development					bwiens@pelham.ca		
Email	Grant Munday	Town of Pelham								grant.munday@we land.ca		
	PORT COLBORNE											
Email	Clerk Amber LaPointe	City of Port Colborne	Municipal Clerk	Internal (Local Municipalities)	Clerk, Port Colborne					cityclerk@portcolborne.ca		
Email	Steve Shypowskyj	City of Port Colborne	W&WW	Internal (Local Municipalities)	Manager Engineering					Steve.Shypowskyj@portcolborne.ca		
Email	Dan Aquilina	City of Port Colborne	Planning & Development	Internal (Local Municipalities)	Director / C ty Planner					dan.aquilina@portcolborne.ca		
Email	David Schulz	City of Port Colborne	Planning & Development	Internal (Local Municipalities)	Planner					david.schulz@portcolborne.ca		
	ST CATHARINES											
Email	Clerk Bonnie Nistico-Dunk	City of St. Catharines	Municipal Clerk	Internal (Local Municipalities)	Clerk St. Catharines					bdunk@stcatharines.ca		
Email	Anthony Martuccio	City of St. Catharines	PW Director	Internal (Local Municipalities)	Director of Engineering Fac lities and Environmental Services					amartuccio@stcatharines.ca		
Email	Tami Kitay	City of St. Catharines	Planning & Development	Internal (Local Municipalities)	Director of Planning and Building Services					tkitay@stcatharines.ca		
	WAINFLEET											
Email	Clerk William J. Kolasa	Township of Wainfleet	Municipal Clerk	Internal (Local Municipalities)	Clerk Wainfleet					wkolasa@wainfleet.ca		
Email	Richard Nan	Township of Wainfleet	PW Director	Internal (Local Municipalities)	Manager of Operations					rnan@wainfleet.ca		
Email	Richard Nan	Township of Wainfleet	Planning & Development	Internal (Local Municipalities)	Director of Operations (Manager of Operations)					rnan@wainfleet.ca		
Email	Sarah Smith / Ivins	Township of Wainfleet	Planning & Development	Internal (Local Municipalities)	Planner					ssmith@wainfleet.ca		
	WELLAND											
Email	Clerk Tara Stephens	City of Welland	Municipal Clerk	Internal (Local Municipalities)	Clerk Welland					clerk@welland.ca		
Email	Sherri-Marie Mi lar	City of Welland	PW Director	Internal (Local Municipalities)	Director of Engineering and Public Works					sherri-marie.m ilar@welland.ca		
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	LINCOLN											
Email	Julie Kirkelos	Town of Lincoln	Municipal Clerk	Internal (Local Municipalities)	Clerk, Lincoln					jkirkelos@lincoln.ca		
Email	Clerk Joanne Scime	West Lincoln	Municipal Clerk	Internal (Local Municipalities)	Clerk, West Lincoln					jscime@westlincoln.ca		
Email	Dave Graham	Town of Lincoln	PW Director	Internal (Local Municipalities)	Director of Public Works					dgraham@ incoln.ca		
Email	Kathleen Dale	Town of Lincoln	Planning & Development	Internal (Local Municipalities)	Director of Planning and Development					kdale@ incoln.ca		
	FORT ERIE											
Email	Kelly Walsh	Town of Fort Erie	PW Director	Internal (Local Municipalities)	Director of Infrastructure Services/Public Works					kwalsh@forterie.ca		
Email	George Stojanovic									GStojanovic@forterie.ca		
Email	Chris Pisaric									CPisaric@forterie.ca		
	WEST LINCOLN											
Email	Steve McGean	Township of West Lincoln	Operations	Internal (Local Municipalities)	Manager of Operations					smcgean@westl ncoln.ca		
Email	Jennifer Bernard	Township of West Lincoln	Engineering	Internal (Local Municipalities)	Coordinator of Engineering Services					jbe na dd@westl ncoln.ca		
Email	Ray Vachon	Township of West Lincoln	Engineering	Internal (Local Municipalities)	Project Manager					vachon@westl ncoln.ca		
Email	Gerrit Boerema	Township of West Lincoln	Planning & Development	Internal (Local Municipalities)	Planner					gboe ema@westl ncoln.ca		
Email	Trav Benish	Township of West Lincoln								tben sh@westl ncoln.ca		
	NIAGARA ON THE LAKE											
Email	Kirsten McCauley	Town of Niagara-on-the-Lake	Planning & Development	Internal (Local Municipalities)	Director of Commun ty & Development Services					kmccauley@notl.org		
Email	M ke Komlijenovic	Town of Niagara-on-the-Lake		Internal (Local Municipalities)	Engineering Supervisor					M ke.Komlijenov c@notl com		
Email	Brett Ruck	Town of Niagara-on-the-Lake		Internal (Local Municipalities)	Environmental Services Supervisor					B ett.Ruck@notl.com		
Email	Darren MacKenzie	Town of Niagara-on-the-Lake								da en.mackenz e@notl.com		
Email	Rome D'Angelo	Town of Niagara-on-the-Lake								ome.dangelo@notl.com		
	Provincial Agencies											
Email	Joan Del Villar	Ministry of the Environment Conservation and Parks	Provincial	External	EA & Planning Coordinator West Central Region	119 King St. W	12th Floor	Ham lton ON	L8P 4Y7	Joan.DelVillarCuicas@ontario.ca		
Email	Kim Groombridge	Ministry of the Environment Conservation and Parks	Provincial	External	Niagara District Manager					@ t		
Email	Lyndsay Dunville	Ministry of the Environment Conservation and Parks								Lyndsay.Dunv lle@onta o.ca		
Email	Taylor Buck	Ministry of the Environment Conservation and Parks								Tayl or_Buck@onta o.ca		
Email	Cale Selby	OMAFRA								Cale.Selby@onta o.ca		
Email	Lisa Mysliicki	Infrastructure Ontario	Provincial	External	Environmental Advisor	1 Dundas Street West	Suite 2000	Toronto, ON	M5G 2L5	lisa.mysliicki@infrastructureontario.ca		
Email	Colleen F tzgerald-Hubble	Ministry of Agricu ture Food and Rural Affairs	Provincial	External	Director Environmental Management Branch	1 Stone Road West	3rd Floor S	Guelph ON	N1G 4Y2	colleen.fitzgerald-hubble@ontario.ca		
Email	Marcelo Gruosso	Niagara Parks Commission	Provincial	External	Senior Director Engineering Parking & Transportation	7400 Portage Road	P.O. Box 150	Niagara Falls ON	L2E 6T2	mgruosso@niagaraparks.com		
Email	Cheryl Tansony	Niagara Escarpment Commission	Provincial	External	Senior Planner	232 Guelph Street		Georgetown, ON	L7G 4B1	Cheryl.Tansony@ontario.ca>		
Email	Amaraine Laven									Amaraine.Laven@ontario.ca		
	Conservation Authorities											
Email	Adam Aldworth	Niagara Peninsula Conservation Authority	Conservation Authority	External	Ecology Technician - Planning & Regulations	250 Thorold Road West	3rd Floor	Welland, ON	L3C 3W2	aaldworth@npca.ca		
Email	Steve Miller	Niagara Peninsula Conservation Authority			Senior Manager Water Resources		3rd Floor	Welland ON	L3C 3W2	smiller@npca.ca		
Email	Joshua Diamond	Niagara Peninsula Conservation Authority	Conservation Authority	External	Water Quality Specialist	250 Thorold Road West	3rd Floor	Welland ON	L3C 3W2	jdiamond@npca.ca		
Email	Natalie Green	Niagara Peninsula Conservation Authority	Conservation Authority	External	Project Manager, Niagara River Remedial Action Plan	250 Thorold Road West	3rd Floor	Welland, ON	L3C 3W2	ngreen@npca.ca		
	Project Steering Committee											

Region of Niagara
2021 Biosolids Master Plan Update
Stakeholder Contact List

Contact Method	Stakeholder Name	Organization	Category (e.g. Utilities, Provincial, Ministry)	Internal / External	Title / Role	Address Line 1	Address Line 2	City / Province	Postal Code	Contact Email	Contact Phone Number	Comments
Email	Laura Verhaeghe	GM BluePlan	Project Management and Advisory Team	Internal	Project Coordinator					laura.verhaeghe@gmblueplan.ca		
Email	Jim Harnum	GM BluePlan	Project Management and Advisory Team	Internal	Communications					jim.harnum@municipalvu.ca		
Email	Jason Oatley	Niagara Region	Water & Wastewater Services	Internal	Manager WW Quality & Compliance					jason.oatley@niagararegion.ca		
Email	Robert Daw	Niagara Region	Water & Wastewater Services	Internal	Director WW Operation Maintenance Lab Services					robert.daw@niagararegion.ca		
Email	Brad Stewart	Niagara Region	Water & Wastewater Services	Internal	Bioso ids Program Manager - Wastewater Qual ty & Compliance					brad.stewart@niagararegion.ca		
Email	Josh MacArthur	Niagara Region	Water & Wastewater Services	Internal						osh.maca thu @n aga a eg on.ca		
	Public Stakeholders											
Email	[redacted]	n/a	Public	External					n/a	[redacted]	[redacted]	PIC 1 Form - Requested to be added to distribution list on Jun 16, 2022. GMBP confirm this request via email on Jun 16, 2022
Email	[redacted]	n/a	Public	External					n/a		[redacted]	PIC 1 Form - Comment provided "Cooks Mills residents predominately along Doan's Ridge and Moyer Roads feel that the Regions yearly convoy of bio-solids rumbling through the heart of our quiet commun ty is inappropriate. The plan is both short sighted and ignorant. We have slow down ch ldren at play signs posted and a 60 km an hour speed limit. The Thomas Solutions trucks being utilized certainly do not adhere to t. The noise, especially from one exhaust modified regular (flat black, Texas Longhorn symbol) is truly offensive and actually shakes the glassware in some homes. Highway 140 runs parallel and in most cases would be an alternative to the current route. " Response sent on Jun 16. Replied Jun 21 to confirm he wants to be on ma ling list.
Email	[redacted]	[redacted]	Public	External					n/a	[redacted]	[redacted]	PIC 2 - Requested to be added to the distribution list May 10 2023

– Public Information Centre No. 1 Materials

MOVING WATER FORWARD

Notice of Study Commencement and Public Information Centre No. 1

Biosolids Management Master Plan Update

Niagara Region completed a Biosolids Management Master Plan in 2010 to ensure a long-term, environmentally sustainable, reliable and cost effective biosolids management program for Niagara Region and its citizens. This update to the plan will identify and develop a strategy for meeting Niagara's biosolids treatment needs to the year 2051, in a manner that is transparent, sustainable, reliable, environmentally friendly, cost effective and flexible.

The Biosolids Management Master Plan will be developed to:

- Meet the unique needs of Niagara Region and its customers, including treatment requirements, land uses and users, and environmental features
- Meet future needs associated with population growth, new regulations, climate resiliency, and energy efficiency
- Provide greater flexibility and reliability for biosolids management, both in the short term (i.e., 5 years) and long term (to the year 2051)
- Improve biosolids marketability; and
- Address community expectations regarding level of service, odour, air/noise, water quality, protection of the environment and aesthetics

The Process

The Study follows the master planning process as established by the Municipal Engineer's Association Class Environmental Assessment process for Master Plans, which is an approved Ontario Environmental Assessment process. The Biosolids Management Master Plan Update will satisfy Phases 1 and 2 of the Class Environmental Assessment process. Public and stakeholder input will be sought throughout the process, and a Biosolids Management Master Plan Update Report will be prepared and filed for public review.

Get Involved

Public feedback is an important part of the process. Information about the project will be available on Niagara Region's website as part of Public Information Centre No. 1. You can learn about the project, strategies being considered and how you can have your voice heard.

Public Information Centre No. 1 Details

Information about the Biosolids Management Master Plan will be made available on the project website beginning **Wednesday, June 8, 2022**. This will be followed with a two-week period to submit Public Information Centre No. 1 related comments to the Project Team.

You can access the project website using the link below or by scanning the QR code with your smart phone.

niagararegion.ca/projects/biosolids-master-plan

If you have questions, comments or wish to be added to the study mailing list, please contact:

Albert Succi, Senior Project Manager
Water & Wastewater Engineering
Niagara Region
3501 Schmon Pkwy., PO Box 1042
Thorold, ON L2V 4T7
905-980-6000 ext. 3308
Toll-free: 1-800-263-7215
Fax: 905-685-5205
niagarabiosolidsmp@niagararegion.ca

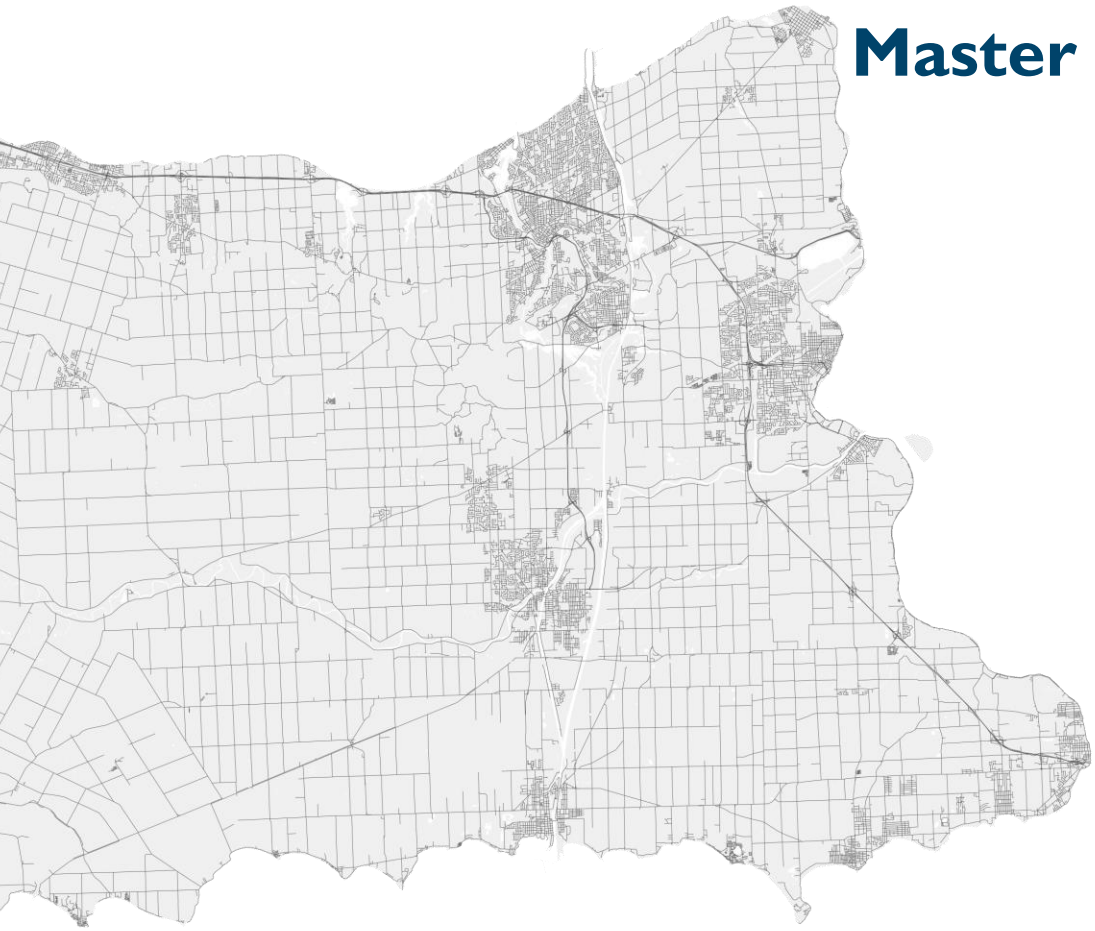
Personal information collected or submitted in writing at public meetings will be collected, used and disclosed by members of Regional Council and Regional staff in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA). The written submissions including names, contact information and reports of the public meeting will be made available. Questions should be referred to the Privacy Office at 905-980-6000, ext. 3779 or FOI@niagararegion.ca.

If you require any accommodations in order to participate, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or **accessibility@niagararegion.ca**.

Phase 1 Class EA and Public Information Centre No. 1
Summary Report

2021 Biosolids Management Master Plan Update

August 2022



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www.GMBluePlan.ca

Table of Contents

Appendices

621143 – Niagara Biosolids Management Master Plan Update
Phase 1 Class EA & Public Information Centre No. 1 Summary Report

QA/QC - SIGN OFF SHEET

This report has been reviewed and approved by the undersigned.

Laurie Boyce, B.Sc., M.A.
Project Manager

1.0 Study Introduction

1.1 Background and Purpose

In alignment with Niagara's Growth Management Strategy and under the legislative context of the Province's Place to Grow Plan and the Regional Policy Plan, growth in the Region of Niagara should occur in a sustainable manner addressing economic, social, and environmental considerations. The Region initiated the current Biosolids Management Master Plan (BMMP) Update to review the existing biosolids management strategy in light of these Provincial and Regional growth targets, to identify limitations, develop and evaluate alternative management strategies, and recommend a preferred strategy for implementation. The study will address Phases 1 and 2 of the Municipal Engineers Association Class Environmental Assessment Master Planning Process, while meeting the goals and objectives of the Region.

The BMMP will be developed to:

- Meet future population growth needs to the year 2051,
- Consider future regulations,
- Educate stakeholders regarding the benefits of biosolids reuse,
- Address community expectations,
- Protect the environment,
- Provide greater flexibility, reliability and cost efficiency for biosolids management, and
- Provide a 'Made in Niagara' strategy that incorporate features unique to this area

The study area covers includes all wastewater and water treatment plants in the Region of Niagara which includes Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the-Lake, Niagara Falls, and Fort Erie. Although Wainfleet does not have wastewater or water treatment, biosolids are utilized on their agricultural lands. **Figure 1** maps the overall study area.

A key part of the public consultation component of the study are Public Information Centres (PICs), which serve as a forum for information exchange between the public, stakeholders, and the project team. This report summarizes the first PIC held virtually from June 8-22, 2022, as well as the Phase 1 consultation activities and documents the following:

- Project Initiation
- Information presented at PIC No. 1
- Summary of engagement
- Summarized table of comments received, and responses provided in order to track correspondence in a transparent and traceable manner.

This report will be appended to the Master Plan Report submitted at the end of the study.

Figure 1: Study Area

1.2 Class EA Content

The Niagara BMMP study follows Phases 1 and 2 of the Municipal Class EA Process which includes the following:

- Phase 1: Development of the Problem and Opportunity Statement
- Phase 2: Assessment of Alternative Solutions and Selection of the Preferred Solution

The PIC No. 1 event concluded Phase 1 of the Class EA Process. The Problem and Opportunity Statement for the Niagara Region BMMP Plan is defined as follows:

"The purpose of the Biosolids Management Master Plan Update is to develop a holistic, long-term strategy for biosolids management in Niagara in a manner that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible."

The PIC No. 1 event also presented the proposed approach for the EA process. This defined the process of identifying alternative solutions for the problem and opportunity statement listed above and provided a long list of alternative strategies for biosolids management in Niagara Region. **Figure 2** displays the Municipal Class EA planning process and design planning process.

Overall, the objectives of PIC 1 were to introduce the study, provide an opportunity for stakeholders to learn about the Region's existing biosolid management program, and receive initial input on proposed long list of alternatives and evaluation criteria.

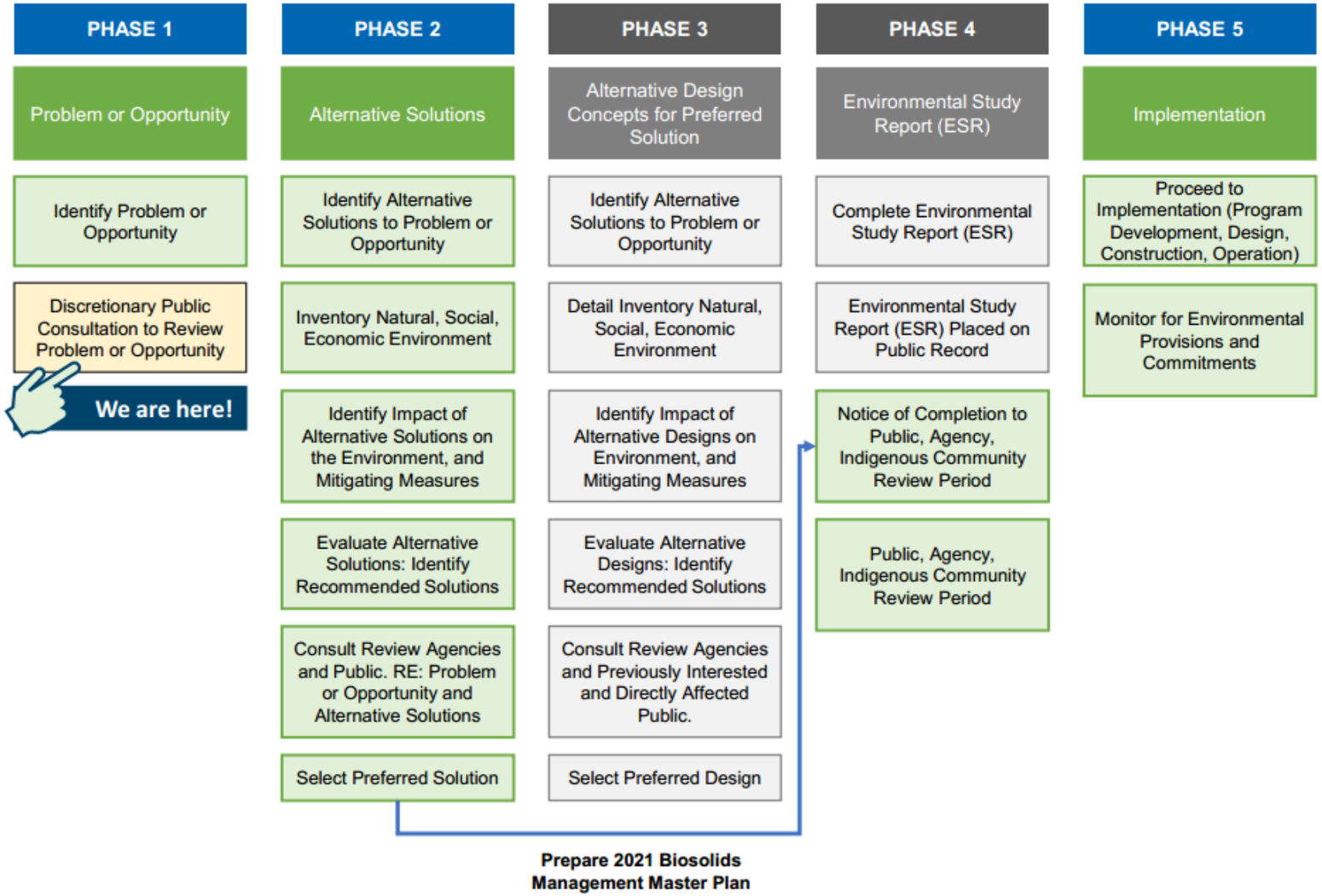


Figure 2: Municipal Class EA Planning and Design Process

2.0 Project Initiation

2.1 Public Consultation and Stakeholder Engagement Plan

The Region's approach to communicate and consult with stakeholders is driven by five key considerations.

- Keeping Niagara Region and area municipality councillors and senior management up to date and aware of study progress and findings.
- Undertaking and maintaining the appropriate level of communication with the public and stakeholders.
- Effectively engaging Indigenous Communities.
- Maintaining Niagara's brand and public reputation.
- Meet or exceed MEA Standards for public and stakeholder consultations.

Considering the above factors, the Region's consultation and engagement program aims to offer the following key opportunities:

- Educating the community about biosolids infrastructure and beneficial use.
- Building public and stakeholder understanding and buy-in to support the EA process and the preferred solutions.
- Raising awareness of Region services.
- Building the foundation for future steps in the project including implementation of subsequent studies and designs.

2.2 Mailing List

Early in the study process a mailing list was established. The mailing list included government review agencies, public interest groups, municipalities, Indigenous Communities, utilities and other stakeholders. The list was based on the mailing list established through the Water and Wastewater Master Plan process, input from the Ministry of Environment, Parks and Conservation (MECP), and input from the Region and area municipalities. The mailing list is continually updated through the study as additional interested parties and individuals are identified.

2.3 Project Website

A dedicated project website for the 2021BMMP Update has been established and is regularly updated. The site includes notices, information bulletins, and Public Information Centre (PIC) information. www.niagararegion.ca/projects/biosolids-master-plan/. In addition, the Region has established dedicated email address for contact throughout the project: niagarabiosolidsmp@niagararegion.ca.

3.0 Public Information Centre No. 1

3.1 Purpose

PIC No. 1 was the first public event for this study. Due to the COVID-19 health situation, PIC No.1 was held virtually from June 8-22, 2022 and presented the following information:

- Introduced the study (including background)
- Described the Class EA process
- Identified the problem and opportunity statement
- Presented biosolids servicing alternatives being considered; and
- Evaluation approach that will be used to select the short list of recommended strategies to be developed.
- Received public input and answer any questions.

The public review material included a presentation with voice-over, interactive mapping (Story Map), and an AODA compliant pdf summary of all presented information to illustrate the problem opportunity statement, study area conditions, detailed Class EA evaluation process, long list of alternatives being considered and overview of the draft detailed evaluation methodology and criteria.

3.2 Notice of Study Commencement and PIC No. 1

Stakeholders and the public were informed by local newspaper advertisements, mail and or email (study contact list), and through the Region of Niagara website.

For a copy of the Notice of Study Commencement/ PIC No. 1, please refer to Appendix A.

3.2.1 Newspaper Advertisements

The Study Commencement and PIC No. 1 Notice was published in local area newspapers which included the following:

- Standard Review Tribune - Saturday May 28, 2022
- The Voice - Wednesday June 1, 2022
- The Niagara On the Lake Local - Wednesday June 1, 2022
- New Now - Thursday June 2, 2022
- The Lake Report – Thursday June 2, 2022

3.2.2 Online Advertisements

This notice was also posted to the Niagara Region website and the Project website. The website includes details for members of the public to sign up in order to stay involved through this study and receive future study notifications.

3.2.3 Contact List Mailout

The Notice of Commencement/PIC No. 1 was mailed and/or emailed to local government, review agencies, Indigenous Communities, and other stakeholders on May 25, 2022.

Notification was sent to the following groups:

Provincial

- Ministry of the Environment, Conservation and Parks
- Ministry of Northern Development, Mines, Natural Resources and Forestry
- Infrastructure Ontario
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Economic Development, Employment and Infrastructure
- Ministry of Infrastructure
- Ministry of Municipal Affairs and Housing
- Ministry of Heritage, Sport, Tourism and Culture
- Ministry of Transportation
- Niagara Parks Commission
- Ontario Provincial Police
- Peace Bridge Authority
- Ministry of the Attorney General, Aboriginal Justice Division
- Ministry of Indigenous Affairs

Conservation Authorities

- Niagara Peninsula Conservation Authority

Federal

- Canadian Section, International Niagara Board of Control
- Canadian Environmental Assessment Agency
- Department of Fisheries and Oceans Canada
- Department of Environment and Climate Change Canada
- Department of Indigenous and Northern Affairs Canada
- Federal Economic Development Agency for Southern Ontario
- Health Canada
- Transport Canada
- Canadian Food Inspection Agency

Indigenous Communities

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Assembly of First Nations
- Association of Iroquois and Allied Indians
- Metis Nation of Ontario
- Niagara Region Metis Council
- Fort Erie Native Friendship Centre
- Niagara Regional Native Centre

Rail and Transit

- CN Rail
- CP Rail
- GO Transit/Metrolinx
- TransCanada Pipelines

School Boards and Interest Groups

- Conseil Scolaire Viamode
- Conseil Scolaire Catholique MonAvenir
- District School Board of Niagara
- Canadian Section, International Niagara Board of Control
- Friends of the Greenbelt
- Greater Niagara Chamber of Commerce
- Lundy's Lane BIA
- Niagara Catholic District School Board
- Niagara College
- Niagara Emergency Medical Services
- Niagara Health
- Niagara Home Builders Association
- Niagara Regional Police
- Ontario Realty Corporation
- Ontario Wine Country

Third Party Biosolids Contractors and End Users

- Walker Industries
- Thomas Nutrient Solutions

Ontario Federation of Agriculture

Utilities

- Bell Canada
- Canadian Niagara Power Inc.
- Canadian Automobile Association – South Central Ontario
- Cogeco Cable Hamilton/Niagara
- Cogeco Cable Niagara
- Enbridge Gas Inc.
- Enbridge Pipelines Inc.
- Grimsby Power Incorporated
- Hydro One Networks
- Niagara-on-the-Lake Hydro
- Niagara Peninsula Energy Inc.
- Niagara Region Broadband Networks
- Ontario Power Generation
- Telus
- Welland Hydro Electric System Corporation

3.3 PIC No. 1 Meeting Details

The virtual PIC No. 1 was held from June 8 – 22, 2022. The PIC No. 1 materials were available for public comment via the study website.

3.4 PIC No. 1 Display Material

The information presented on the PIC No. 1 video presentation slides and interactive mapping (ESRI Story Maps) included:

- Project Introduction
- Project Approach
- PIC Objectives
- Study Area
- Existing Biosolids Management System
- Evaluation Approach
- Project Schedule
- How to Get Involved

A copy of the PIC No. 1 presentation material is provided in Appendix B.

3.5 Online Survey

Recipients of the PIC No. 1 notice were encouraged to complete an online survey regarding the proposed evaluation approach for the biosolid management alternatives.

The survey included the following questions/comments:

- Do you have any comments regarding the Problem/Opportunity Statement?
- Do you have any comments on or addition to the long list of alternatives treatment technologies and end-use markets?
- Do you have any comments on the screening criteria and detailed evaluation criteria?
- Ranking of most important criteria including minimizing impact to natural environment, limiting disruptions to the public, ease of approvals and permits, minimizing costs, ensuring a sustainable solution that performs well.
- Provide additional criteria that you consider important if not listed above
- Opportunity to provide additional questions or comments
- Opportunity to be added to the stakeholder list

A copy of the survey is provided in Appendix C.

3.6 PIC No. 1 Attendance

During the two (2)-week engagement period, the video presentation received 45 views.

3.7 PIC No. 1 Comments Received and Region's Responses

Attendees were encouraged to provide comments related to Class EA in writing through the project website during the two-week comment period. Comments were accepted through the project website, by phone, email and/or mailed letters. These comments were then reviewed and considered by the Project Team to inform the decision-making process.

A summary of the comments received is provided in the table below. A one-page event summary was posted to the project website to demonstrate engagement as provided in Appendix D.

No.	PIC No. 1 Comments/Questions Received	Project Team Response
1	Multiple public stakeholders signed-up to be on the mailing list and receive future project notices	All individuals interested in the study have been added to the mailing list to receive study information.
2	Requested consideration for reduced truck traffic related to biosolids hauling through the community of Cooks Mills	The Region staff followed-up with Thomas Nutrient Solutions to continue to implement measures to mitigate the impacts of trucks transferring biosolids to agricultural fields. Thomas Nutrient Solutions are the third party contractor responsible for coordinating beneficial land application of biosolids. In addition, as part of this 2021 Biosolids Management Master Plan Update the Region is exploring opportunities to optimize biosolids management in the Region, including a review of biosolids hauling operations.
3	Enbridge provided approximate locations of pipeline infrastructure within the Study Area	Information provided by Enbridge will be considered in the assessment of alternatives, and the development of the preferred strategy. The Region will work with continue to work with Enbridge to mitigate and control potential impacts associated with Regional infrastructure works on pipelines.
4	Received notification from Niagara Escarpment Commission (NEC) that the Queenston WWTP and Decew Falls WTP fall within the Niagara Escarpment Plan Area and Area of Development Control and the NEC would like to be involved in the study.	NEC is a major stakeholder and will continue to be involved throughout the study process.

4.0 Next Steps

Following the first round of public consultation, the project team will:

- Consider comments and input received into the Class EA process,
- Continue to work with review agencies and interested stakeholders,
- Prepare and advertise for Public Information Centre No. 2, and
- Continue to collect comments and input for consideration in the Class EA process.

APPENDIX A:
Notice of Study Commencement and PIC No. 1

MOVING WATER FORWARD

Notice of Study Commencement and Public Information Centre No. 1

Biosolids Management Master Plan Update

Niagara Region completed a Biosolids Management Master Plan in 2010 to ensure a long-term, environmentally sustainable, reliable and cost effective biosolids management program for Niagara Region and its citizens. This update to the plan will identify and develop a strategy for meeting Niagara's biosolids treatment needs to the year 2051, in a manner that is transparent, sustainable, reliable, environmentally friendly, cost effective and flexible.

The Biosolids Management Master Plan will be developed to:

- Meet the unique needs of Niagara Region and its customers, including treatment requirements, land uses and users, and environmental features
- Meet future needs associated with population growth, new regulations, climate resiliency, and energy efficiency
- Provide greater flexibility and reliability for biosolids management, both in the short term (i.e., 5 years) and long term (to the year 2051)
- Improve biosolids marketability; and
- Address community expectations regarding level of service, odour, air/noise, water quality, protection of the environment and aesthetics

The Process

The Study follows the master planning process as established by the Municipal Engineer's Association Class Environmental Assessment process for Master Plans, which is an approved Ontario Environmental Assessment process. The Biosolids Management Master Plan Update will satisfy Phases 1 and 2 of the Class Environmental Assessment process. Public and stakeholder input will be sought throughout the process, and a Biosolids Management Master Plan Update Report will be prepared and filed for public review.

Get Involved

Public feedback is an important part of the process. Information about the project will be available on Niagara Region's website as part of Public Information Centre No. 1. You can learn about the project, strategies being considered and how you can have your voice heard.

Public Information Centre No. 1 Details

Information about the Biosolids Management Master Plan will be made available on the project website beginning **Wednesday, June 8, 2022**. This will be followed with a two-week period to submit Public Information Centre No. 1 related comments to the Project Team.

You can access the project website using the link below or by scanning the QR code with your smart phone.

niagararegion.ca/projects/biosolids-master-plan

If you have questions, comments or wish to be added to the study mailing list, please contact:

Albert Succi, Senior Project Manager
Water & Wastewater Engineering
Niagara Region
3501 Schmon Pkwy., PO Box 1042
Thorold, ON L2V 4T7
905-980-6000 ext. 3308
Toll-free: 1-800-263-7215
Fax: 905-685-5205
niagarabiosolidsmp@niagararegion.ca

Personal information collected or submitted in writing at public meetings will be collected, used and disclosed by members of Regional Council and Regional staff in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA). The written submissions including names, contact information and reports of the public meeting will be made available. Questions should be referred to the Privacy Office at 905-980-6000, ext. 3779 or FOI@niagararegion.ca.

If you require any accommodations in order to participate, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or **accessibility@niagararegion.ca**.

APPENDIX B:
PIC No. 1 Material

2021 Biosolids Management Master Plan Update

Welcome to Virtual Public Information Centre No. 1

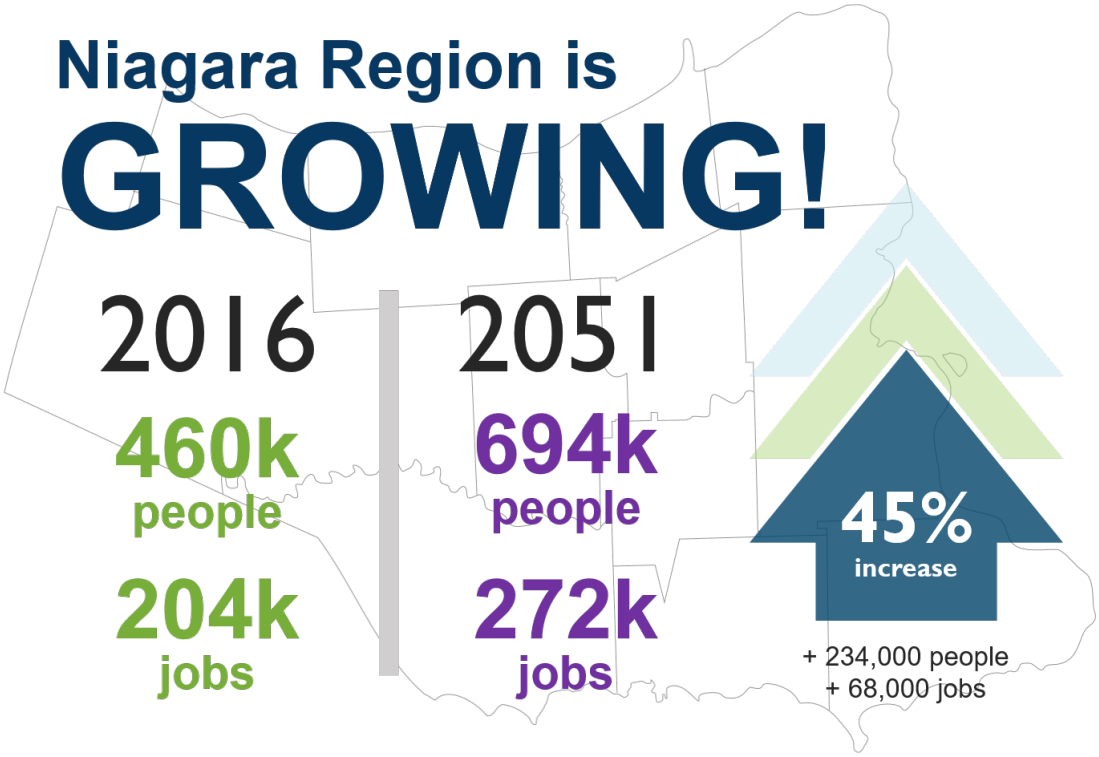
This document is provided as an alternative format that is originally hosted using ESRI StoryMaps. It is provided for those who may not have the compatible browser to view the original virtual public information materials online.

Project Introduction

The Niagara Region is undertaking a region-wide Biosolid Management Master Plan (BMMP) Update for the future management of biosolids from each of the Region's water and wastewater treatment plants.

As Niagara Region continues to grow, we need to make sure that we plan our infrastructure and services in order to meet increasing demands. More people means more wastewater, which also means more biosolids and a higher demand for treatment and management of these materials. This project will also build upon the recommendations in the 2010 BMMP, by considering regulatory and environmental changes since its implementation.

The 2021 Biosolids Management Master Plan (BMMP) Update will follow the Municipal Engineers Association (MEA) Class Environmental Assessment (EA) process for Master Plans and will satisfy Phases 1 and 2 of the Class EA process.



What are Biosolids?

Biosolids are the organic materials resulting from the physical, chemical and biological treatment of sewage sludge generated at wastewater treatment plants.

Biosolids have many potential beneficial uses such as land application on agricultural lands, landscaping needs, and golf courses. The Region’s biosolids are currently land applied throughout Niagara Region.

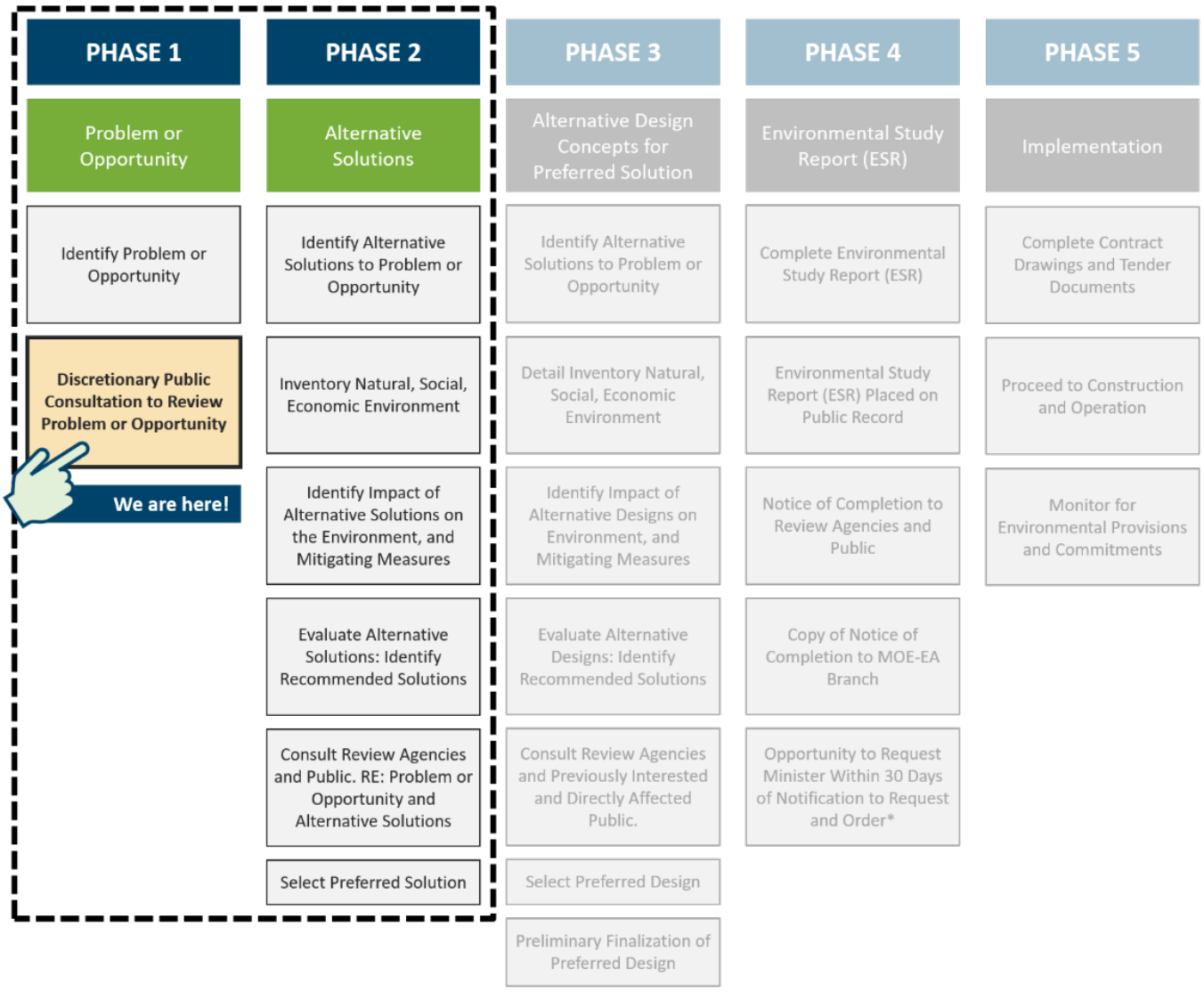
The Region's biosolids also incorporate residuals from water treatment.

Project Approach

Problem and Opportunity Statement

This project is following the Class Environmental Assessment (EA) process for Master Plan Projects, which is a decision-making process that all Ontario municipalities follow for rehabilitating and building new infrastructure. The 2021 BMMP follows the Municipal Engineers Association (MEA) Class Environmental Assessment (EA) process for Master Plans and will satisfy Phases 1 and 2 of the Class EA process.

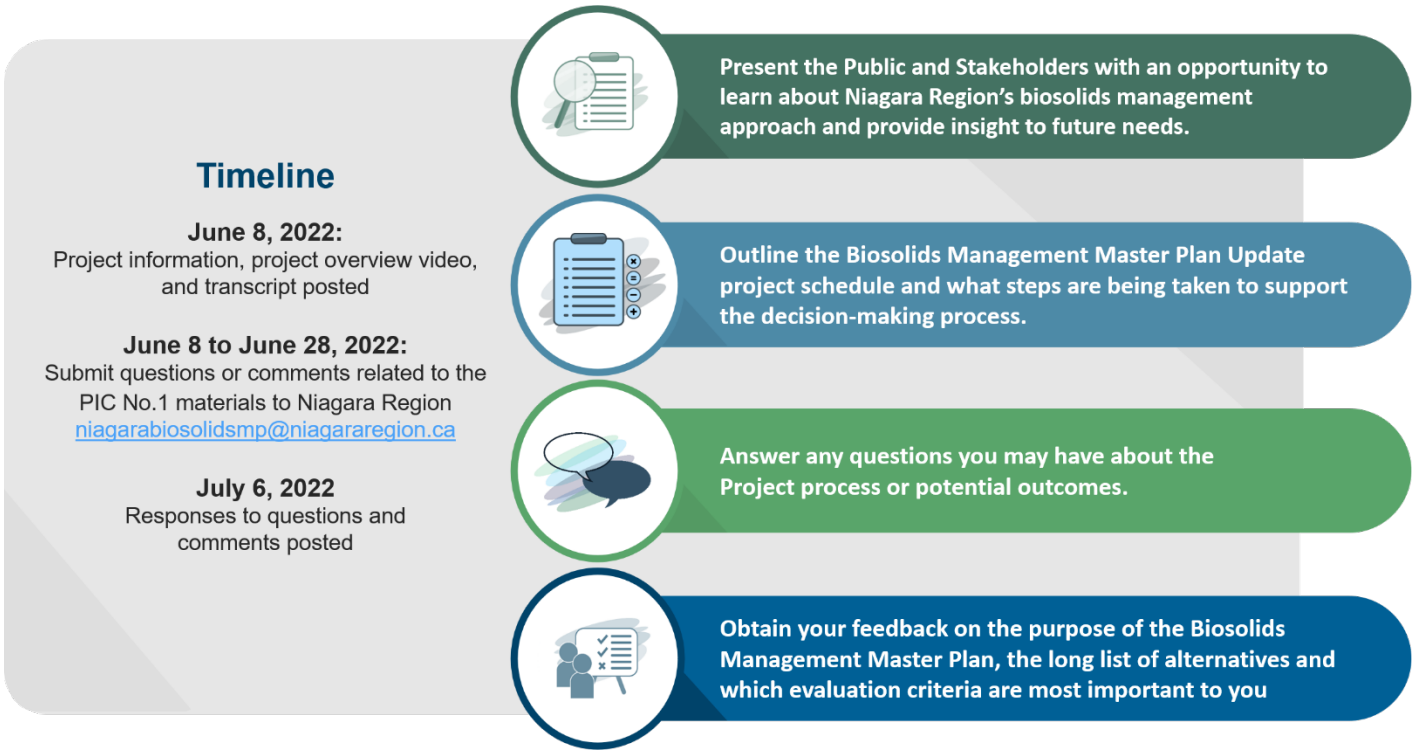
The purpose of the Biosolids Management Master Plan Update is to develop a holistic, long-term strategy for biosolids management in Niagara in a manner that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible.



The objectives of this study are to:

- Document the status of the existing biosolids management program at each wastewater treatment plant (WWTP), in terms of process capacity, availability and reliability.
- Document the status of the existing program at Garner Road Biosolids Facility, in terms of process capacity, availability and reliability.
- Identify the limitations in the existing programs with consideration for the opportunities and constraints related to the future management of biosolids.
- Complete a comprehensive review of a broad range of biosolids management options available locally and globally and identify those feasible for each facility.
- Evaluate and select preferred options for each facility and the Region's operations as a whole.
- Identify, evaluate and recommend preferred biosolids management methods.

Public Information Centre (PIC) Objectives



1. Present the public and stakeholders with an opportunity to learn about Niagara Region's biosolids management approach and provide insight to future needs.
2. Outline the Biosolids Management Master Plan Update project schedule and what steps are being taken to support the decision-making process.
3. Answer any questions you may have about the project process or potential outcomes.
4. Obtain your feedback on the purpose of the Biosolids Management Master Plan, the long list of alternatives and which evaluation criteria are most important to you.

Questions and comments can be submitted to niagarabmmp@niagararegion.ca until June 28, 2022.

Submit Questions or Comments

Study Area

The 2021 Biosolids Management Master Plan Update is applicable to all wastewater treatment plants and water treatment plants in Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the-Lake, Niagara Falls, and Fort Erie.

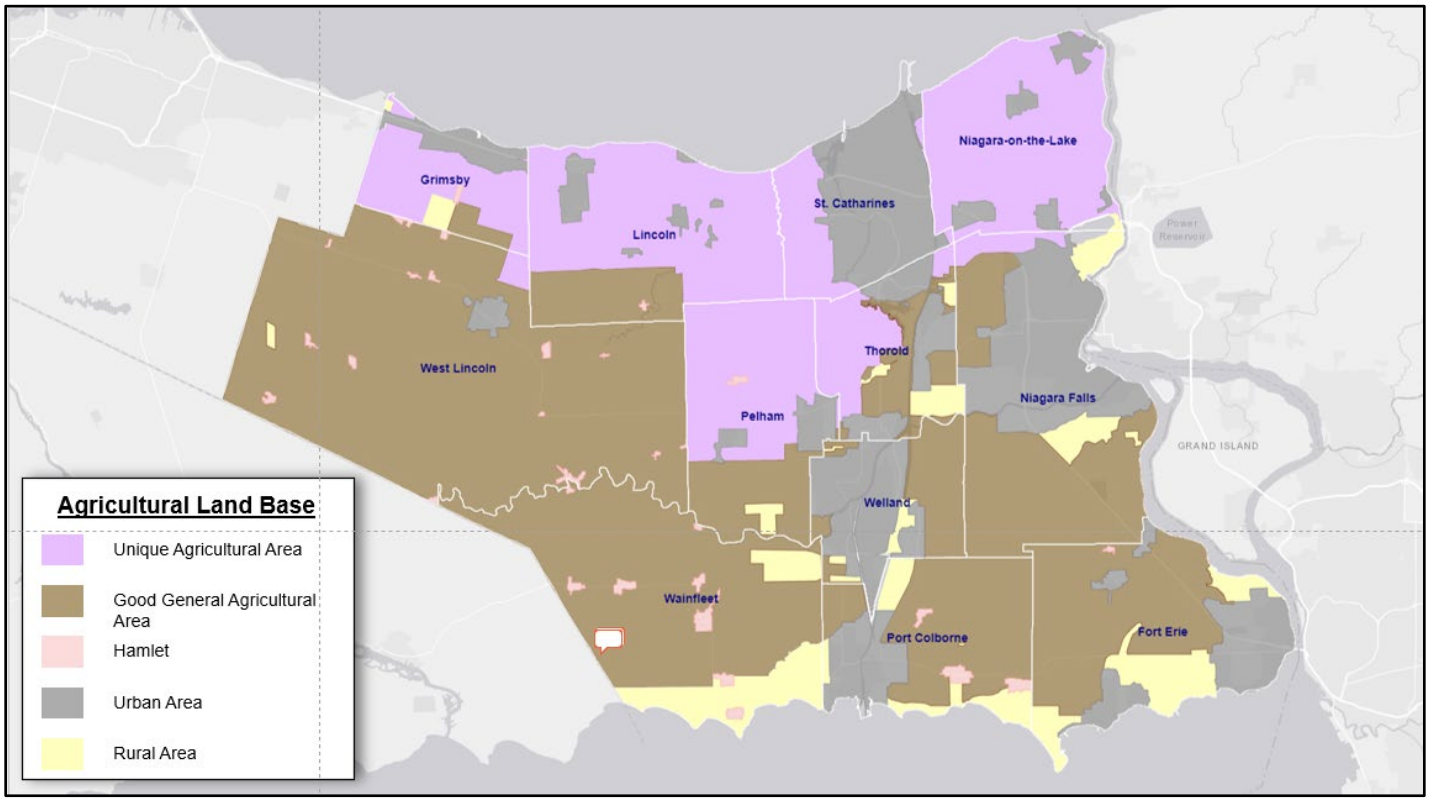
*Although Wainfleet does not have wastewater or water treatment (uses septic tanks and wells), biosolids are utilized on agricultural lands in Wainfleet as well as other area municipalities.

Niagara Region Official Plan Agricultural Land Base

The Region consists of roughly 74% agricultural land use.

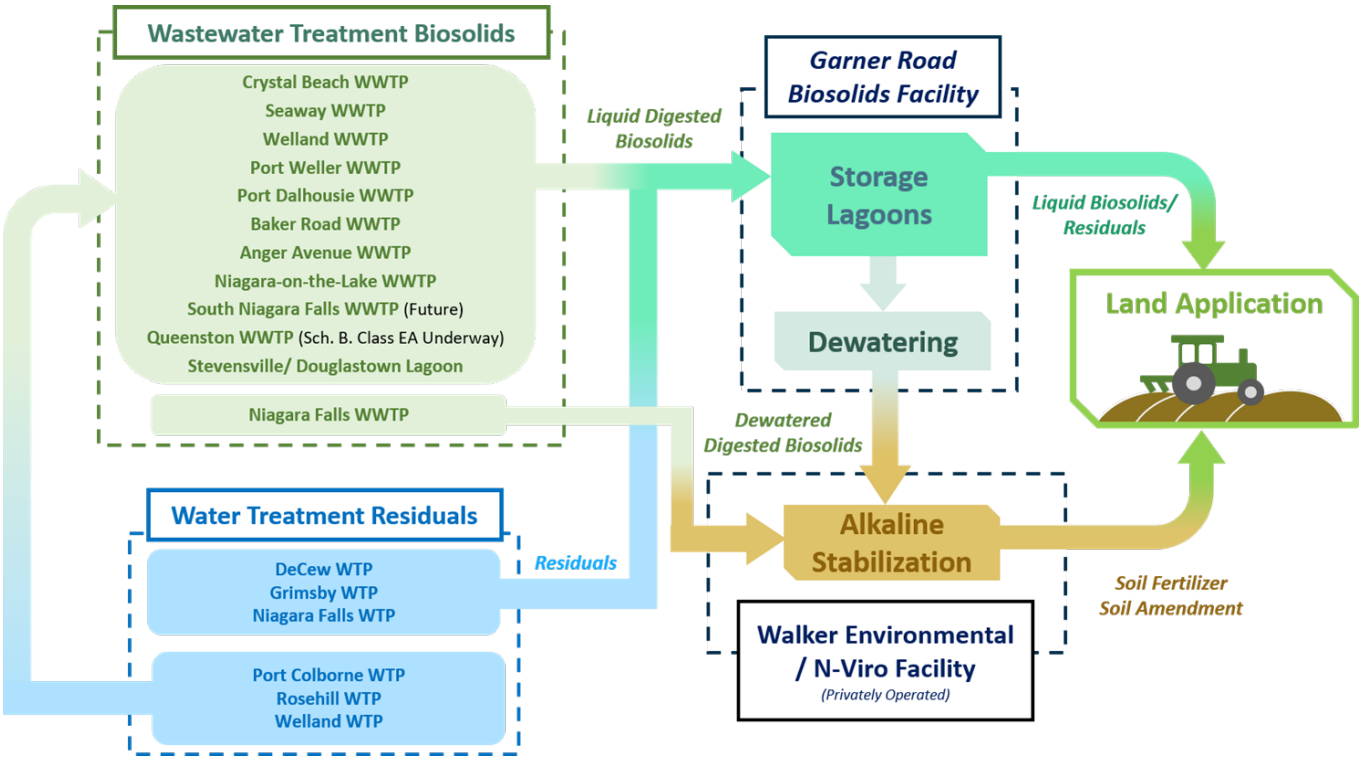
- ~51% or 96,452 hectares is categorized as Good General Agricultural Area
- ~23% or 43,542 hectares falls under Unique Agricultural Area

The agricultural industry presents the greatest potential end use market for biosolid management byproducts.



Existing Biosolids Management System

Overall, water treatment residuals and wastewater treatment biosolids are processed at the Garner Road Biosolids Facility, Walker Environmental N-Viro Facility, or both, before being converted into a product appropriate for land application in the form of fertilizer or liquid biosolids.



Wastewater Treatment Biosolids

Liquid biosolids from the Region's wastewater treatment plants (WWTPs) are transferred to the Garner Road Biosolids Facility storage lagoons. The biosolids may then be used directly for land applications as liquid biosolids or dewatered to create a biosolids cake product. Dewatered biosolids from the Garner Road Biosolids Facility and Niagara Falls WWTP are hauled to the Walker Environmental Facility that uses the N-Viro alkaline stabilization process to create soil amendment that is sold as a fertilizer.

Water Treatment Residuals

Residuals from the Decew Water Treatment Plant (WTP), Grimsby WTP, and Niagara Falls WTP are hauled to the Garner Road Biosolid Facility where they are mixed with liquid biosolids from the Region's WWTPs. Water residuals from Port Colborne WTP, Rosehill WTP, and Welland WTP are discharged to the sanitary sewer system for treatment through the Region's WWTPs.

Exiting Beneficial Use Program

Liquid Biosolids Management

Liquid biosolids and residuals (~50% of biosolids produced in Niagara Region) are:

1. Hauled to the Garner Road Biosolids Facility by Third Party Contractor (Thomas Nutrient Solutions),
2. Stored and thickened in lagoons at the Garner Road Biosolids Facility,
3. Hauled away and applied as a liquid fertilizer to agricultural land by Third Party Contractor (Thomas Nutrient Solution)

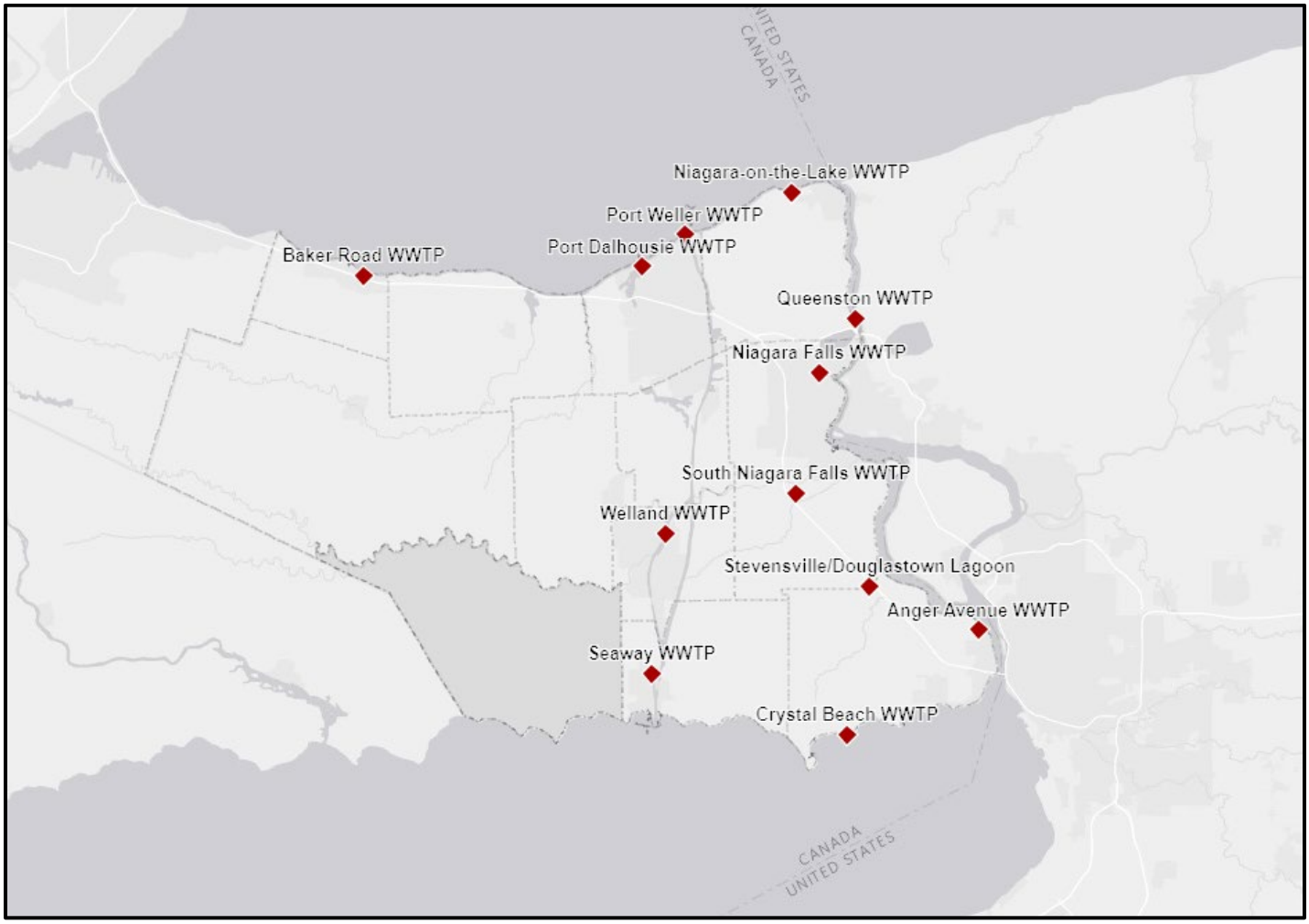
Dewatered Biosolids Management

Dewatered biosolids from the Garner Road Biosolids Facility and Niagara Falls WWTP (~50% of biosolids produced in Niagara Region) are:

1. Hauled to the Walker Environmental Facility in Niagara Falls,
2. Treated using alkaline stabilization (N-Viro process) to produce a high solids, nutrient rich product,
3. Hauled away and applied as a solid cake fertilizer to agricultural land by Third Party Contractor.

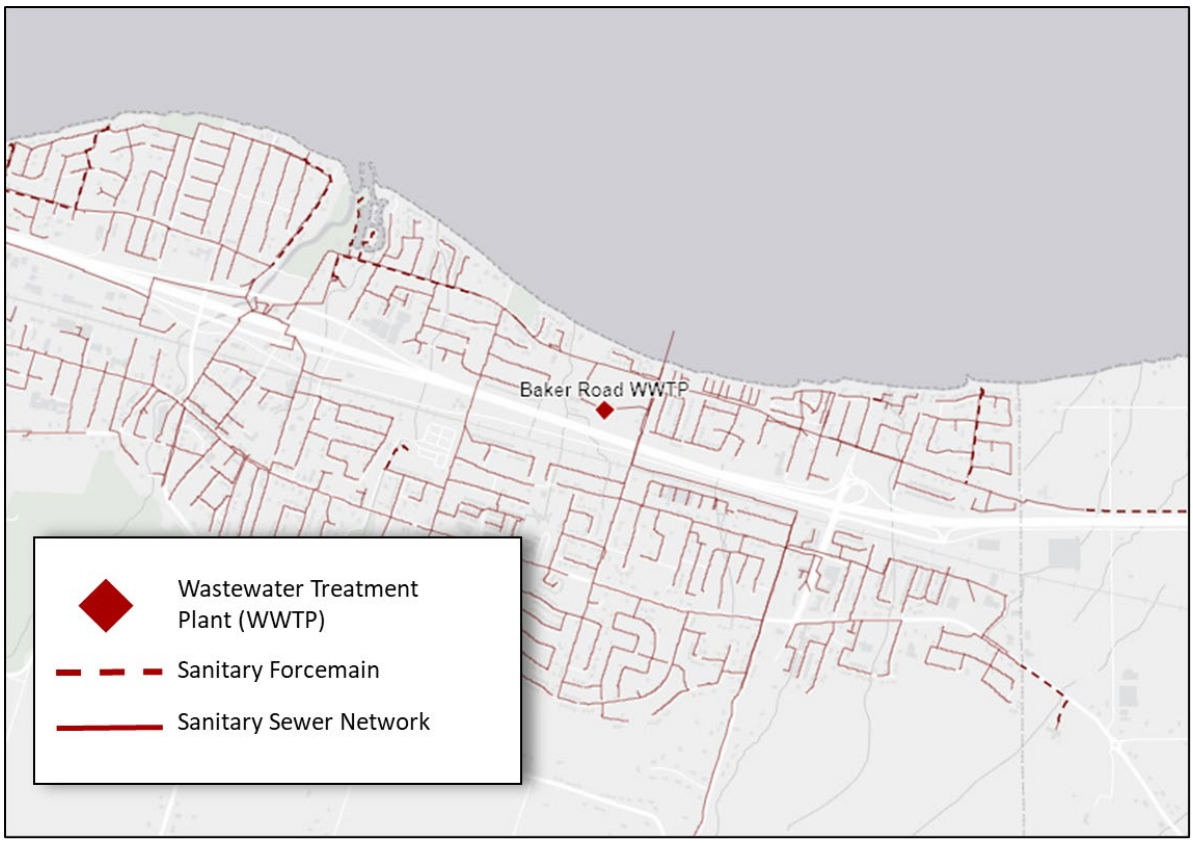
Wastewater System Existing Conditions and Future Needs

Region Wide



Grimsby

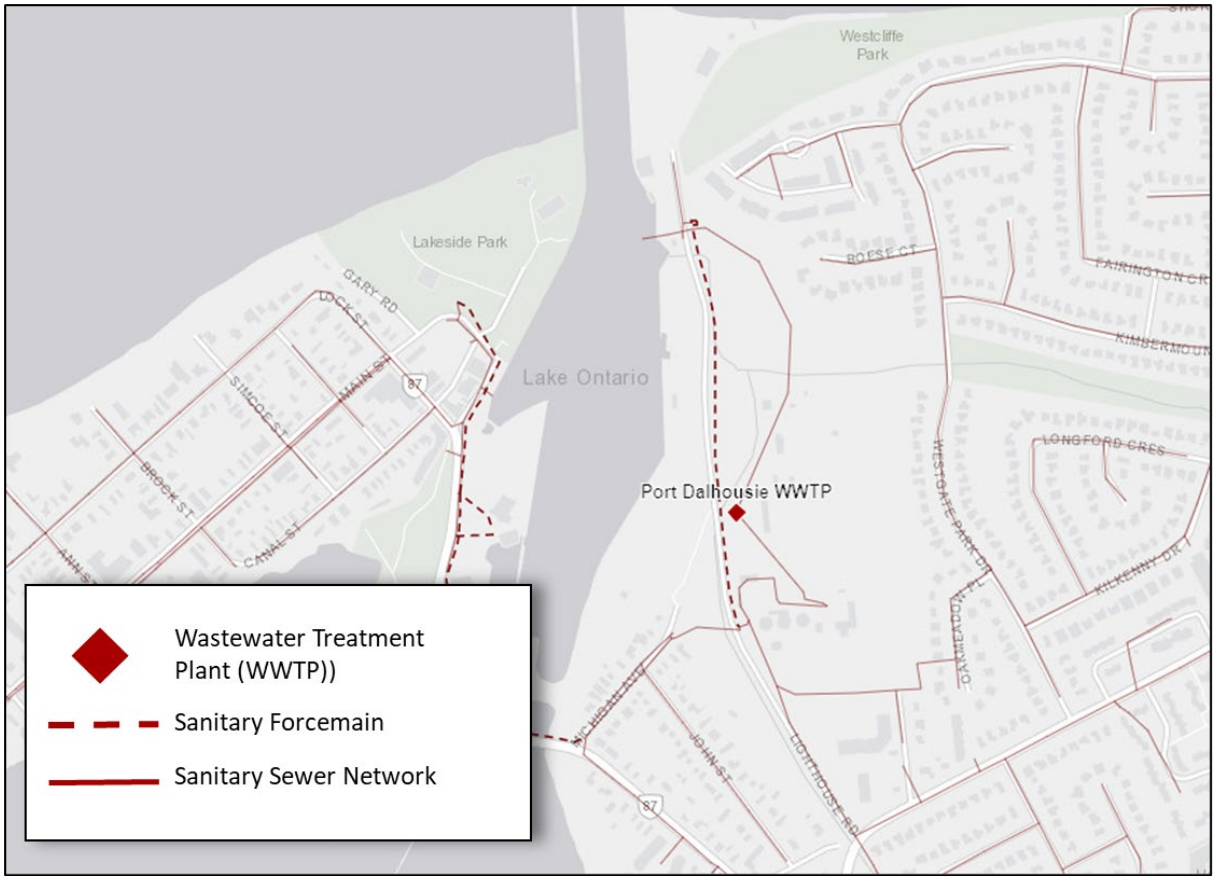
Baker Road Wastewater Treatment Plant



- **Address:** 160 Lake St, Grimsby, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 19.4
- **Current Facility Capacity (MLD):** 31.3
- **Estimated Future Flow to 2051 (MLD):** 35.82
- **Existing Solids Management Process:** Anaerobic digestion and storage
- **Planned and Required Biosolids Upgrades by 2051:** Digestor capacity upgrades

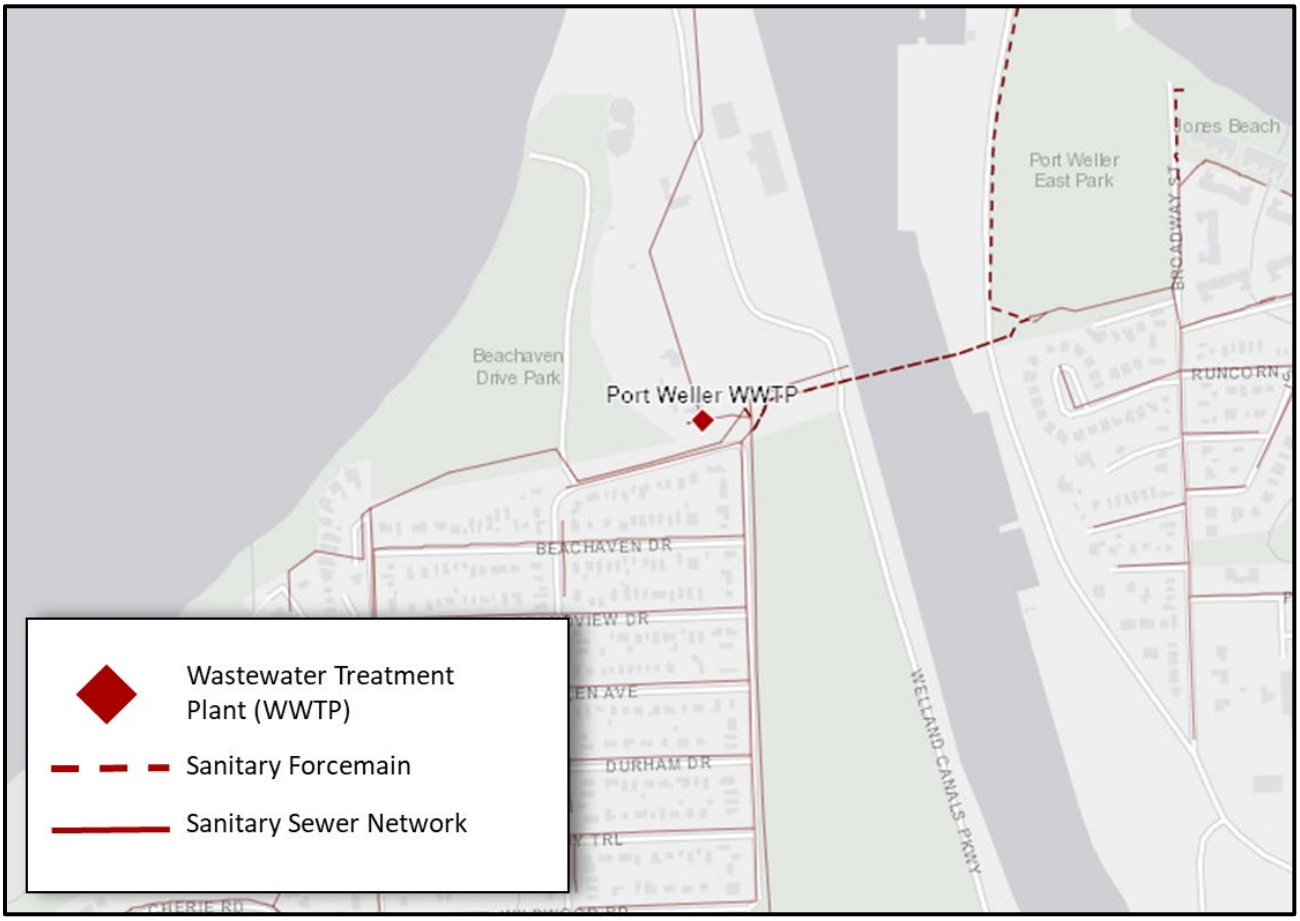
St. Catharines

Port Dalhousie Wastewater Treatment Plant



- **Address:**40 Lighthouse Rd, St. Catharines, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 34.5
- **Current Facility Capacity (MLD):** 61.4
- **Estimated Future Flow to 2051 (MLD):** 45.49
- **Existing Solids Management Process:** Anaerobic digestion and storage
- **Planned and Required Biosolids Upgrades by 2051:** Upgrade primary digestion capacity

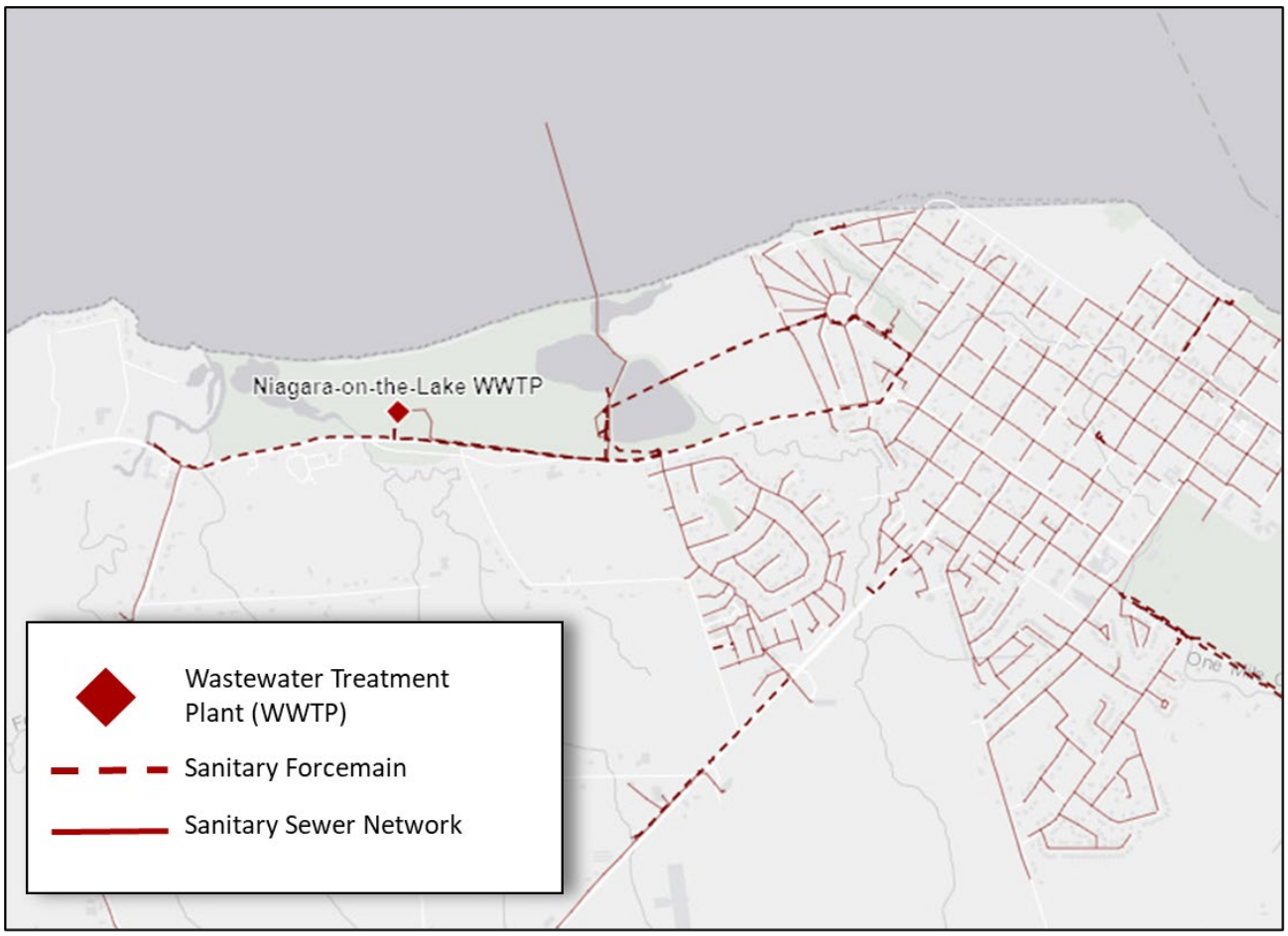
Port Weller Wastewater Treatment Plant



- **Address:** 27 Lombardy Ave, St. Catharines, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 35.6
- **Current Facility Capacity (MLD):** 56.2
- **Estimated Future Flow to 2051 (MLD):** 39.09
- **Existing Solids Management Process:** Anaerobic digestion
- **Planned and Required Biosolids Upgrades by 2051:** Upgrade primary digestion capacity

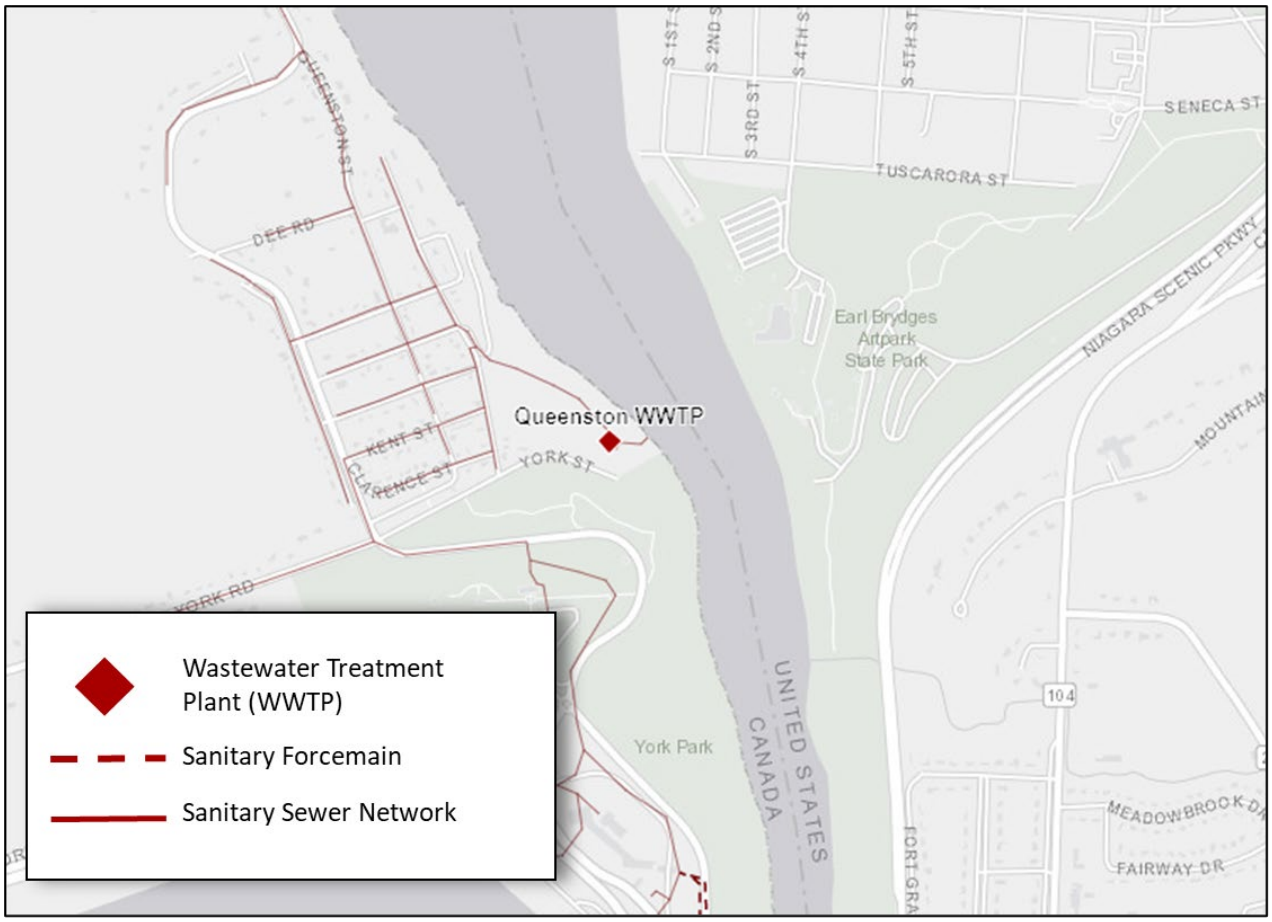
Niagara-on-the-Lake

Niagara-on-the-Lake Wastewater Treatment Plant



- **Address:** 1550 Lakeshore Road, Niagara on-the-Lake, Ontario
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 4.6
- **Current Facility Capacity (MLD):** 8.0
- **Estimated Future Flow to 2051 (MLD):** 5.37
- **Existing Solids Management Process:** Thickening and Anaerobic Digestion
- **Planned and Required Biosolids Upgrades by 2051:** Increase sludge equalization storage capacity and thickening capacity

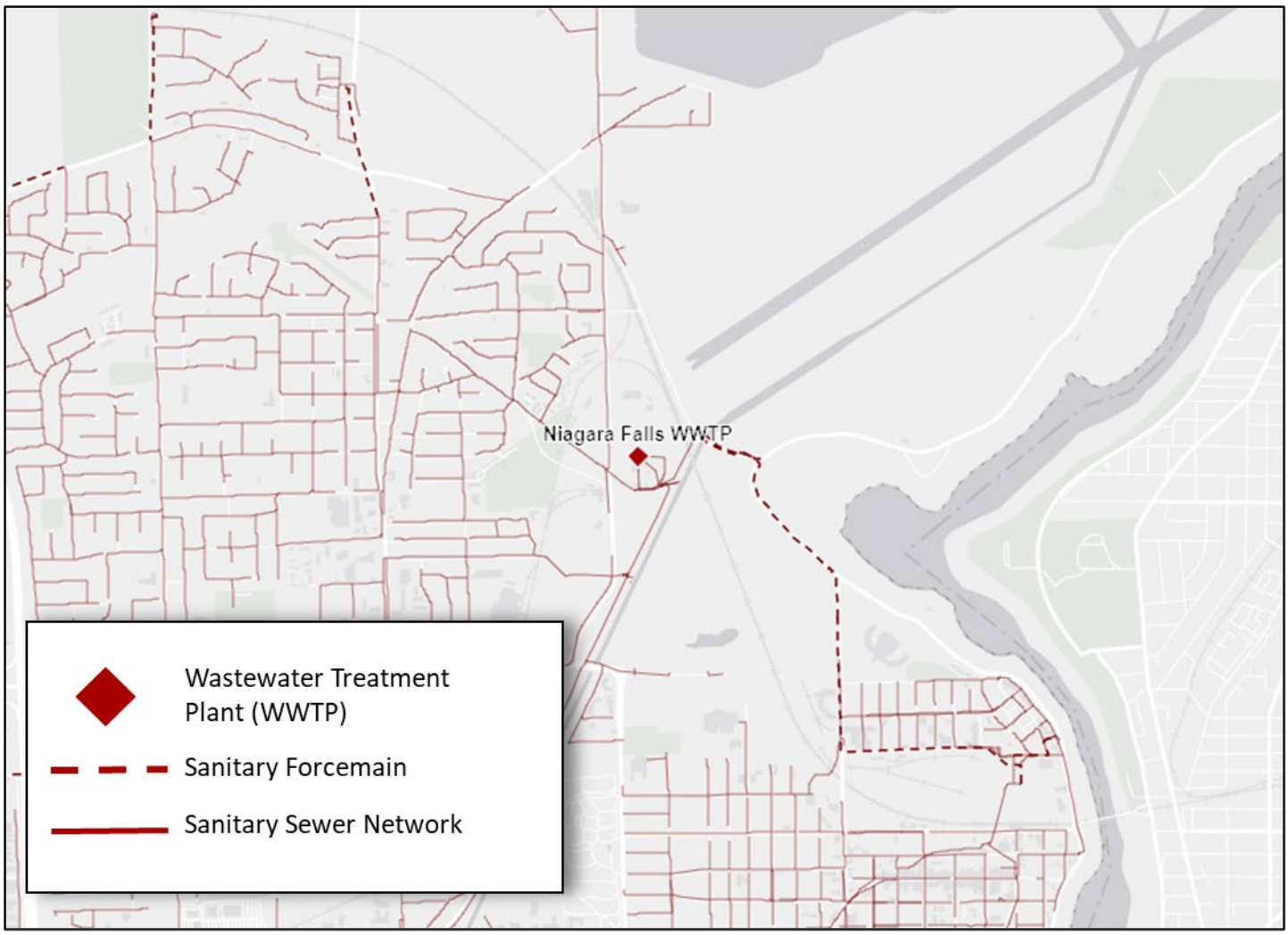
Queenston Wastewater Treatment Plant



- **Address:** 5 River Frontage Road, Queenston, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 0.17
- **Current Facility Capacity (MLD):** 0.5
- **Estimated Future Flow to 2051 (MLD):** 0.23
- **Existing Solids Management Process:** Storage of waste activated sludge
- **Planned and Required Biosolids Upgrades by 2051:** Currently under Schedule B Class Environmental Assessment review.

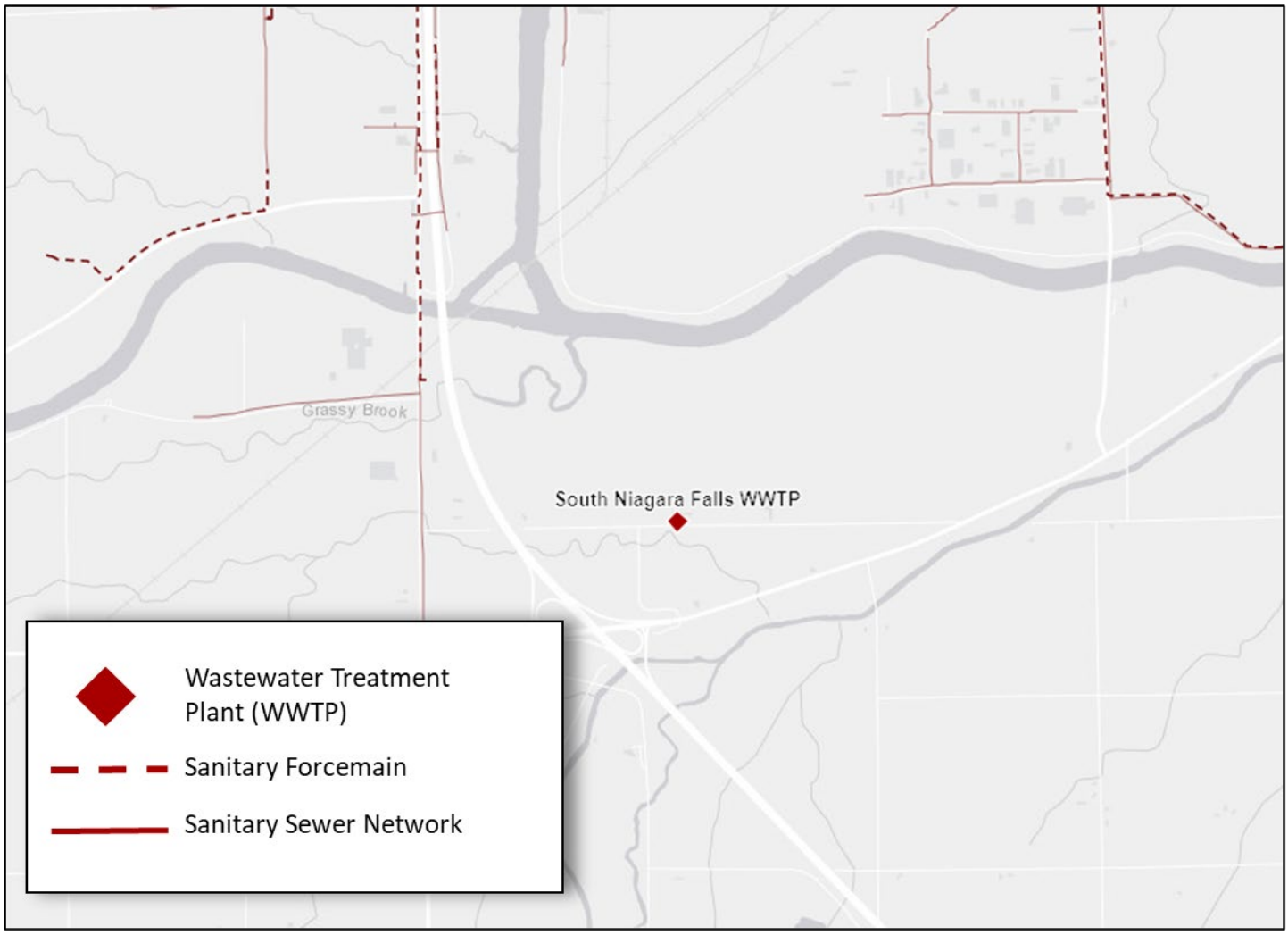
Niagara Falls

Niagara Falls Wastewater Treatment Plant



- **Address:** 3450 Stanley Avenue, Niagara Falls, Ontario
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 39.6
- **Current Facility Capacity (MLD):** 68.3
- **Estimated Future Flow to 2051 (MLD):** 37.75
- **Existing Solids Management Process:** Anaerobic Digestion, Storage and Dewatering
- Planned and Required Biosolids Upgrades by 2051:

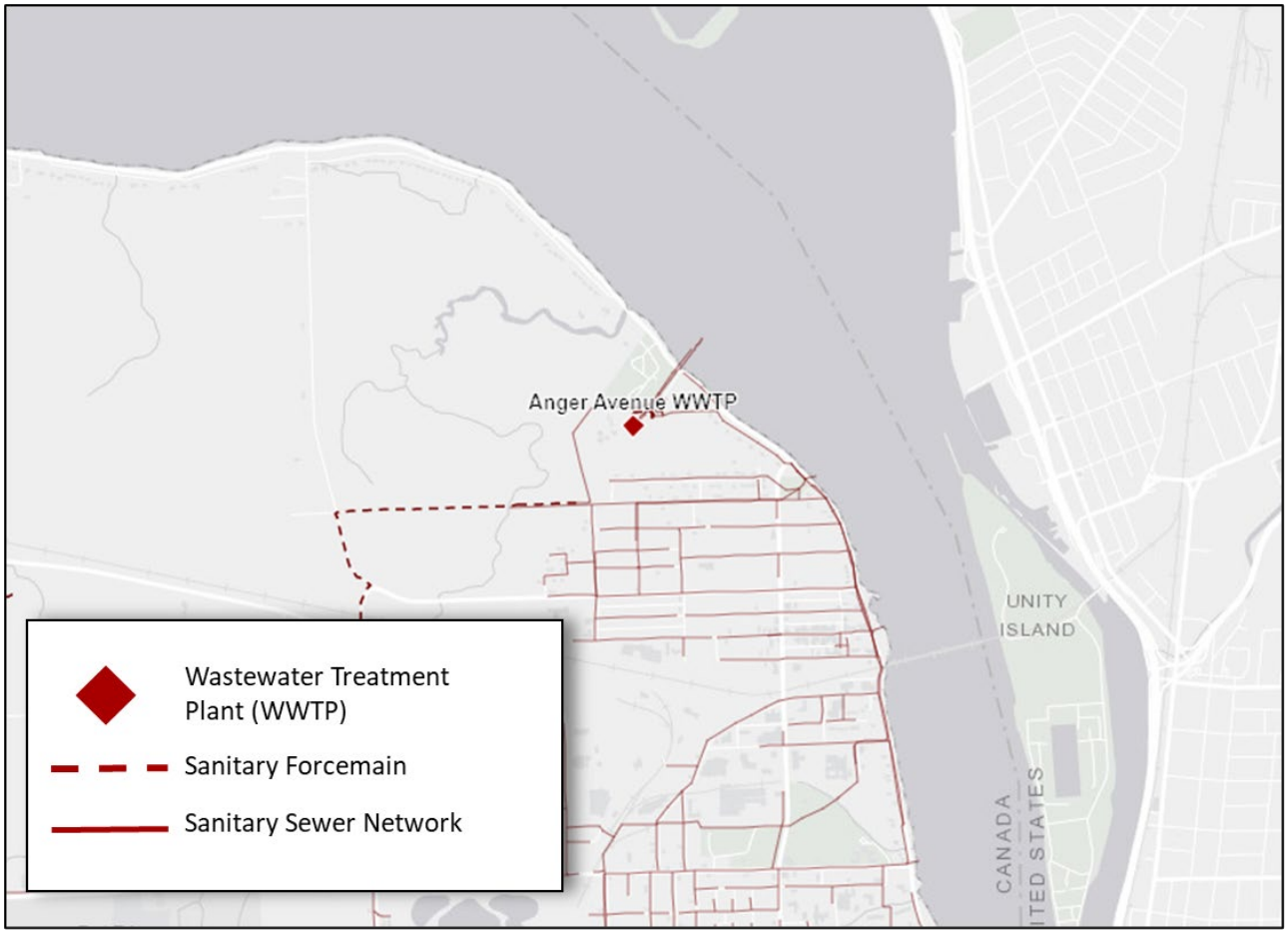
South Niagara Falls Wastewater Treatment Plant



- **Address:** To be determined.
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** Not applicable.
- **Current Facility Capacity (MLD):** 60.0
- **Estimated Future Flow to 2051 (MLD):** 31.34
- **Existing Solids Management Process:** Anaerobic Digestion
- **Planned and Required Biosolids Upgrades by 2051:** None - future plant not yet constructed.

Fort Erie

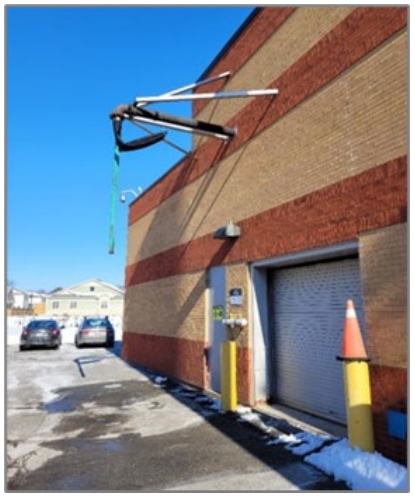
Anger Avenue Wastewater Treatment Plant



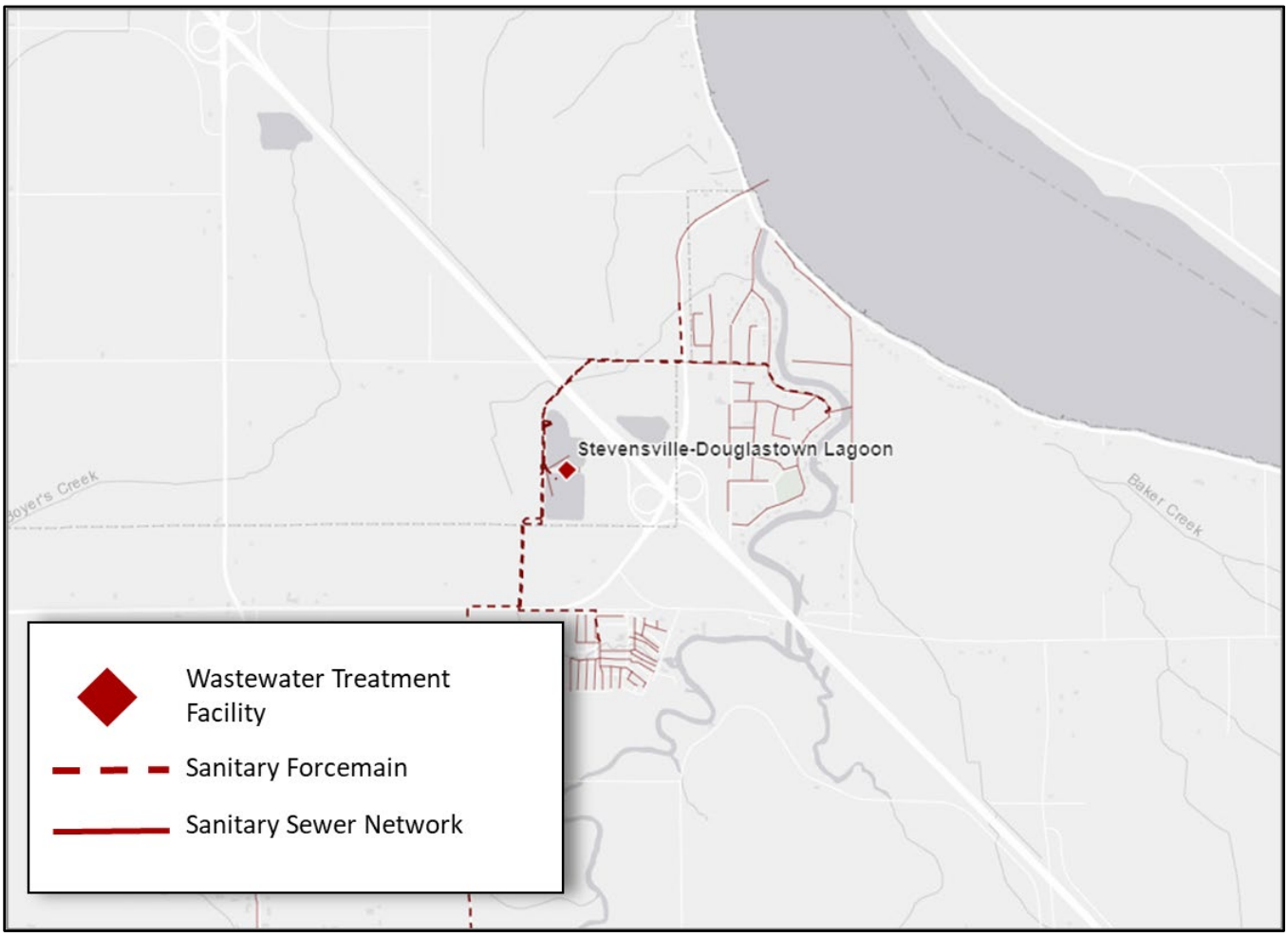
- **Address:** 1 Anger Avenue, Fort Erie, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 14.2
- **Current Facility Capacity (MLD):** 24.5
- **Estimated Future Flow to 2051 (MLD):** 18.07
- **Existing Solids Management Process:** Thickening, Anaerobic Digestion and Storage
- **Planned and Required Biosolids Upgrades by 2051:** (1) Add redundancy for thickening equipment and (2) Upgrade digestor capacity.

Crystal Beach Wastewater Treatment Plant

- **Address:** 500 Ridgeway Road, Fort Erie, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 5.7
- **Current Facility Capacity (MLD):** 9.1
- **Estimated Future Flow to 2051 (MLD):** 6.56
- **Existing Solids Management Process:** Thickening, Aerobic Digestion and Storage
- **Planned and Required Biosolids Upgrades by 2051:** (1) Add thickening capacity; (2) Improved sludge storage



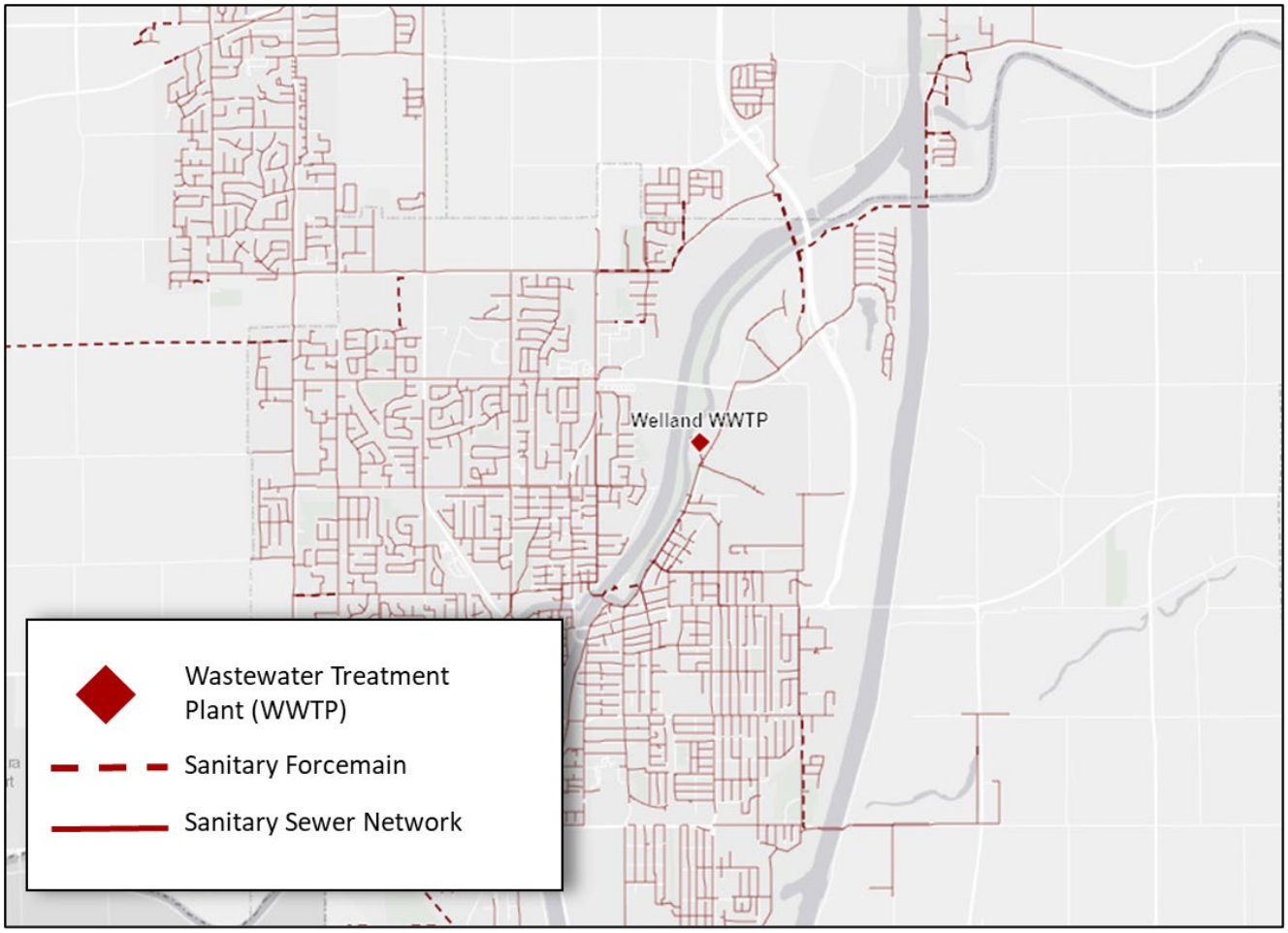
Stevensville-Douglastown Lagoons



- **Address:** 3274 Netherby Road, Fort Erie, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 1.6
- **Current Facility Capacity (MLD):** 2.7
- **Estimated Future Flow to 2051 (MLD):** 2.45
- **Existing Solids Management Process:** Facultative lagoon system, with biosolids settling to the bottom of the secondary lagoon.
- **Planned and Required Upgrades by 2051:** No biosolids upgrades.

Welland

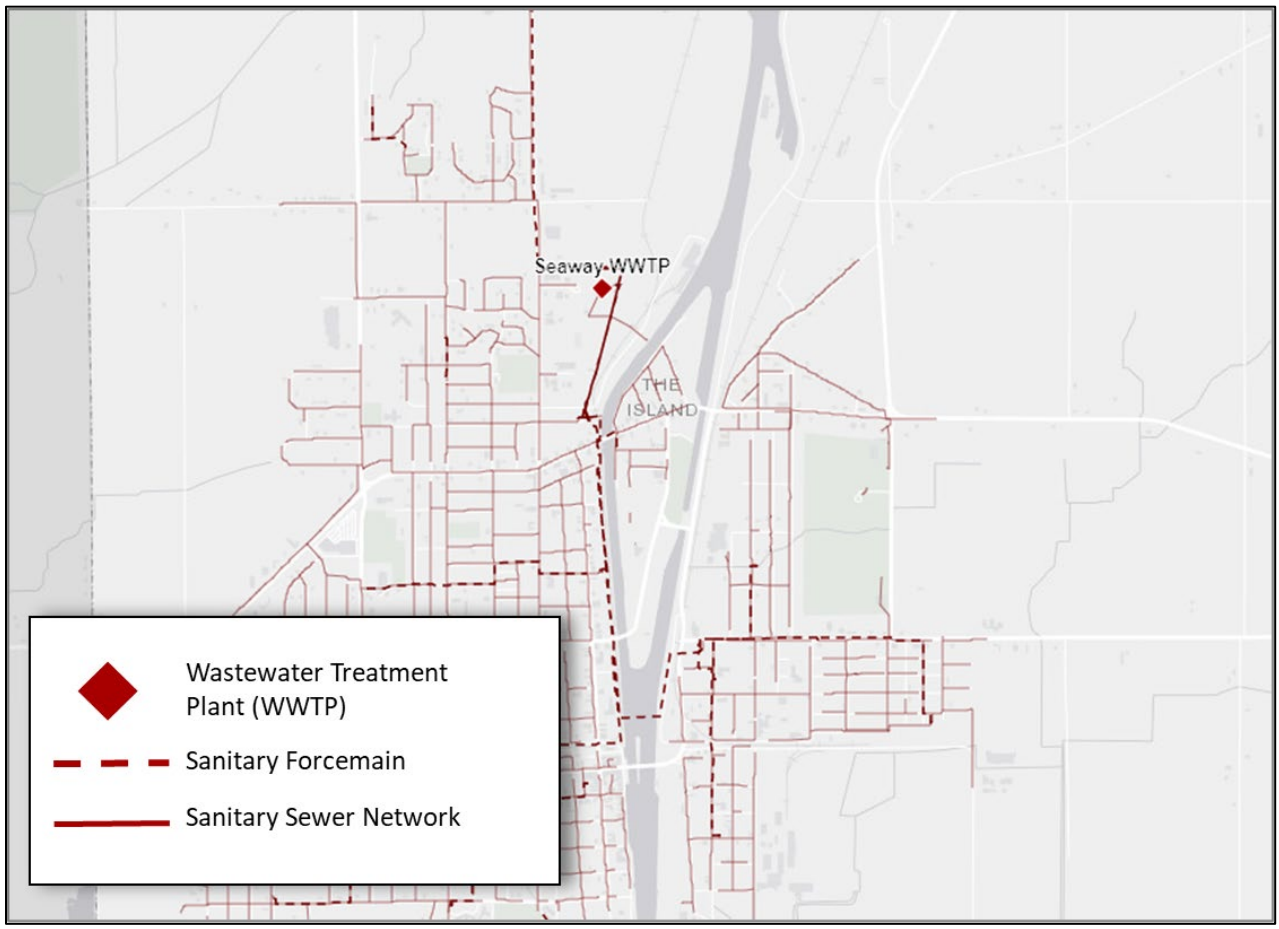
Welland Wastewater Treatment Plant



- **Address:** 505 River Road, RR#1, Welland, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 35.1
- **Current Facility Capacity (MLD):** 54.6
- **Estimated Future Flow to 2051 (MLD):** 48.87
- **Existing Solids Management Process:** Anaerobic digestion and storage
- **Planned and Required Biosolids Upgrades by 2051:** Digester upgrades

Port Colborne

Seaway Wastewater Treatment Plant



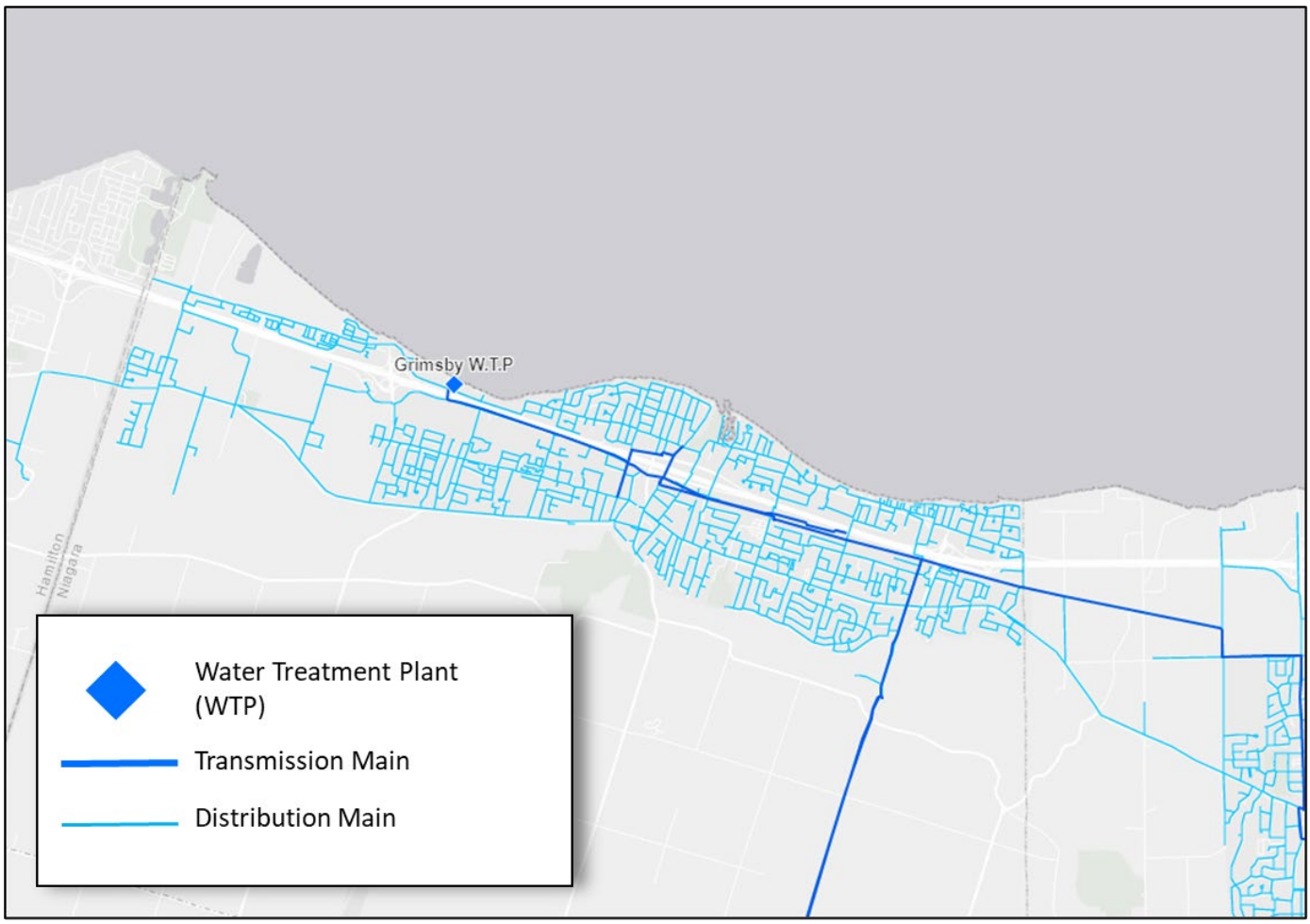
- **Address:** 30 Prosperity Avenue, Port Colborne, ON
- **Historical Flow, 2017-2021 (megalitres per day, MLD):** 12.0
- **Current Facility Capacity (MLD):** 19.6
- **Estimated Future Flow to 2051 (MLD):** 13.44
- **Existing Solids Management Process:** Anaerobic digester and storage
- **Planned and Required Biosolids Upgrades by 2051:** No biosolids capacity upgrades are planned or expected to be required. Opportunities to increase the operational flexibility of the storage facility may be considered.

Existing Water Treatment Plants

Region Wide

Grimsby

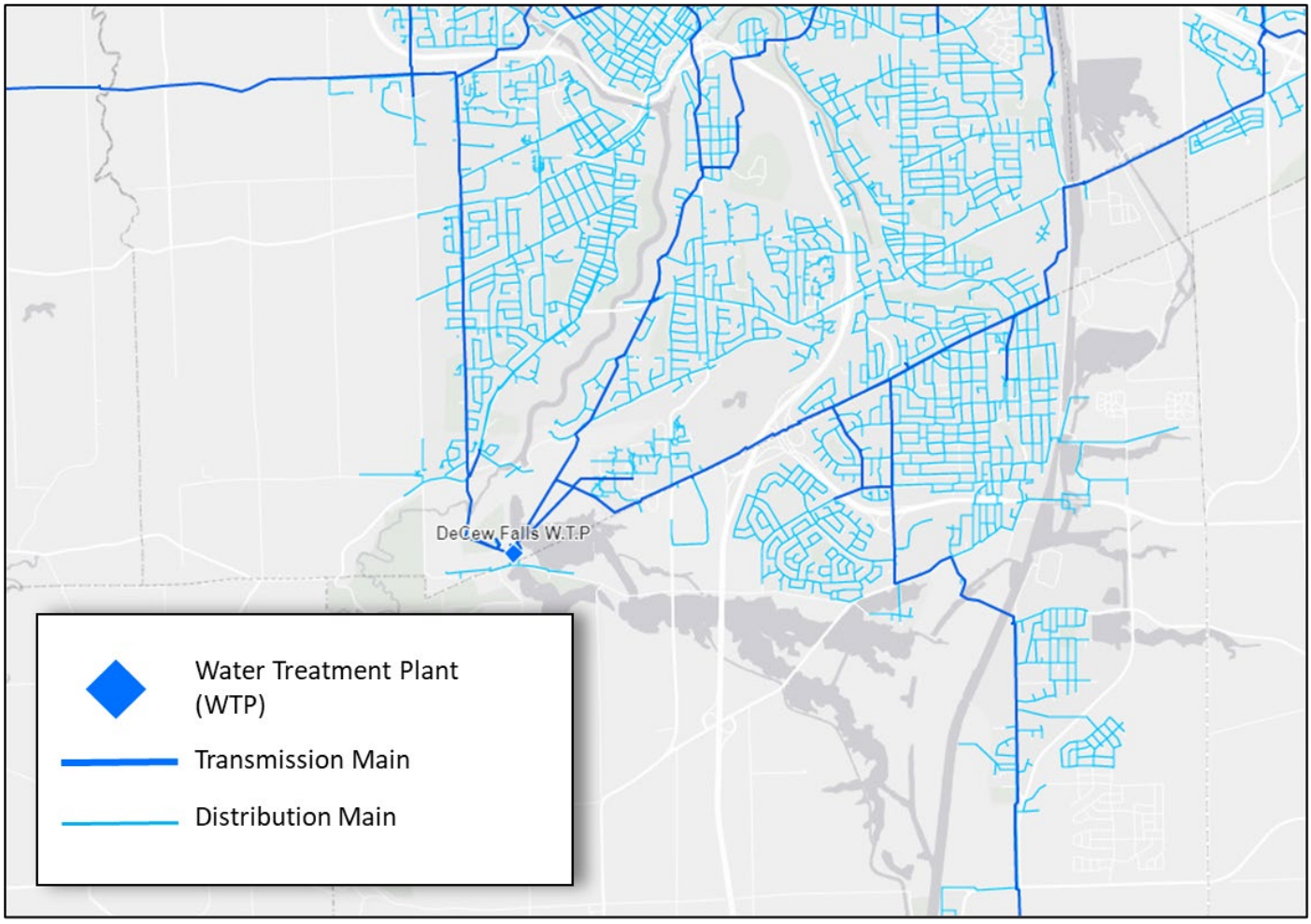
Grimsby Water Treatment Plant



- **Address:** 400 N Service Rd West, Grimsby, ON
- **Current Facility Capacity (megalitres per day, MLD):** 44.0
- **Estimated Future Flow to 2051 (MLD):** 25.0
- **Existing Residuals Management Process:** Thickened and transferred to Garner Road Biosolids Facility
- **Planned and Required Residuals Upgrades by 2051:** Increase sludge holding tank capacity.

St. Catharines

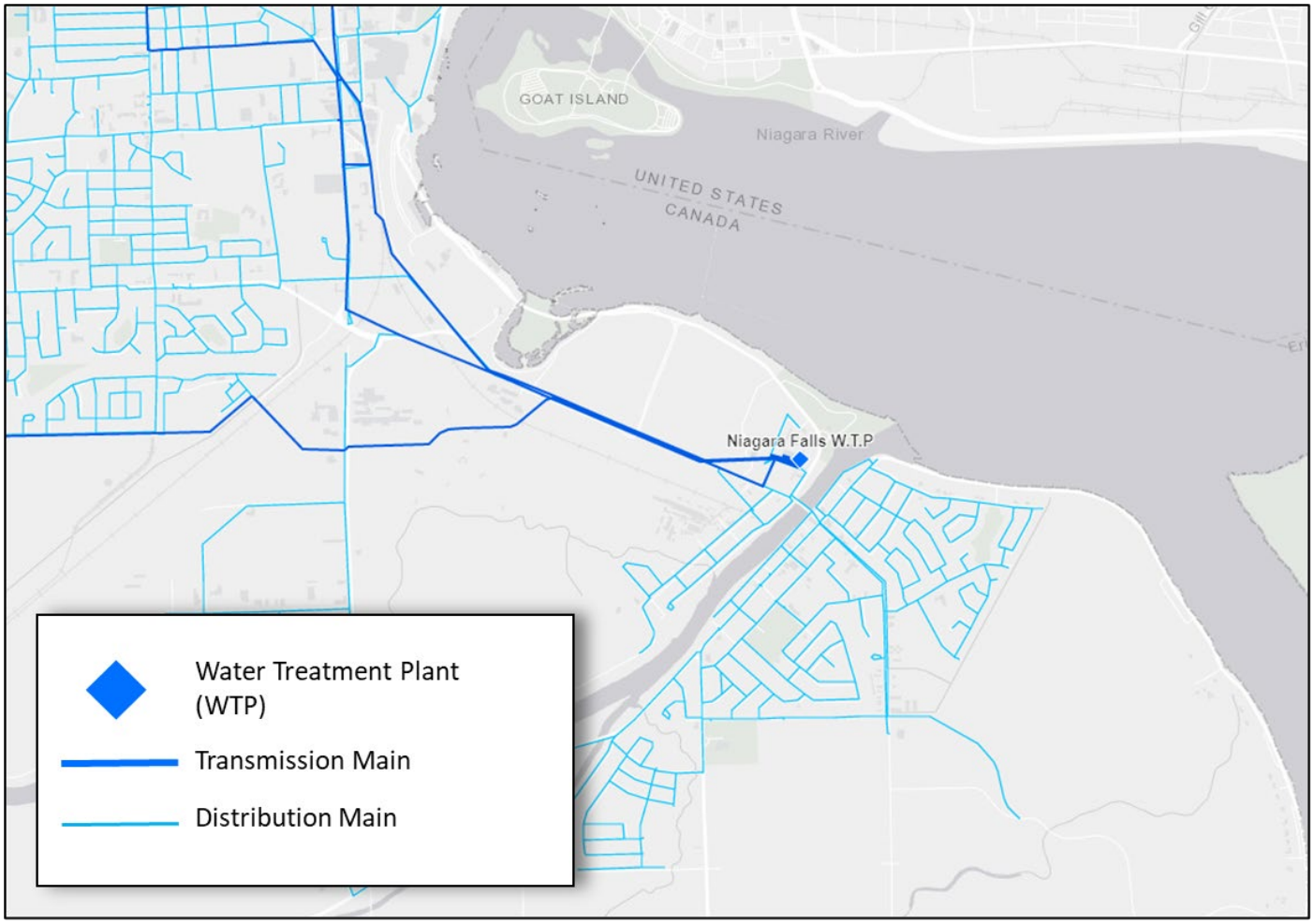
Decew Falls Water Treatment Plant



- **Address:** 2700 DeCew Rd, St. Catharines, ON
- **Current Facility Capacity (megalitres per day, MLD):** 227.0
- **Estimated Future Flow to 2051 (MLD):** 68.0
- **Existing Residuals Management Process:** Thickened and transferred to Garner Road Biosolids Facility
- **Planned and Required Residuals Upgrades by 2051:** Increase sludge holding tank capacity.

Niagara Falls

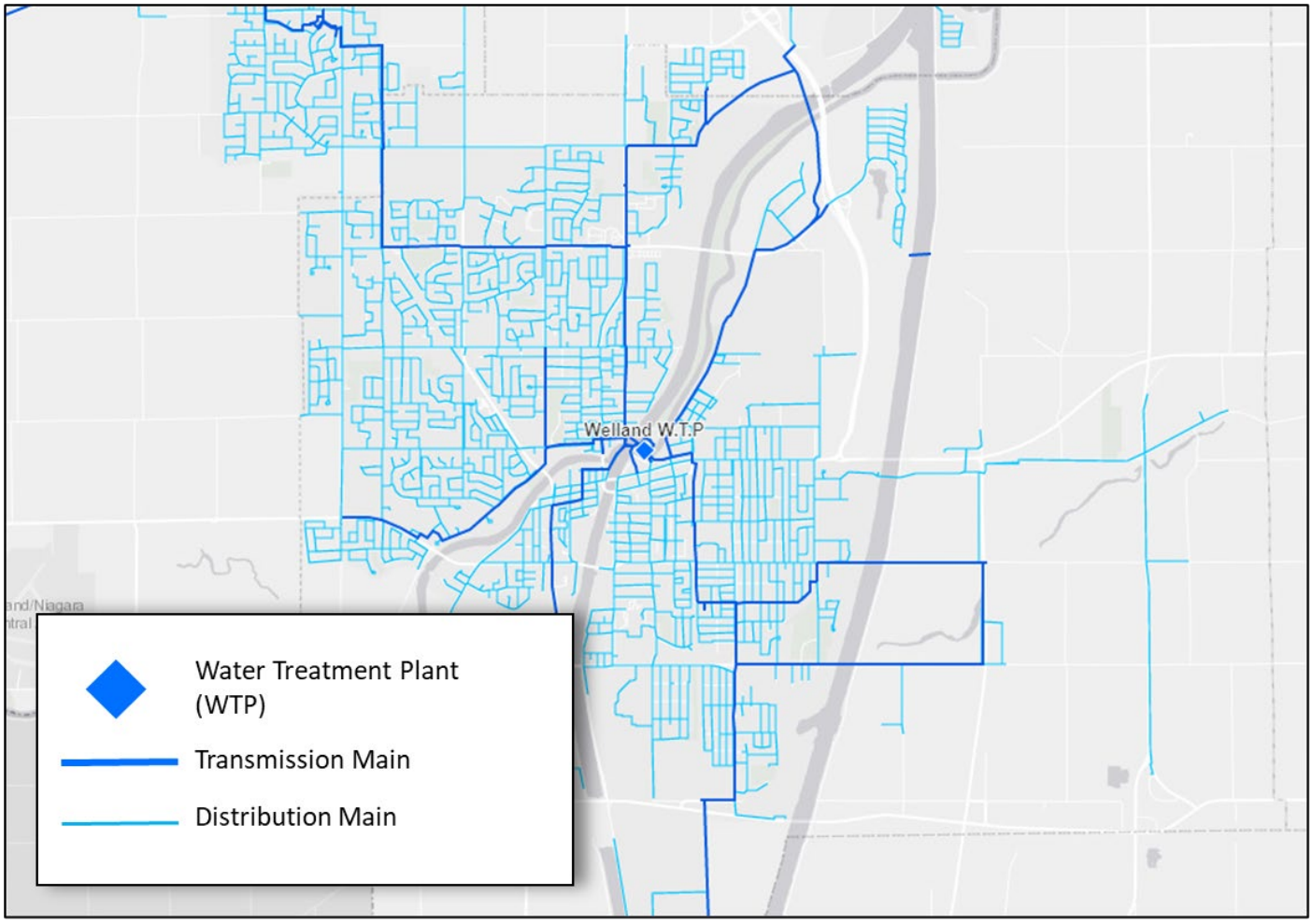
Niagara Falls Water Treatment Plant



- **Address:** 3599 Macklem St, Niagara Falls, ON
- **Current Facility Capacity (megalitres per day, MLD):** 145.0
- **Estimated Future Flow to 2051 (MLD):** 55.0
- **Existing Residuals Management Process:** Thickened and transferred to Garner Road Biosolids Facility
- **Planned and Required Residuals Upgrades by 2051:** No expansion needed.

Welland

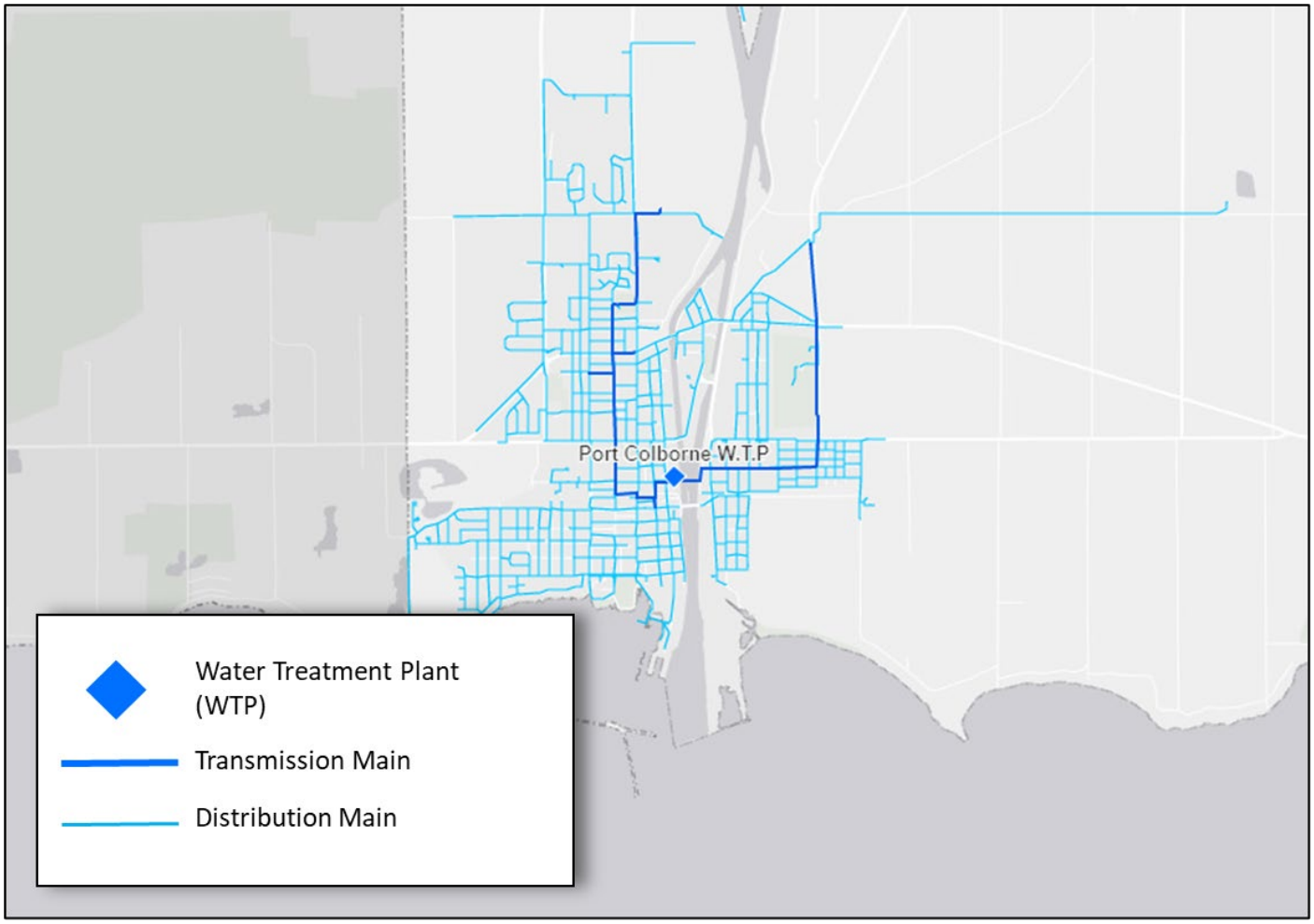
Welland Water Treatment Plant



- **Address:** 4 Cross St, Welland, Ontario
- **Current Facility Capacity (megalitres per day, MLD):** 65.0
- **Estimated Future Flow to 2051 (MLD):** 34.0
- **Existing Residuals Management Process:** Discharged to sanitary sewer
- **Planned and Required Residuals Upgrades by 2051:** No expansion needed

Port Colborne

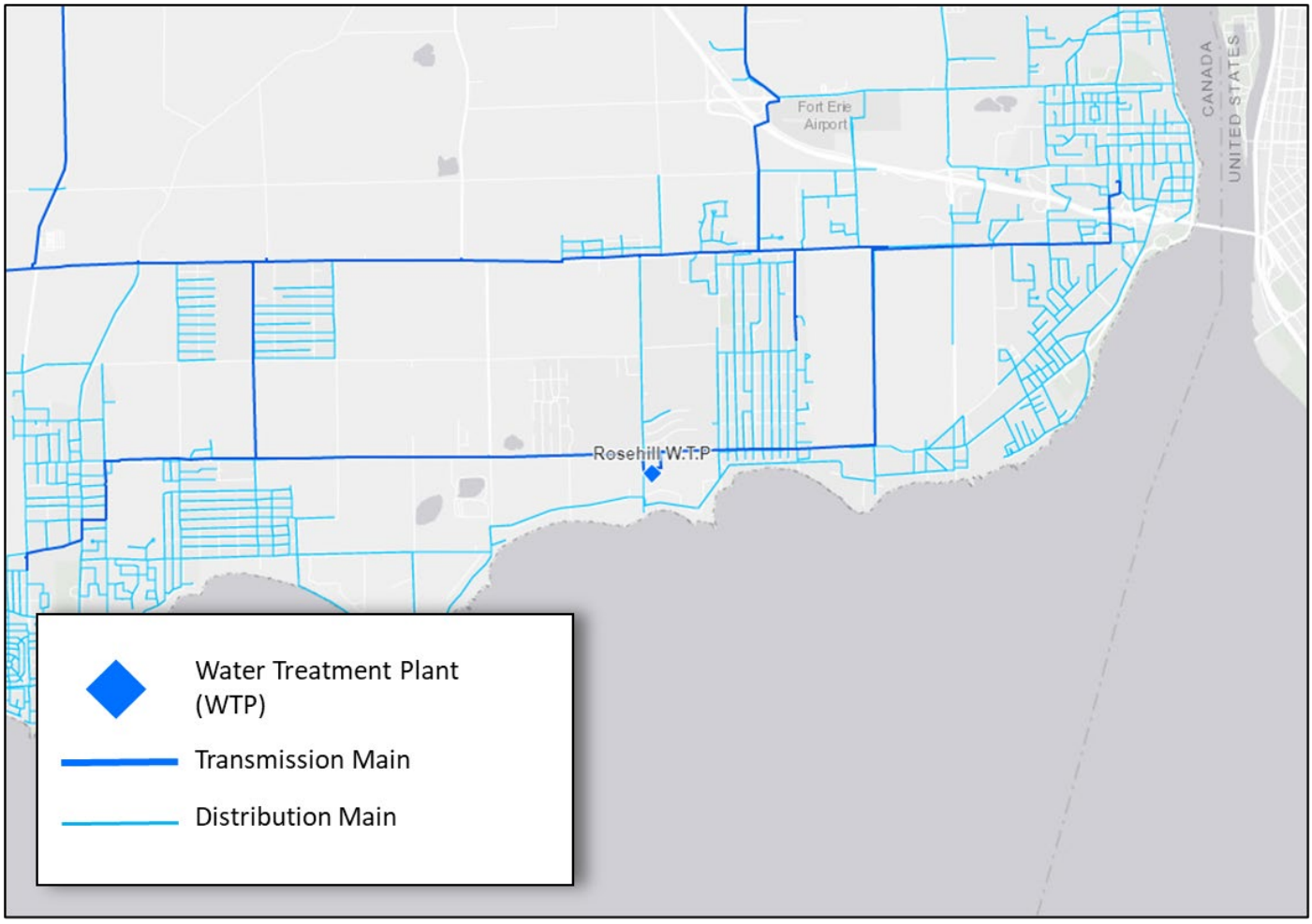
Port Colborne Water Treatment Plant



- **Address:** 323 King St, Port Colborne, ON
- **Current Facility Capacity (megalitres per day, MLD):** 50.0
- **Estimated Future Flow to 2051 (MLD):** 15.0
- **Existing Residuals Management Process:** Discharged to the sanitary sewer.
- **Planned and Required Residuals Upgrades by 2051:** No expansion needed.

Fort Erie

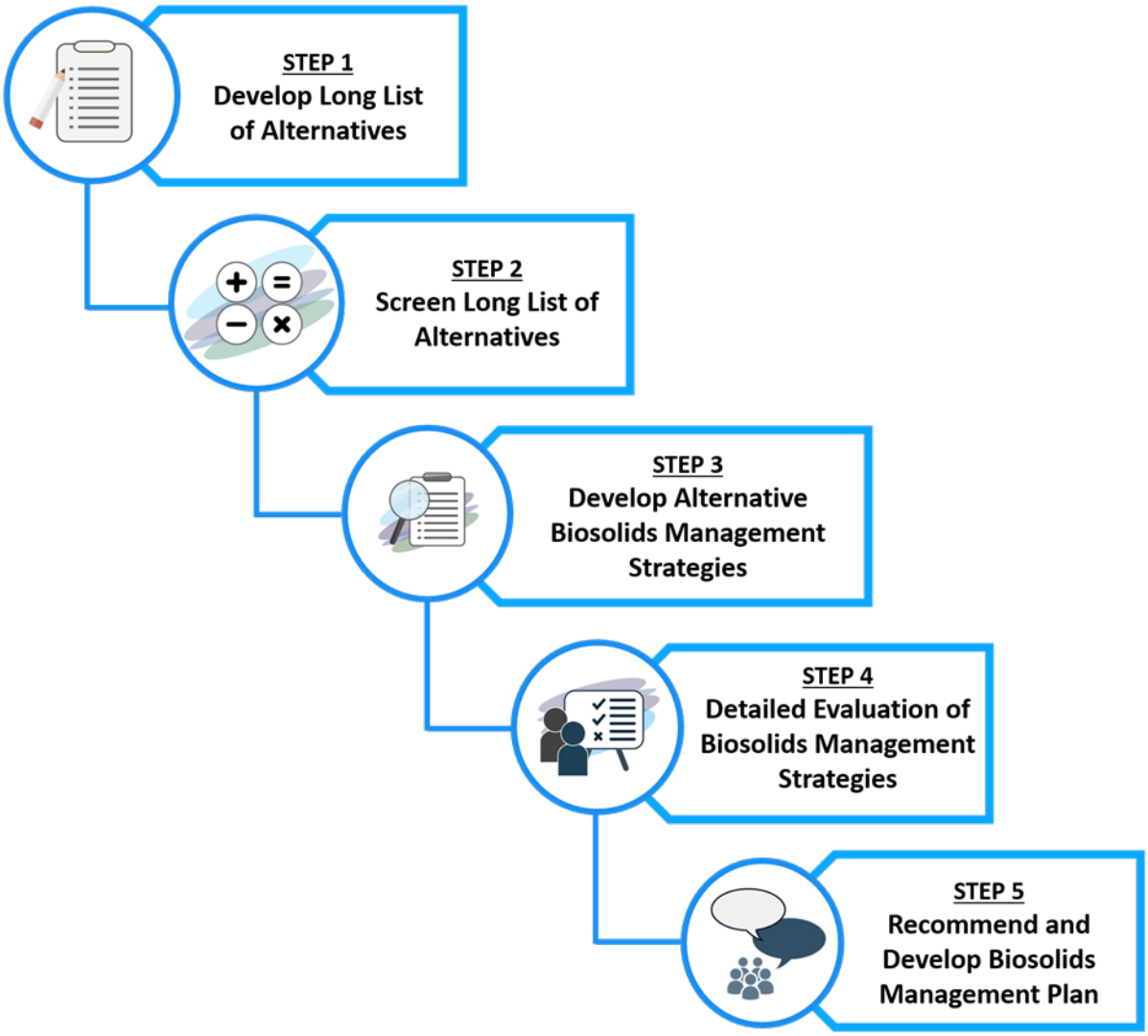
Rosehill Water Treatment Plant



- **Address:** 300 Rosehill Road, Fort Erie, Ontario
- **Current Facility Capacity (megalitres per day, MLD):** 50.0
- **Estimated Future Flow to 2051 (MLD):** 15.0
- **Existing Residuals Management Process:** Discharged to sanitary sewer.
- **Planned and Required Residuals Upgrades by 2051:** No expansion needed.

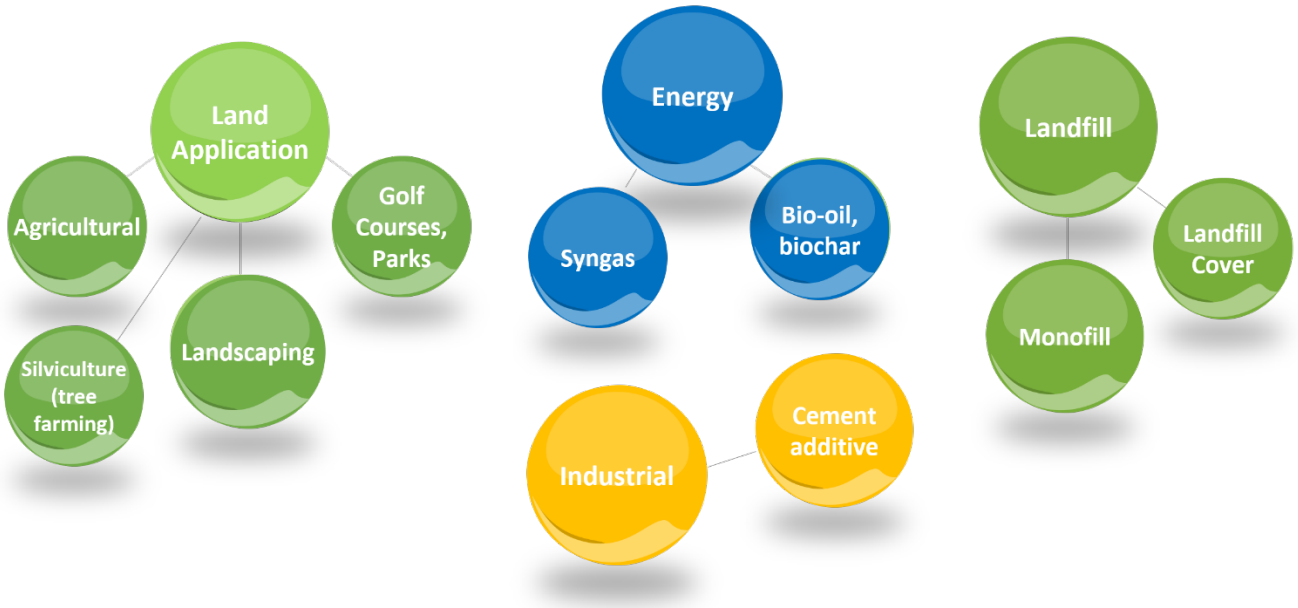
Evaluation Approach

Long List of Biosolids End Use Markets



1. Develop Long List of (a) Alternative Treatment Technologies and (b) Alternative End-Use Markets.
2. Screen each Long List of Alternatives based on "Must-Have" criteria.
3. Develop Alternative Biosolids Management Strategies that combine screened list of technologies, and end use markets.
4. Complete Detailed Evaluation of the Biosolid Management Strategies.
5. Recommend and Develop the Biosolid Management Plan to include potential Sewer-Use By-Law changes, infrastructure and/or operational requirements at each wastewater treatment plant, water treatment plant and the Garner Road Biosolids Facility, service delivery options, implementation program and schedule, and contingency planning.

Long List of Biosolids End Use Markets



Four potential end use markets of biosolids are:

1. **Land Application:** agriculture, silviculture (tree farming), recreational (golf courses, parks), landscaping
2. **Energy:** syngas, bio-oil, biochar
3. **Industrial:** cement additive
4. **Landfill:** monofil, landfill cover

Long List of Biosolids Treatment Technologies

Different technologies can be used to stabilize the biosolids, depending on whether biosolids are in the form of liquid or cake.

Liquid biosolids can be further processed through aerobic digestion, anaerobic digestion or chemical treatment.

- Aerobic digestion technologies include conventional aerobic digestion or Autothermal Thermophilic Aerobic Digestion (ATAD).
- Anaerobic digestion technologies considered include hydrolysis, pre-treatment, acid-gas, mesophilic, and temperature-phased anaerobic digestion (TPAD).
- Chemical treatment using disinfection technologies, such as Clean B© or BRC Solids Solutions' Neutralizer®.

Biosolid Cake, produced from dewatering of liquid biosolids, can be treated through composting, thermal treatment/drying or alkaline treatment.

- Composting of biosolid cake through windrow composting, aerated static pile, agitated bin or tunnel composting.
- Thermal treatment and thermal drying can be conducted in rotary drums, on a belt, using paddles or solar technology, incineration, gasification, pyrolysis, or wet oxidation.
- Alkaline stabilization on sludge using lime (e.g. N-Viro© process).

Screening Criteria for Long List of Alternatives

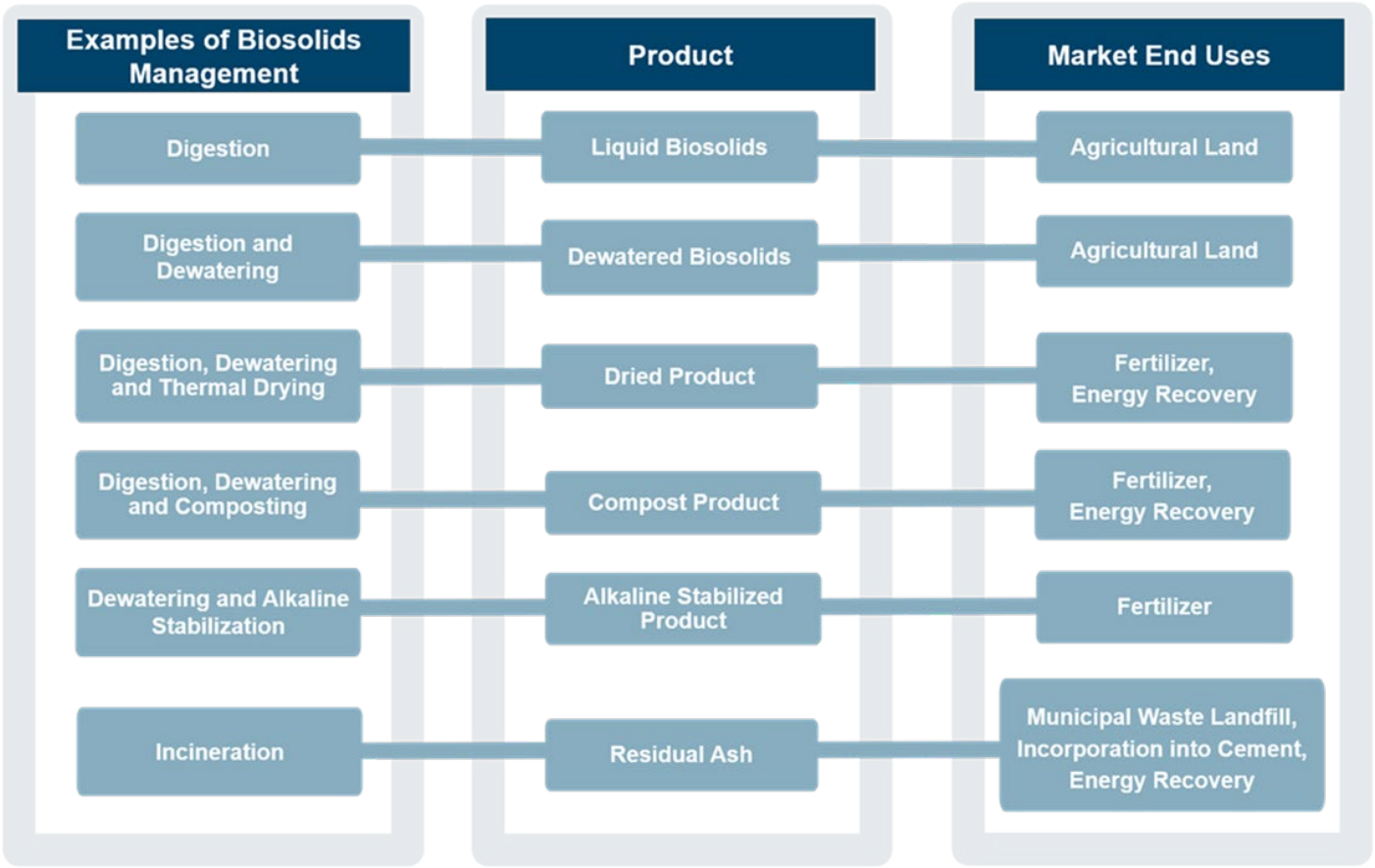
The long list of alternative treatment technologies, products and end use markets were evaluated against "must-have" screening criteria:

- Maturity of the Technology and Market Availability
- Compatibility with Existing Water and Wastewater Treatment Process and Biosolids Management Programs and Contracts
- Long-term Reliability and Sustainability
- Implementable

Based on the results of screening the long list of technologies and end use markets, biosolids management strategies will be developed.

Examples of biosolids management strategies:

- **Digestion** producing liquid biosolids suitable for agricultural land use;
- **Digestion and Dewatering** producing biosolids cake for agricultural land use;
- **Digestion, Dewatering and Thermal Drying** producing a dried product that may be used as fertilizer or for energy recovery
- **Digestion, Dewatering and Composting** producing a compost product that may be used as fertilizer or for energy recovery
- **Dewatering and Alkaline Stabilization** creates an alkaline stabilized product to be used for fertilizer
- **Incineration** results in residual ash that can be incorporated into cement, used for energy recovery, or deposited into a municipal waste landfill



Draft Detailed Evaluation Criteria

A draft list of detailed evaluation criteria for assessing each biosolids management strategy has been developed to reflect each component of the environment.

1. **Natural Environment**
2. **Socio-Cultural Environment**
3. **Technical Considerations**
4. **Economic Considerations**

Natural Environment

- Terrestrial Systems
- Aquatic Systems
- Surface and Groundwater Quality and Source Water Protection
- Air Quality /Greenhouse Gas Emissions

Socio-Cultural Environment

- Odour
- Noise/Vibrations
- Visual/Aesthetics
- Truck Traffic
- Agricultural Use and Users
- Human health and well being
- Existing and Future Land Use Compatibility
- Archaeology / Cultural Heritage

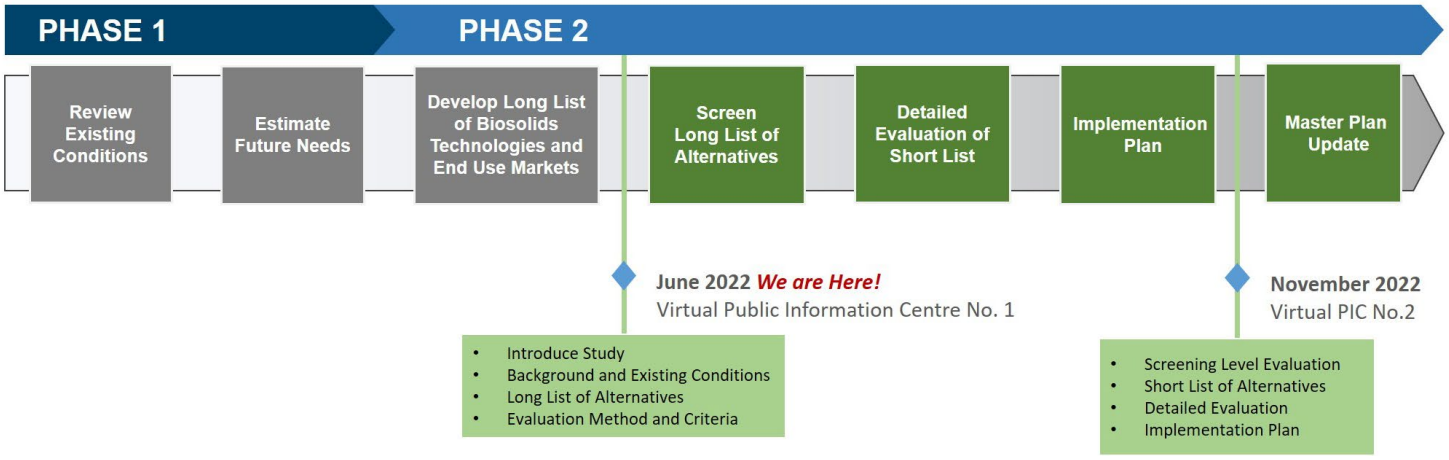
Technical Considerations

- Performance
- Sustainability / resiliency
- Ease of Operation
- Compatibility with existing infrastructure
- Energy use and recovery
- Climate change adaptability
- Permits and Approvals

Economic Considerations

- Capital Cost
- Operating and Maintenance Cost
- Life Cycle Costs

Project Schedule



Key Dates

- **June 8 to June 28, 2022:** Submit questions and comments to Niagara Region
- **July 6, 2022:** Responses to questions and comments posted on the Niagara Region website.
- **November 2022:** Virtual PIC No. 2 assessment of alternatives and recommended biosolids management strategy.
- **Early 2023:** Biosolids Management Master Plan Update filed for 30-Day public review.

Get Involved

Public feedback is important. Sign-up to be added to the study contact list and submit any questions or comments to the Project Team. You may also submit comments at the link below, including feedback on the long list of alternatives and the evaluation criteria most important to you.

Sign-Up for Project Updates

Provide Feedback

We encourage you to get provide feedback by filling out this survey by June 28, 2022 to provide any feedback on the study and/or if you would like to receive project information updates. Responses to all comments received will be posted on July 6, 2022. Please click "Project Survey Form" button to access.

Project Survey Form

Contact Us

niagarabiosolidsmp@niagararegion.ca
1815 Sir Isaac Brock Way, Thorold, ON, L2V 4T7

- **Albert Succi**, Project Manager, Niagara Region
- **Laurie Boyce**, Strategic Planning and Project Advisor, GM BluePlan Engineering Limited

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Privacy and Accessibility

The Niagara Region is committed to ensuring that persons of all abilities are able to access our programs and services without encountering barriers. If you require additional or other formats for communicating, contact Niagara Region to make arrangements.

Please note that information related to this study will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. All comments related will become part of the public record and may be included in the study documentation prepared for public review.

APPENDIX C:
PIC No. 1 Online Survey

PIC No.1 Biosolids Master Plan Update

Public Information Centre No. 1 comments and feedback will be accepted between June 8 - June 22, 2022.

The Niagara Region is committed to ensure that all Regional services, programs and facilities are inclusive and accessible. Please contact the Project Manager, Albert Succi (niagarabiosolidsmp@niagararegion.ca) if you require accommodations to provide feedback for this study.

Please note that information related to this study will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. All comments related will become part of the public record and may be included in the study documentation prepared for public review.

* Required

1. First and Last Name (Optional)

Enter your answer

2. Organization (Optional)

Enter your answer

3. Do you have any comments regarding the Problem/Opportunity Statement? *

Enter your answer

4. Do you have comments on or addition to the long list of alternative treatment technologies and end-use markets? *

Enter your answer

5. Do you have any comments on the screening criteria and detailed evaluation criteria? *

Enter your answer

6. Which of the criteria below do you consider most important? Please rank from 1 to 5, with 5 being the most important: *

	1	2	3	4	5
Minimizing impact to natural environment	○	○	○	○	○
Limiting disruptions to the public	○	○	○	○	○
Ease of approvals and permits	○	○	○	○	○
Minimizing costs	○	○	○	○	○
Ensuring a sustainable solution that performs well	○	○	○	○	○

7. Please provide additional criteria that you consider important if not listed above. *

Enter your answer

8. Do you have any other comments or questions about this Master Plan? *

Enter your answer

9. If you wish to be notified for continued involvement in the study progress, please enter your email below. *

Enter your answer

APPENDIX D:
Comments Received Summary

2021 Biosolids Management Master Plan Update

Public Information Center No. 1 – Comments Received

Virtual Public Information Centre (PIC) No. 1 was held from June 8 to June 15, 2022. This included an introductory video presentation, project materials for review, and opportunity for interested individuals to provide comments via an online submission form or through the project email.

PIC No. 1 materials for review included project introduction, the problem and opportunity statement, project approach, review of the existing biosolids and residuals management program and future needs, long list of alternatives, evaluation approach, screening criteria and preliminary project schedule. These materials will remain posted on the Biosolid Management Master Plan Update project website:

- Video Presentation: https://youtu.be/L6qxU8Bm_eM
- Project Information: https://www.niagararegion.ca/projects/biosolids-master-plan/pdf/pic1.pdf

During the 2-week engagement period, the video presentation received 45 views. Numerous stakeholders signed-up to be on the mailing list and receive future project notices. Comments were also provided from interested stakeholders including:

- Requested consideration for reduced truck traffic related to biosolids hauling through the community of Cooks Mills
- Received approximate locations of pipeline infrastructure within the Study Area from Enbridge
- Received notification from Niagara Escarpment Commission (NEC) that the Queenston WWTP and Decew Falls WTP fall within the Niagara Escarpment Plan Area and Area of Development Control and the NEC would like to be involved in the study

The feedback above will be considered in the development and evaluation of biosolids management alternatives. The Master Plan Update will satisfy Phases 1 & 2 of the Municipal Class Environmental Assessment process. The Region will host one (1) additional Public Information Centre to present the preliminary preferred biosolids management strategies.

Public Information Centre No. 2 Materials

Notice of Public Information Centre No. 2

Biosolids Management Master Plan Update

Municipal Class Environmental Assessment

Niagara Region completed a Biosolids Management Master Plan in 2010 to ensure a long-term, environmentally sustainable, reliable and cost effective biosolids management program for Niagara Region and its citizens. This update to the plan will identify and develop a strategy for meeting Niagara's biosolids treatment needs to the year 2051, in a manner that is transparent, sustainable, reliable, environmentally friendly, cost effective and flexible.

The Biosolids Management Master Plan will be developed to:

- Meet the unique needs of Niagara Region and its customers, including treatment requirements, land uses and users, and environmental features
- Meet future needs associated with population growth, new regulations, climate resiliency, and energy efficiency
- Provide greater flexibility and reliability for biosolids management, both in the short term (i.e., 5 years) and long term (to the year 2051)
- Improve biosolids marketability; and
- Address community expectations regarding level of service, odour, air/noise, water quality, protection of the environment and aesthetics

Through this study, alternative strategies for managing biosolids were developed and evaluated, considering environmental and socio-cultural impacts, along with technical feasibility and cost. The objective of PIC 2 is to present our preliminary evaluation results and get your feedback on the preferred strategies.

The Process

The Study follows the master planning process as established by the Municipal Engineer's Association Class Environmental Assessment process for Master Plans, which is an approved Ontario Environmental Assessment process. The Biosolids Management Master Plan Update will satisfy Phases 1 and 2 of the Class Environmental Assessment process. Public and stakeholder input will be sought throughout the process, and a Biosolids Management Master Plan Update Report will be prepared and filed for public review.

Get Involved

Public feedback is an important part of the process. Information about the project will be available on Niagara Region's website as part of Public Information Centre No. 2. You can learn about the project, preliminary recommendations, and how you can have your voice heard.

Public Information Centre No. 2 Details

Public Information Centre 2 will be made available on the project website beginning **Wednesday, May 17, 2023**. This will be followed with a two-week period to submit comments to the Project Team.

You can access the project website using the link below or by scanning the QR code with your smart phone.

niagararegion.ca/projects/biosolids-master-plan

If you have questions, comments or wish to be added to the study mailing list, please contact:

Jason Oatley, Project Manager
Niagara Region
3501 Schmon Pkwy., PO Box 1042
Thorold, ON L2V 4T7
905-685-4225 ext. 3758
Fax: 905-685-5205
niagarabiosolidsmp@niagararegion.ca

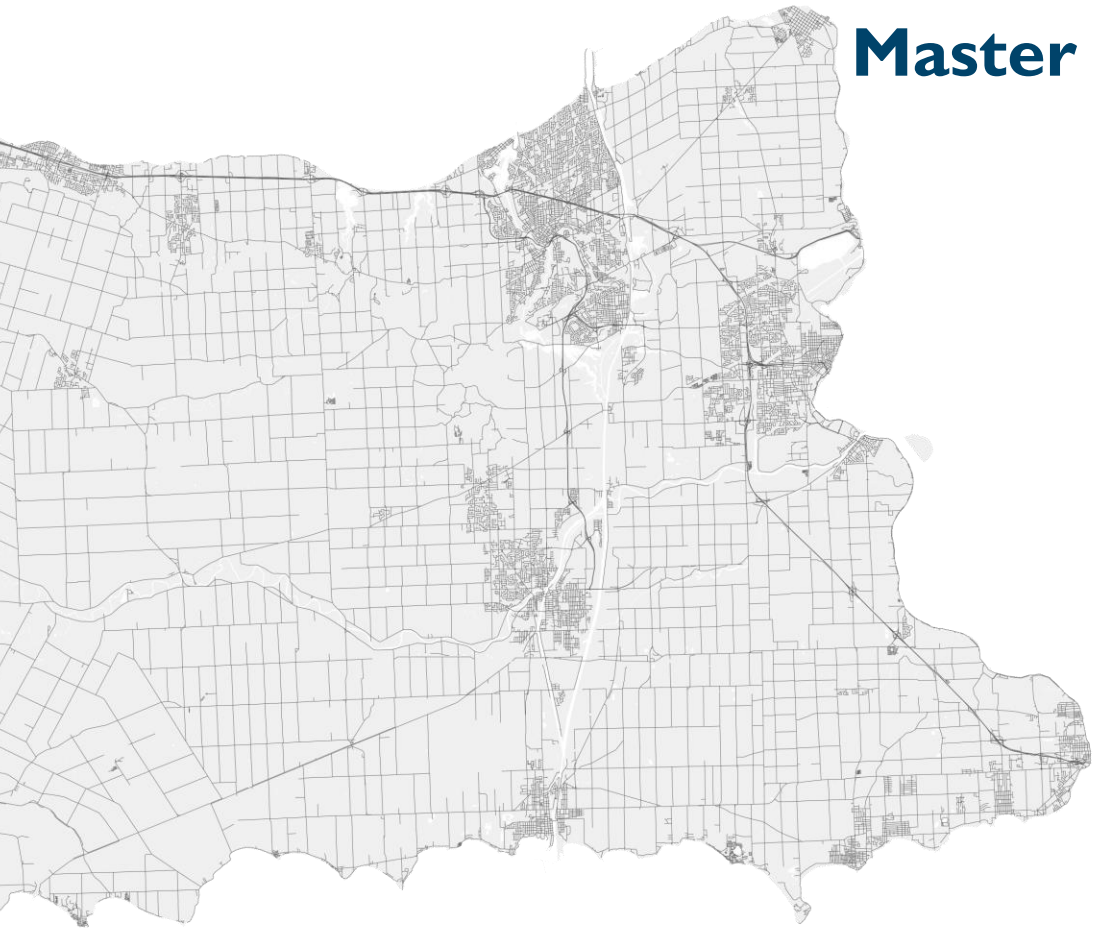
Personal information collected or submitted in writing at public meetings will be collected, used and disclosed by members of Regional Council and Regional staff in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA). The written submissions including names, contact information and reports of the public meeting will be made available. Questions should be referred to the Privacy Office at 905-980-6000, ext. 3779 or FOI@niagararegion.ca.

If you require any accommodations in order to participate, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or **accessibility@niagararegion.ca**.

Phase 1 Class EA and Public Information Centre No. 2
Summary Report

2021 Biosolids Management Master Plan Update

June 2023



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Appendices

621143 – Niagara Biosolids Management Master Plan Update
Phase 2 Class EA & Public Information Centre No. 2 Summary Report

QA/QC - SIGN OFF SHEET

This report has been reviewed and approved by the undersigned.

Laura Verhaeghe, P.Eng
Project Manager

1.0 Study Introduction

1.1 Background and Purpose

In alignment with Niagara's Growth Management Strategy and under the legislative context of the Province's Place to Grow Plan and the Regional Policy Plan, growth in the Region of Niagara should occur in a sustainable manner addressing economic, social, and environmental considerations. The Region initiated the current Biosolids Management Master Plan (BMMP) Update to review the existing biosolids management strategy in light of these Provincial and Regional growth targets, to identify limitations, develop and evaluate alternative management strategies, and recommend a preferred strategy for implementation. The study will address Phases 1 and 2 of the Municipal Engineers Association Class Environmental Assessment Master Planning Process, while meeting the goals and objectives of the Region.

The BMMP will be developed to:

- Meet future population growth needs to the year 2051,
- Consider future regulations,
- Educate stakeholders regarding the benefits of biosolids reuse,
- Address community expectations,
- Protect the environment,
- Provide greater flexibility, reliability and cost efficiency for biosolids management, and
- Provide a 'Made in Niagara' strategy that incorporate features unique to this area

The study area, as shown in **Figure 1**, covers the entire Region of Niagara and all lower tier municipalities including Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the-Lake, Niagara Falls, and Fort Erie, and includes all wastewater and water treatment plants.

A key part of the public consultation component of this Master Plan study are Public Information Centres (PICs), which serve as a forum for information exchange between the public, stakeholders, and the project team. This report summarizes the second PIC held virtually from May 17, 2023 to May 31, 2023 on the Region's website as well as the Phase 2 consultation activities. This report documents the following:

- Information presented at PIC No. 2
- Summary of engagement and consultation
- Summarized table of comments received, and responses provided in order to track correspondence in a transparent and traceable manner.

This report will be appended to Tech Memo 3 on Customer Service and Public Awareness, which will be appended to the Master Plan Report submitted at the end of the study.

Figure 1: Niagara Biosolids Management Master Plan Study Area

1.2 Class EA Content

The Niagara BMMP study follows Phases 1 and 2 of the Municipal Class EA Process which includes the following:

- Phase 1: Development of the Problem and Opportunity Statement
- Phase 2: Assessment of Alternative Solutions and Selection of the Preferred Solution

The PIC No. 2 event is part of Phase 2 of the Class EA Process. **Figure 2** displays the Municipal Class EA planning process and design planning process.

The Problem and Opportunity Statement for the Niagara Region BMMP Plan is defined as follows:

"The purpose of the Biosolids Management Master Plan Update is to develop a holistic, long-term strategy for biosolids management in Niagara in a manner that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible."

The PIC No. 2 event also presented the proposed approach for the EA process. This defined the process of identifying alternative solutions for the problem and opportunity statement listed above and provided a long list of alternative strategies for biosolids management in Niagara Region. Finally, PIC No. 2 presented the long list of biosolids treatment technologies and end use markets, screening level evaluation, detailed evaluation of short-listed strategies and a preliminary proposed implementation plan.

Overall, the objectives of PIC 2 were to:

- Present the Region's biosolids management approach and provide insight to future needs;
- Provide a progress update on the BMMP and work completed to date; and
- Obtain feedback on the list of alternative biosolids management strategies, detailed evaluation of these strategies and preliminary recommendations.

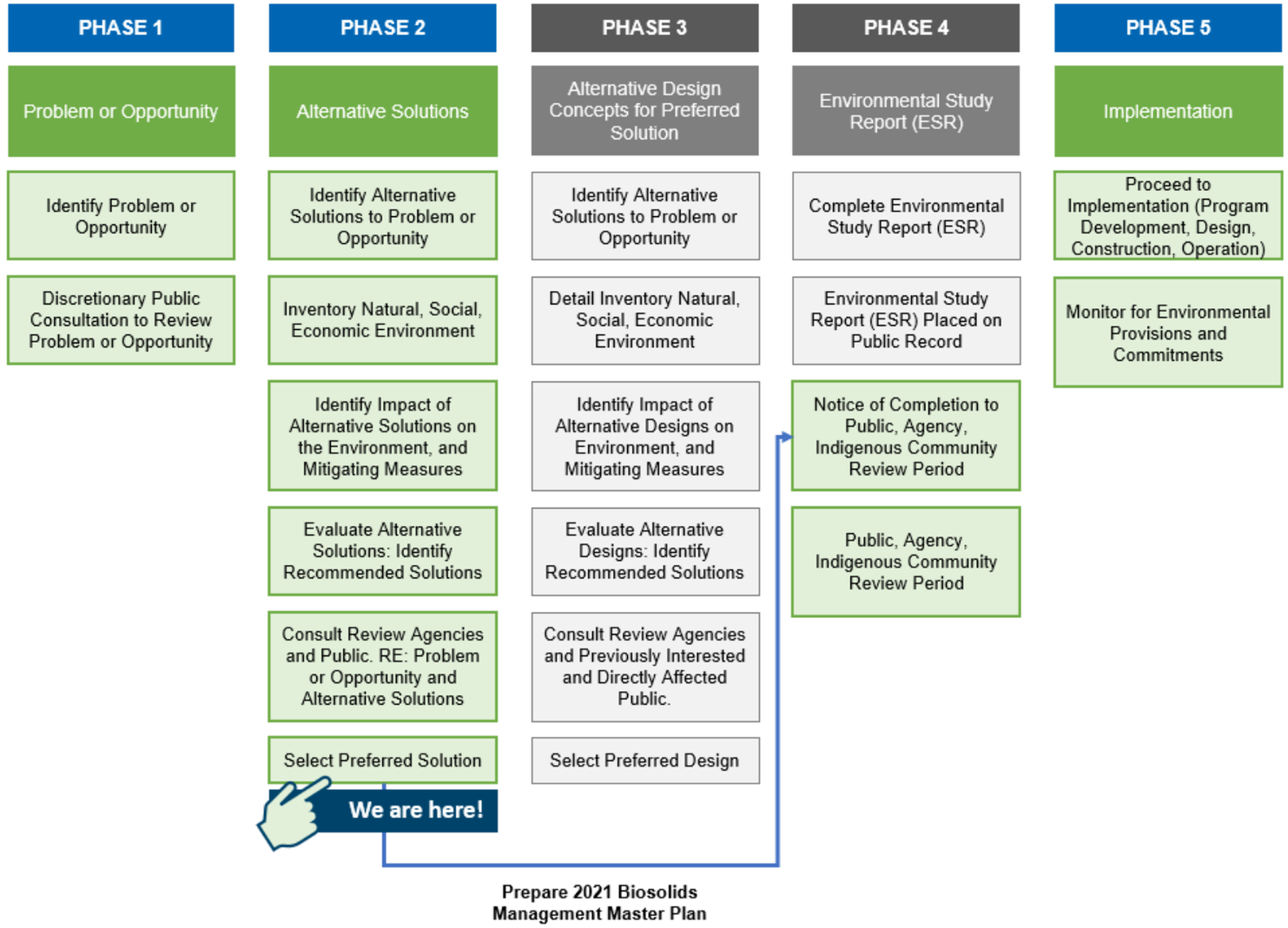

Figure 2: Municipal Class EA Planning and Design Process

2.0 Project Initiation

2.1 Public Consultation and Stakeholder Engagement Plan

The Region's approach to communicate and consult with stakeholders is driven by five (5) key considerations.

1. Keeping Niagara Region and area municipality councillors and senior management up to date and aware of study progress and findings.
2. Undertaking and maintaining the appropriate level of communication with the public and agency stakeholders.
3. Effectively engaging Indigenous Communities.
4. Maintaining Niagara's brand and public reputation.
5. Meeting or exceeding MEA Standards for public and stakeholder consultations.

Considering the above factors, the Region's consultation and engagement program aims to offer the following key opportunities:

- Educating the community about biosolids infrastructure and beneficial use.
- Building public and stakeholder understanding and buy-in to support the EA process and the preferred solutions.
- Raising awareness of Region services.
- Building the foundation for future steps in the project including implementation of subsequent studies, design and construction.

2.2 Stakeholder Communication Distribution List

Early in the study process a stakeholder communication distribution list was established. The list included government review agencies, public interest groups, municipalities, Indigenous Communities, utilities and other stakeholders. The list was based on the mailing list established through the Water and Wastewater Master Plan process, input from the Ministry of Environment, Parks and Conservation (MECP), and input from the Region and area municipalities. The mailing list is continually updated through the study as additional interested parties and individuals are identified.

2.3 Project Website

A dedicated project website for the 2021 BMMP Update has been established and is regularly updated. The site includes notices, information bulletins, and Public Information Centre (PIC) information and is found at: www.niagararegion.ca/projects/biosolids-master-plan/. In addition, the Region has established a dedicated email address for contact throughout the project: niagarabiosolidsmp@niagararegion.ca.

3.0 Public Information Centre No. 2

3.1 Purpose

PIC No. 2 was the second public event for this study and was held virtually from May 17 to May 31, 2023. PIC No 2 presented the following information:

- Project Overview (including background)
- Described the Class EA process
- Identified the Problem and Opportunity Statement
- Described the Alternative Evaluation Approach
- Long List of Treatment Technologies / End Use Markets and Screening of Long Lists
- Development and Detailed Evaluation of Short-Listed Strategies
- Preliminary Recommendations and Implementation
- Methods to provide comments and feedback.

The public review material included a presentation with voice-over and an AODA-compliant pdf document summarizing all presented information.

3.2 Notice of Public Information Centre No. 2

Stakeholders and the public were informed by local newspaper advertisements, mail and or email (study stakeholder communication list), and through the Region of Niagara website.

For a copy of the Notice PIC No. 2, please refer to Appendix A.

3.2.1 Newspaper Advertisements

The Notice of PIC No. 2 was published in local area newspapers as follows:

- Standard Review Tribune - Saturday May 13, 2023
- Niagara Falls Review – Saturday May 13, 2023
- Welland Turbine – Saturday May 13, 2023
- Niagara This Week – Zones 1, 2, 3, 4, 5, 6, & 7 – Thursday May 11, 2023
- Fort Erie Observer – Thursday May 11, 2023
- News Now (Grimsby) – Thursday May 11, 2023
- Niagara-on-the-Lake Local – Wednesday May 10, 2023
- The Lake Report – Thursday May 11, 2023
- Voice of Pelham – Wednesday May 10, 2023
- Thorold News – Wednesday May 10, 2023
- Regional Website – Wednesday April 26, 2023

3.2.2 Online Advertisements

This notice was also posted to the Niagara Region website and the Project website. The website includes details for members of the public to sign up in order to stay involved through this study and receive future study notifications.

3.2.3 Stakeholder Communication List Notification

The Notice of PIC No. 2 was mailed and/or emailed to local government, review agencies and other stakeholders on May 4, 2023.

Notification was sent to the following groups:

Provincial

- Ministry of the Environment, Conservation and Parks
- Ministry of Northern Development, Mines, Natural Resources and Forestry
- Infrastructure Ontario
- Ministry of Agriculture, Food and Rural Affairs
- Ministry of Economic Development, Employment and Infrastructure
- Ministry of Infrastructure
- Ministry of Municipal Affairs and Housing
- Ministry of Heritage, Sport, Tourism and Culture
- Ministry of Transportation
- Niagara Parks Commission
- Ontario Provincial Police
- Peace Bridge Authority
- Ministry of the Attorney General, Aboriginal Justice Division
- Ministry of Indigenous Affairs

Federal

- Canadian Section, International Niagara Board of Control
- Canadian Environmental Assessment Agency
- Department of Fisheries and Oceans Canada
- Department of Environment and Climate Change Canada
- Department of Indigenous and Northern Affairs Canada
- Federal Economic Development Agency for Southern Ontario
- Health Canada
- Transport Canada
- Canadian Food Inspection Agency

Third Party Biosolids Contractors and End Users

- Walker Industries
- Thomas Nutrient Solutions

Ontario Federation of Agriculture

Conservation Authorities

- Niagara Peninsula Conservation Authority

Rail and Transit

- CN Rail
- CP Rail
- GO Transit/Metrolinx
- TransCanada Pipelines

School Boards and Interest Groups

- Conseil Scolaire Viamode
- Conseil Scolaire Catholique MonAvenir
- District School Board of Niagara
- Canadian Section, International Niagara Board of Control
- Friends of the Greenbelt
- Greater Niagara Chamber of Commerce
- Lundy's Lane BIA
- Niagara Catholic District School Board
- Niagara College
- Niagara Emergency Medical Services
- Niagara Health
- Niagara Home Builders Association
- Niagara Regional Police
- Ontario Realty Corporation
- Ontario Wine Country

Utilities

- Bell Canada
- Canadian Niagara Power Inc.
- Canadian Automobile Association – South Central Ontario
- Cogeco Cable Hamilton/Niagara
- Cogeco Cable Niagara
- Enbridge Gas Inc.
- Enbridge Pipelines Inc.
- Grimsby Power Incorporated
- Hydro One Networks
- Niagara-on-the-Lake Hydro
- Niagara Peninsula Energy Inc.
- Niagara Region Broadband Networks
- Ontario Power Generation
- Telus
- Welland Hydro Electric System Corporation

3.2.4 Indigenous Community Engagement

In their acknowledgement letter to the Notice of Commencement (June 3, 2023), the MECP provided direction as to the Indigenous Communities to engage and the protocols for engaging these communities. Personalized letters were sent to the following Indigenous Communities, as identified by the MECP:

- Mississaugas of the Credit First Nation

- Six Nations of the Grand River
- Haudenosaunee Confederacy Chiefs Council
- Haudenosaunee Development Institute

The letters were emailed and mailed to the community contacts on April 19, 2023. The letter provided an update on the study including details on the preliminary preferred strategies and to provide an opportunity for input on the study.

Copies of the letters are provided in Appendix B.

3.3 PIC No. 2 Meeting Details

The virtual PIC No. 2 was held from May- 17 – 31, 2023. The PIC No. 2 materials were available for public comment via the study website.

3.4 PIC No. 2 Display Material

The information presented on the PIC No. 2 video presentation slides included:

- Project Introduction
- Project Approach
- PIC Objectives
- Study Area
- Existing Biosolids Management System
- Evaluation Approach
- Long List of Biosolids End Use Markets and Treatment Technologies and Screening Results
- Detailed Evaluation
- Preliminary Recommendations
- Project Schedule
- How to Get Involved

A copy of the PIC No. 2 presentation material is provided in Appendix C.

3.5 Online Survey

Recipients of the PIC No. 2 notice were encouraged to complete an online survey regarding the proposed evaluation approach for the biosolid management alternatives. At the end of the two (2)-week engagement period, no survey results were submitted to the Region.

The survey included the following questions/comments:

- Do you have any comments regarding the long list of treatment technologies or end-use markets and the results of the screening evaluation?
- Do you have any questions or comments on the seven strategies developed for detailed evaluation?
- Do you agree or disagree with the three strategies selected for implementation?
- Do you have any comments or questions about this Master Plan?

A copy of the survey is provided in Appendix D.

3.6 PIC No. 2 Attendance

During the two (2)-week engagement period, the video presentation received 29 views.

3.7 PIC No. 2 Comments Received and Region's Responses

Attendees were encouraged to provide comments related to Class EA in writing through the project website during the two (2)-week comment period. Comments were accepted through the project website, by phone, email and/or mailed letters. These comments were then reviewed and considered by the Project Team to inform the decision-making process.

A summary of the comments received is provided in Table 1 below. A one-page event summary was posted to the project website to demonstrate engagement as provided in Appendix E.

Table 1 – Summary of PIC 2 Comments Received

No.	PIC No. 2 Comments/Questions Received	Project Team Response
1	One public stakeholder signed-up to be on the mailing list and receive future project notices	The individual interested in the study has been added to the stakeholder communication list to receive study information.
2	Resident noted concerns regarding Per- and Polyfluoroalkyl Substances (PFAS) within the biosolids that are land applied on Niagara farmland. The resident also inquired if the Region is testing or would consider testing for PFAS in biosolids before land application and if this will be addressed within the BMMP.	The Region explained that biosolids are applied as non-agricultural source materials (NASM) following strict regulations under the Nutrient Management Act or as a commercial fertilizer under the Federal Fertilizer Act of the Canadian Food Agency and highlighted that there has been no evidence of adverse impacts to the environment or health of people / animals. The Region highlighted that the government has been proactive in researching PFAS and setting policies to protect human health and the environment and noted that they have been phasing out PFAS compounds in various consumer products. The Region also noted that the Canadian Food Inspection Agency (CFIA) has started to implement an interim standard for domestic and imported biosolids contaminated with PFAS sold in Canada as commercial fertilizers. The CFIA is working to develop a plan for standards and a detailed guide for importers, producers and commercial users of biosolids. The Region described that they are committed to providing water and wastewater treatment that meets or betters provincial requirements and noted that the preferred BMMP is diverse and flexible to meet potential future environmental and legislative changes (i.e. biosoilds quality and land application requirements).
3	Resident noted concerns regarding the perceived increase in biosolids truck traffic (estimating around 120 transports/day) and requested consideration of alternative routes. The resident also inquired who determines the routes that the biosolids hauling trucks take.	The Region described that they are looking to minimize impacts of the biosolids hauling on local communities while also providing a direct route to farmers' fields to minimize environmental impacts. The Region noted that biosolids hauling trucks are to stay on Provincial Highways and Regional roads and they are required to apply best management practices while transporting and applying biosolids to the land. The Region described that as part of the BMMP study, it has been recommended that the Region increases dewatering of biosolids which will result in a reduced total volume of biosolids needing to be hauled, therefore decreasing truck traffic.

4.0 Next Steps

Now that this second round of public consultation is complete, the project team will:

- Consider comments and input received into the Class EA process,
- Continue to work with review agencies and interested stakeholders,
- Finalize the Recommendations
- Finalize the Biosolids Management Master Plan Update Report and File for 30-Day Public Review

APPENDIX A:
Notice of PIC No. 2

Notice of Public Information Centre No. 2

Biosolids Management Master Plan Update

Municipal Class Environmental Assessment

Niagara Region completed a Biosolids Management Master Plan in 2010 to ensure a long-term, environmentally sustainable, reliable and cost effective biosolids management program for Niagara Region and its citizens. This update to the plan will identify and develop a strategy for meeting Niagara's biosolids treatment needs to the year 2051, in a manner that is transparent, sustainable, reliable, environmentally friendly, cost effective and flexible.

The Biosolids Management Master Plan will be developed to:

- Meet the unique needs of Niagara Region and its customers, including treatment requirements, land uses and users, and environmental features
- Meet future needs associated with population growth, new regulations, climate resiliency, and energy efficiency
- Provide greater flexibility and reliability for biosolids management, both in the short term (i.e., 5 years) and long term (to the year 2051)
- Improve biosolids marketability; and
- Address community expectations regarding level of service, odour, air/noise, water quality, protection of the environment and aesthetics

Through this study, alternative strategies for managing biosolids were developed and evaluated, considering environmental and socio-cultural impacts, along with technical feasibility and cost. The objective of PIC 2 is to present our preliminary evaluation results and get your feedback on the preferred strategies.

The Process

The Study follows the master planning process as established by the Municipal Engineer's Association Class Environmental Assessment process for Master Plans, which is an approved Ontario Environmental Assessment process. The Biosolids Management Master Plan Update will satisfy Phases 1 and 2 of the Class Environmental Assessment process. Public and stakeholder input will be sought throughout the process, and a Biosolids Management Master Plan Update Report will be prepared and filed for public review.

Get Involved

Public feedback is an important part of the process. Information about the project will be available on Niagara Region's website as part of Public Information Centre No. 2. You can learn about the project, preliminary recommendations, and how you can have your voice heard.

Public Information Centre No. 2 Details

Public Information Centre 2 will be made available on the project website beginning **Wednesday, May 17, 2023**. This will be followed with a two-week period to submit comments to the Project Team.

You can access the project website using the link below or by scanning the QR code with your smart phone.

niagararegion.ca/projects/biosolids-master-plan

If you have questions, comments or wish to be added to the study mailing list, please contact:

Jason Oatley, Project Manager
Niagara Region
3501 Schmon Pkwy., PO Box 1042
Thorold, ON L2V 4T7
905-685-4225 ext. 3758
Fax: 905-685-5205
niagarabiosolidsmp@niagararegion.ca

Personal information collected or submitted in writing at public meetings will be collected, used and disclosed by members of Regional Council and Regional staff in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA). The written submissions including names, contact information and reports of the public meeting will be made available. Questions should be referred to the Privacy Office at 905-980-6000, ext. 3779 or FOI@niagararegion.ca.

If you require any accommodations in order to participate, please let us know in advance so that arrangements can be made in a timely manner. Special accessibility accommodations and materials in alternate formats can be arranged by contacting the Niagara Region's Accessibility Advisory Coordinator at 905-980-6000 ext. 3252 or **accessibility@niagararegion.ca**.

APPENDIX B:
Indigenous Consultation Letters

Niagara Region

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

Mr. Leroy Hill
Secretary
Haudenosaunee Confederacy Chiefs Council
2634 6th Line Road
P.O. Box 714, Suite 600
Ohsweken, ON N0A 1M0

Dear Mr. Hill:

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

We wish to take this opportunity to provide an update regarding the above noted project. The Region of Niagara is undertaking a Region-wide Biosolids Management Master Plan (BMMP) Update for the future management of biosolids from each of the Region's water and wastewater treatment plants to the year 2051. Biosolids are the organic materials resulting from the physical, chemical and biological treatment of sewage sludge generated at wastewater treatment plants. Biosolids have many potential beneficial uses such as application on agricultural lands.

As Niagara Region continues to grow, it is essential that we plan infrastructure and services to meet increasing demands. More people mean more wastewater, which also means more biosolids and a higher demand for treatment and management of these materials. This Master Plan will develop a holistic, long-term strategy for biosolids management in Niagara that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible.

Currently, the Region is serviced by ten (10) wastewater treatment plants (WWTP), a wastewater lagoon serving Stevensville / Douglastown and six water treatment plants (WTPs). A new WWTP is planned to service south Niagara Falls. Biosolids are currently processed at the Garner Road Biosolids Facility, the Walker Environmental N-Viro Facility, or both, before being converted into a product appropriate for land application in the form of fertilizer or liquid biosolids**. A map of the Region showing these facilities is attached to this letter.**

As part of this study, the project team developed alternative strategies for managing biosolids. Based on results of our detailed evaluation, the preliminary preferred strategies are:

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This study follows the master planning process, as established by the Municipal Engineer's Association Class Environmental Assessment. Following this master plan study, additional Environmental Assessments studies will follow to implement the preferred solution. The Region will continue to consult key stakeholders and landowners throughout the specific EAs following this Master Plan.

The Niagara Region values its relationships with Indigenous communities, and we appreciate any input or meaningful information you have to offer as the Region proceeds through this project. If your team is interested in hearing more about this project, please contact us to arrange either a virtual or in-person meeting.

We look forward to hearing from you. Should you have any questions, we invite you to please contact me at the email address or phone number below.

Yours truly,

Jason Oatley, B.Sc., C.Chem.
Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: Leroy Hill: ohahokta@hotmail.com
Wayne Hill: tworowarchaeology@gmail.com

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

VIA EMAIL (janicehdi@gmail.com)

Ms. Janice Bomberry
Office Administrator
Haudenosaunee Development Institute
16 Sunrise Court, Suite 402B
P.O. Box 714
Ohsweken, ON N0A 1M0

Dear Ms. Bomberry:

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

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We look forward to hearing from you. Should you have any questions, we invite you to please contact me at the email address or phone number below.

Yours truly,

Jason Oatley, B.Sc., C.Chem.
Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: General Inbox: www.info@hdland
Todd Williams: williams.todd@gmail.com; toddwilliams@hdi.land
Janice Williams: janicewilliams@hdi.land

Niagara Region

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

Ms. Abby LaForme
Acting Consultation Coordinator
Mississaugas of the Credit First Nation
2789 Mississauga Road, R.R. #6
Hagersville, ON N0A 1H0

Dear Ms. LaForme:

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

We wish to take this opportunity to provide an update regarding the above noted project. The Region of Niagara is undertaking a Region-wide Biosolids Management Master Plan (BMMP) Update for the future management of biosolids from each of the Region's water and wastewater treatment plants to the year 2051. Biosolids are the organic materials resulting from the physical, chemical and biological treatment of sewage sludge generated at wastewater treatment plants. Biosolids have many potential beneficial uses such as application on agricultural lands.

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Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: Chief R. Stacey LaForme: stacey.laforme@mncfn.ca
Abby LaForme: abby.laforme@mncfn.ca
Cathie Jamieson: cathiej@mncfn.ca
Mark LaForme: mark.laforme@mncfn.ca
Adam LaForme: adam.laforme@mncfn.ca
Adrian Blake: adrian.blake@mncfn.ca
DOCA.admin@mncfn.ca

Niagara Region

Public Works
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3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

VIA EMAIL (tanyahill-montour@sixnations.ca)

Ms. Tanya Hill-Montour
Archaeology Supervisor
Six Nations of the Grand River
2498 Chiefswood Road
P.O. Box 5000
Ohsweken, ON N0A 1M0

Dear Ms. Hill-Montour

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

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Yours truly,

Jason Oatley, B.Sc., C.Chem.
Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: Chief Mark B. Hill: markhill@sixnations.ca
Dawn LaForme: dlaforme@sixnations.ca
Tayler Hill: tayler.hill@sixnations.ca
Lonny Bomberry: lonnybomberry@sixnations.ca
Arleen Maracle: arleenma@sixnations.ca

APPENDIX C:
PIC No. 2 Material

Biosolids Management Master Plan Update

Virtual Public Information Centre No. 2

Project Introduction

The Niagara Region is undertaking a region-wide **Biosolid Management Master Plan (BMMP) Update** for the future management of biosolids from each of the Region's water and wastewater treatment plants.

As Niagara Region continues to grow, we need to make sure that we plan our infrastructure and services to meet increasing demands. More people means more wastewater, which also means more biosolids and a higher demand for treatment and management of these materials. This study will also build upon the recommendations in the 2010 BMMP, by considering regulatory and environmental changes since its implementation. As part of Niagara Region's planning activities, the BMMP will continue to be updated every ten years.

What are Biosolids?

Biosolids are the organic materials resulting from the physical, chemical and biological treatment of sewage sludge generated at wastewater treatment plants.

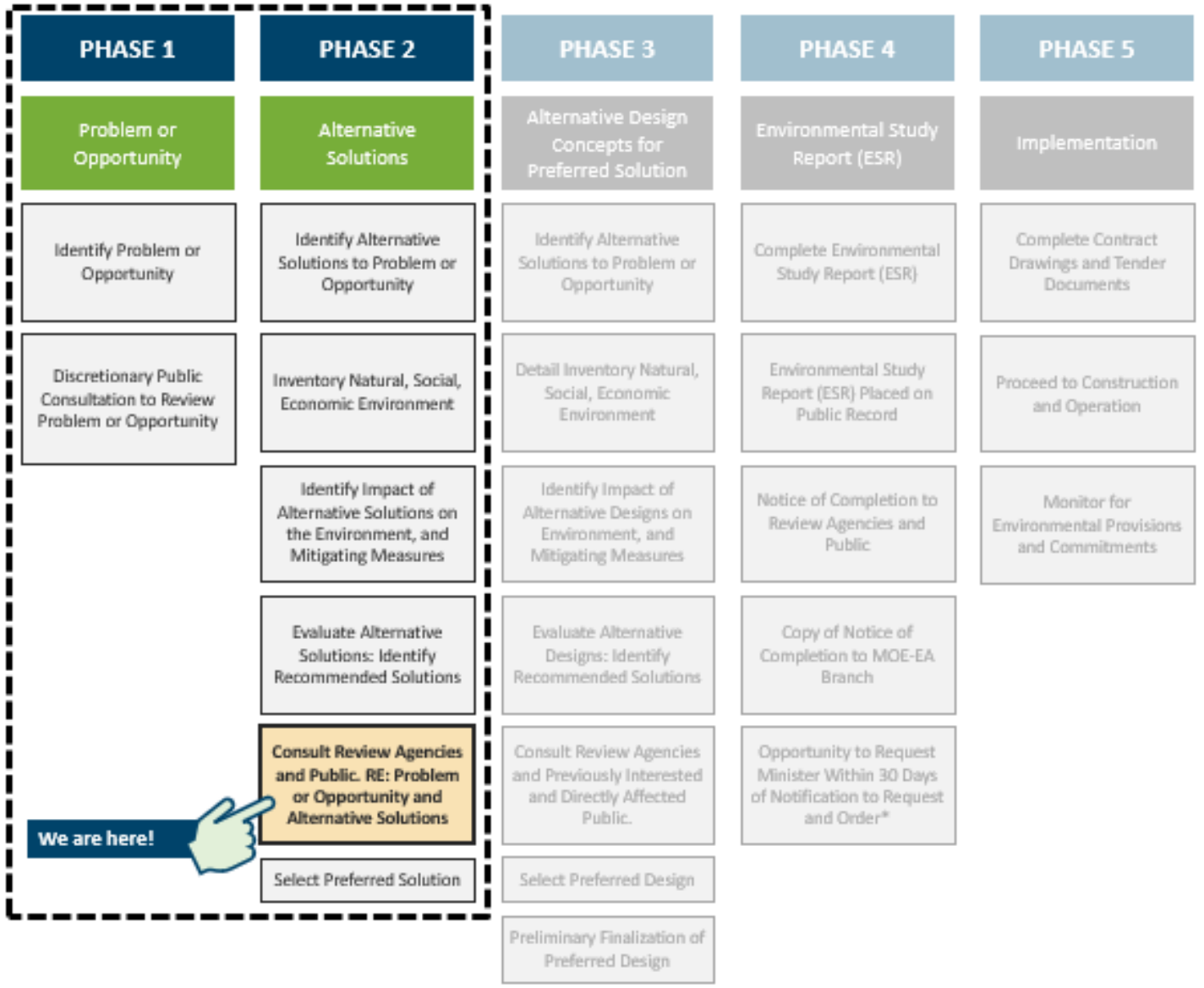
Biosolids have many potential beneficial uses including land application on agricultural lands and use in landscaping projects in parks, on golf courses and at private residences. The Region’s biosolids are currently land applied throughout Niagara Region.

The Region's biosolids also incorporate residuals from water treatment.

Project Approach

This project is following the Class Environmental Assessment (EA) process for Master Plan Projects, which is a decision-making process that all Ontario municipalities follow for rehabilitating and building new infrastructure.

The 2021 BMMP follows the Municipal Engineers Association (MEA) Class Environmental Assessment (EA) process for Master Plans and will satisfy Phases 1 and 2 of the Class EA process.



Problem and Opportunity Statement

The purpose of the Biosolids Management Master Plan Update is to develop a holistic, long-term strategy for biosolids management in Niagara in a manner that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible.

Public Information Centre (PIC) Objectives

Timeline

May 17, 2023:
Project information, project overview video, and transcript posted

May 17 to May 31, 2023:
Submit questions or comments related to the PIC No.2 materials to Niagara Region
niagarabiosolidsmp@niagararegion.ca

June 14, 2023
Responses to questions and comments posted

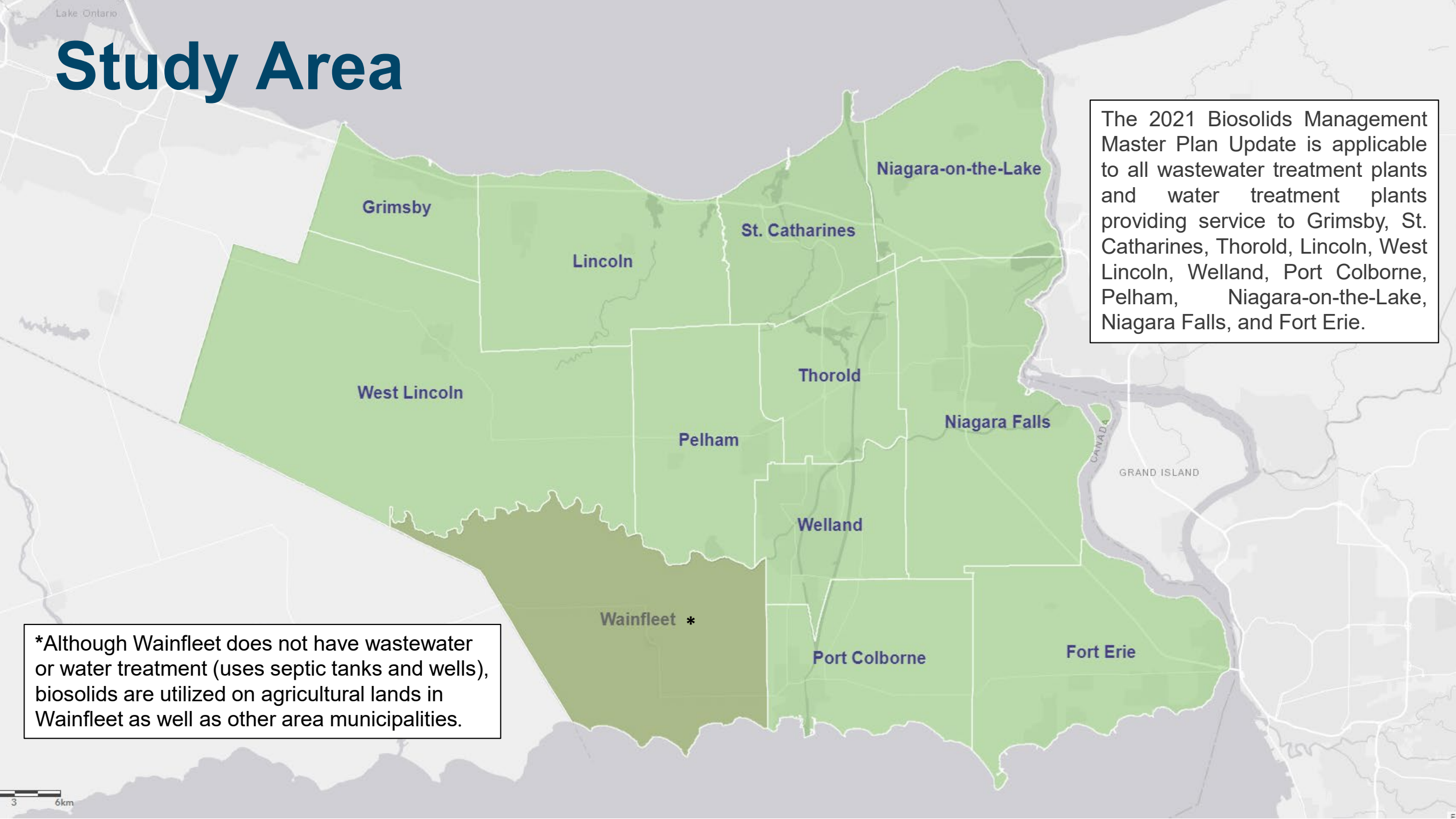
Present the Public and Stakeholders with an opportunity to learn about Niagara Region's biosolids management approach and provide insight to future needs.

Provide a progress update on the Biosolids Management Master Plan and work completed to date.

Answer any questions you may have about the Project process or potential outcomes.

Obtain your feedback and answer any questions you may have on the list of alternative biosolids management strategies, the detailed evaluation of these strategies and preliminary recommendations

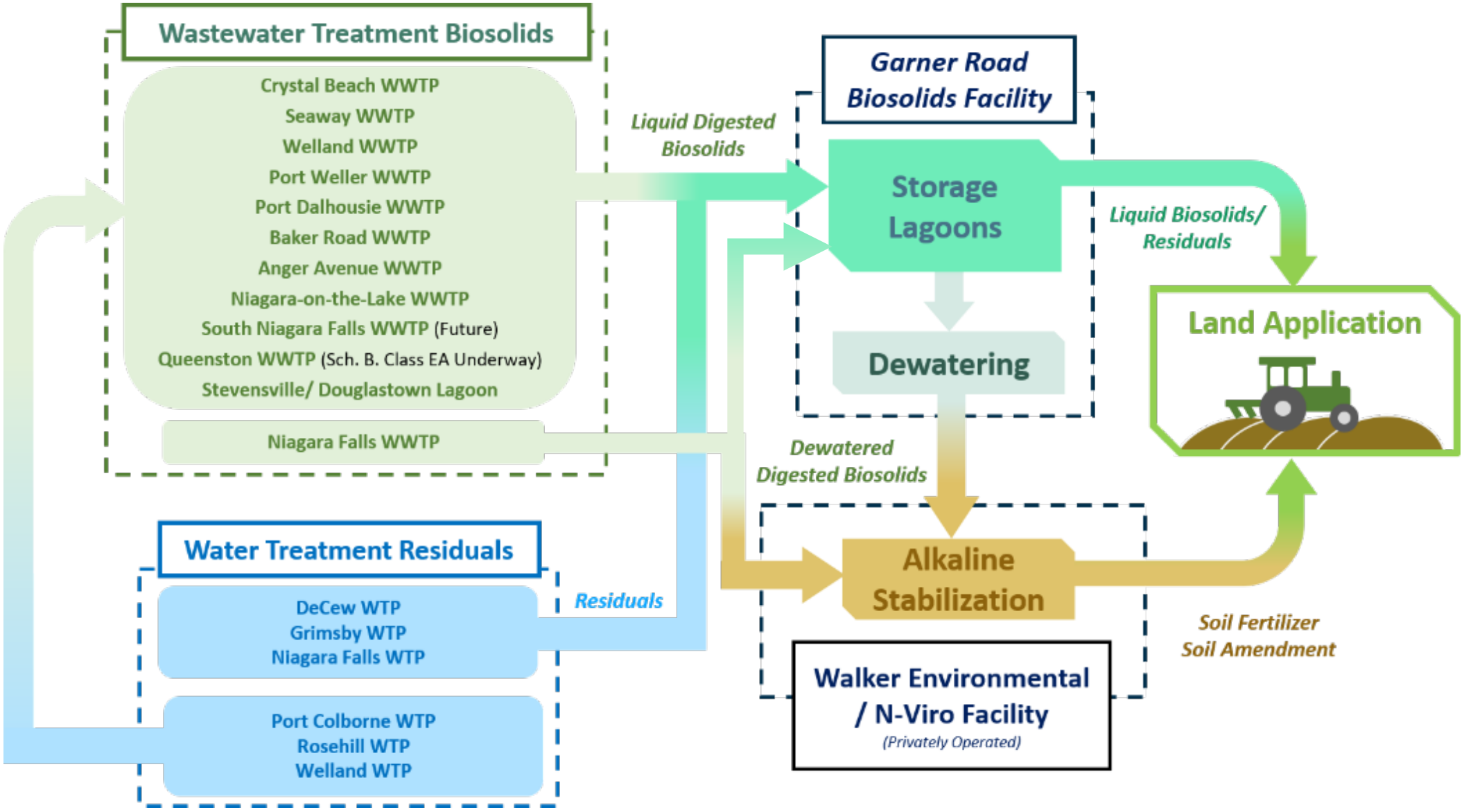
Study Area



The 2021 Biosolids Management Master Plan Update is applicable to all wastewater treatment plants and water treatment plants providing service to Grimsby, St. Catharines, Thorold, Lincoln, West Lincoln, Welland, Port Colborne, Pelham, Niagara-on-the-Lake, Niagara Falls, and Fort Erie.

*Although Wainfleet does not have wastewater or water treatment (uses septic tanks and wells), biosolids are utilized on agricultural lands in Wainfleet as well as other area municipalities.

Existing Biosolids Management System



Existing Beneficial Uses Program
Liquid Biosolids Management

Garner Road Biosolids Facility

Liquid biosolids and residuals (~50% of biosolids produced in Niagara Region) are:

1. Hauled to the Garner Road Biosolids Facility by Third Party Contractor (currently Thomas Nutrient Solutions),
2. Stored and thickened in lagoons at the Garner Road Biosolids Facility,
3. Hauled away and applied as a liquid fertilizer to agricultural land by Third Party Contractor (currently Thomas Nutrient Solution)

Land application of biosolids

Existing Beneficial Uses Program
Dewatered Biosolids Management

Biosolids Management Centre with Alkaline Stabilization

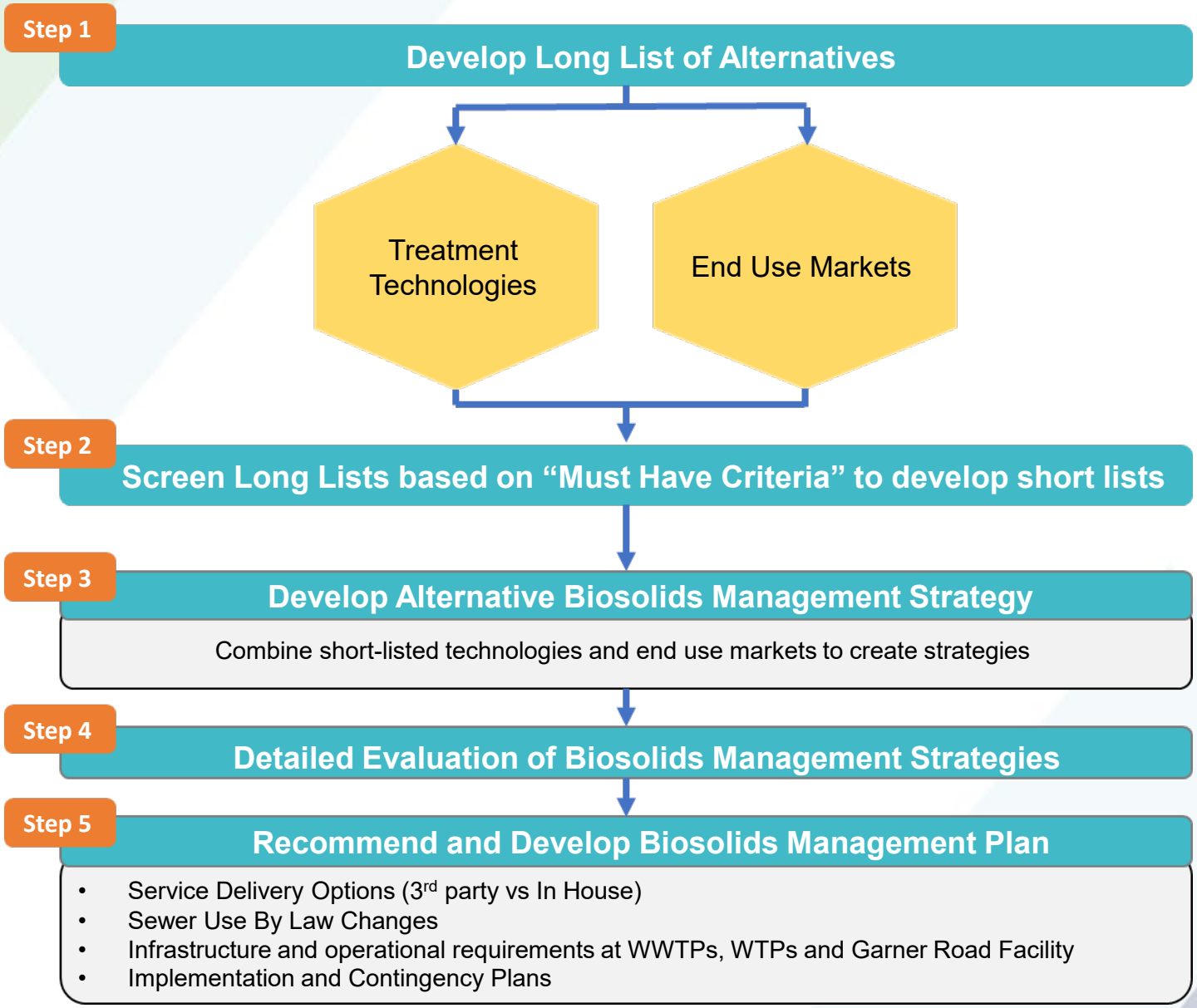
Dewatered biosolids from the Garner Road Biosolids Facility and Niagara Falls WWTP (~50% of biosolids produced in Niagara Region) are:

1. Hauled to a privately owned Biosolids Management Facility in Niagara Falls.

2. Treated using alkaline stabilization to produce a high solids, nutrient rich soil-like product

3. Hauled away and applied as a solid cake fertilizer to agricultural land by Third Party Contractor

Alternative Evaluation Approach



Step 1 – Develop Long List of Biosolids End Use Markets

Beneficial Reuse

- Agriculture, Silviculture and Horticulture
- Parks and Recreation Departments
- Ontario Ministry of Transportation
- Landscape Contractors
- Golf Courses
- Land Rehabilitation
- Co-management with Source Separated Organics
- Fuel Additives (ie. syngas, biochar).

Disposal

- Landfill

Step 2 – Screen Long List of Biosolids End Use Markets

	Market Availability	Compatibility with Current Program	Long Term Reliability and Sustainability	Implementable	Screening Results
Agricultural, Silviculture and Horticulture	✓ Pass	✓ Pass	✓ Pass	✓ Pass	Carried Forward
Parks and Recreation Department	✓ Pass	✓ Pass	✓ Pass	✓ Pass	Carried Forward
Ontario Ministry of Transportation	✗ Fail	✓ Pass	✓ Pass	✓ Pass	Screened Out
Landscape Contractors	✓ Pass	✓ Pass	✓ Pass	✓ Pass	Carried Forward
Golf Courses	✓ Pass	✓ Pass	✓ Pass	✓ Pass	Carried Forward
Land Rehabilitation	✗ Fail	✓ Pass	✗ Fail	✓ Pass	Screened Out
Co-management with Source Separated Organics	✓ Pass	✓ Pass	✓ Pass	✓ Pass	Carried Forward
Fuel Additions (i.e. Syngas)	? Further Review	✓ Pass	✓ Pass	? Further Review	Carried Forward
Landfill	✗ Fail	✓ Pass	✗ Fail	✓ Pass	Screened Out

Step 1 – Develop Long List of Biosolids Treatment Technologies

Biological Digestion Technologies

- Anaerobic Digestion ***(existing conditions)***
- Thermal Hydrolysis Process Post Anaerobic Digestion

Thermal Conversion Technologies

- Incineration
- Gasification
- Pyrolysis
- Wet Oxidation
- Hydrothermal Liquification

Thermal Drying Technologies

- Direct Contact (Convection)
  - Rotary Drum
  - Belt Dryer
  - Fluidized Bed
- Indirect Contact (Conduction)
  - Paddle / Disc
  - Solar Dryer

Chemical Stabilization Technologies

- Alkaline Stabilization
  - Alkaline Stabilization
  - Alkaline Stabilization with Supplement Heat or Acid ***(existing conditions)***
  - Alkaline Stabilization with Heat and High Speed Mixing

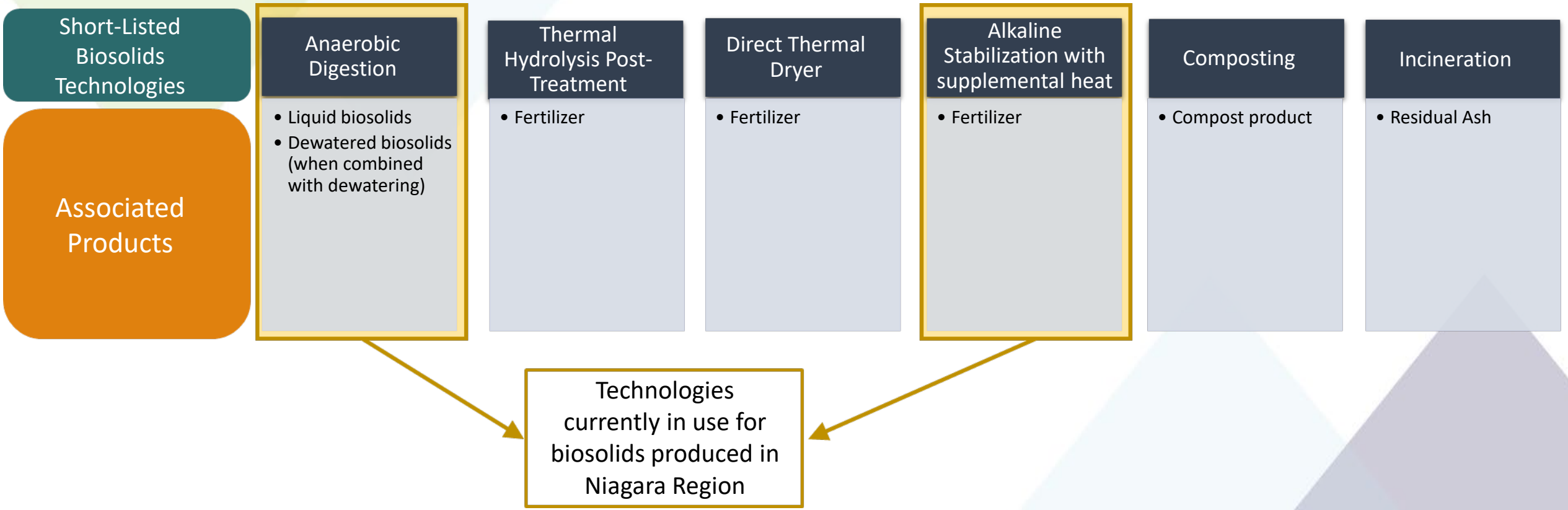
Composting

- Windrow
- Aerated Static Pile
- Agitated Bin

Step 2 – Screen Long List of Biosolids Treatment Technologies

		1. Maturity of Technology	2.Compatibility with Existing and Future Site Development and Biosolids End Use Markets	3. Proven Applicability at Similar Scale Facilities	4. Implementable	Consider for Detailed Evaluation
Biological Digestion Technologies	Thermal Hydrolysis Post-Treatment (THP)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
Thermal Drying Technologies	Direct Thermal Dryer (Drum Dryer, Belt Dryer)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Fluidized Bed Dryer	✓ Pass	✓ Pass	✗ Fail	✗ Fail	**Screened Out**
	Indirect Thermal Dryer (Paddle Dryer, Disc Dryer)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Solar Dryer	✓ Pass	✓ Pass	✗ Fail	✗ Fail	**Screened Out**
Chemical Stabilization Technologies	Alkaline Stabilization	✓ Pass	✓ Pass	✓ Pass	✗ Fail	**Screened Out**
	Alkaline Stabilization with Supplemental Heat or Acid	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Alkaline Stabilization with Supplemental Heat and High-Speed Mixing	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
Composting Technologies	Composting (Open Technologies Aerated Static Pile and Windrow Composting)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
Thermal Conversion Technologies	Incineration	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Gasification	✗ Fail	✓ Pass	✗ Fail	✗ Fail	**Screened Out**
	Pyrolysis	✗ Fail	✓ Pass	✗ Fail	✗ Fail	**Screened Out**
	Wet Oxidation	✗ Fail	✓ Pass	✗ Fail	✗ Fail	**Screened Out**
	Hydrothermal Liquification	✗ Fail	✓ Pass	✗ Fail	✗ Fail	**Screened Out**

Step 2 – Results of Biosolids Treatment Technologies Screening and Associated Products



Step 3 – Develop Alternative Biosolids Management Strategies

	Management Alternative	Technology	Product	End Use
Strategy	Beneficial Use on Land	AD	Stabilized Liquid biosolids	Land application with liquid biosolids
Strategy		AD + Dewatering	Stabilized Biosolids Cake	Land application with biosolids cake
Strategy		AD+ Advanced Digestion + Dewatering	Fertilizer quality Cake	Land application of cake / un-restricted use
Strategy		AD + Dewatering + Advanced Alkaline Stabilization	Fertilizer / soil amendment	Un-restricted use on land
Strategy		AD + Dewatering + Composting	Compost	Un-restricted use on land
Strategy		AD + Dewatering + Drying	Dried Product	Un-restricted use on land or fuel source
Strategy	Thermal Processing	AD + Dewatering + Incineration	Ash	Ash beneficial use + landfill

Strategy 0 – "Do Nothing" was screened out as it does not pass criteria for 'Long Term Sustainability and Reliability' due to capacity limitations in existing system to process future biosolids quantities.

AD = Anaerobic Digestion

Step 4 - Detailed Evaluation Criteria

Natural Environment
- Terrestrial Systems
- Aquatic Systems
- Surface Water Quality
- Groundwater Quality, Quantity and source water protection
- Soil Quality
- Air Quality/GHG

Technical Considerations
- Performance
- Sustainability
- Ease of Operation
- Resiliency
- Ease of Implementation
- Compatibility with existing infrastructure
- Energy use and recovery
- Climate change adaptability
- Permits and Approvals

Socio-Cultural Environment
- Odour
- Noise/Vibrations during operation
- Visual/Aesthetics
- Truck Traffic
- Disruption during Construction
- Property Acquisition and Easements
- Recreational Use and Users
- Agricultural Land Users
- Human health and well being
- Existing and Future Adjacent Land Use Compatibility
- Archaeology / Cultural Heritage

Economic Considerations
- Capital Cost
- Operating and Maintenance Cost
- Life Cycle Costs
- Best Use of Existing Investments

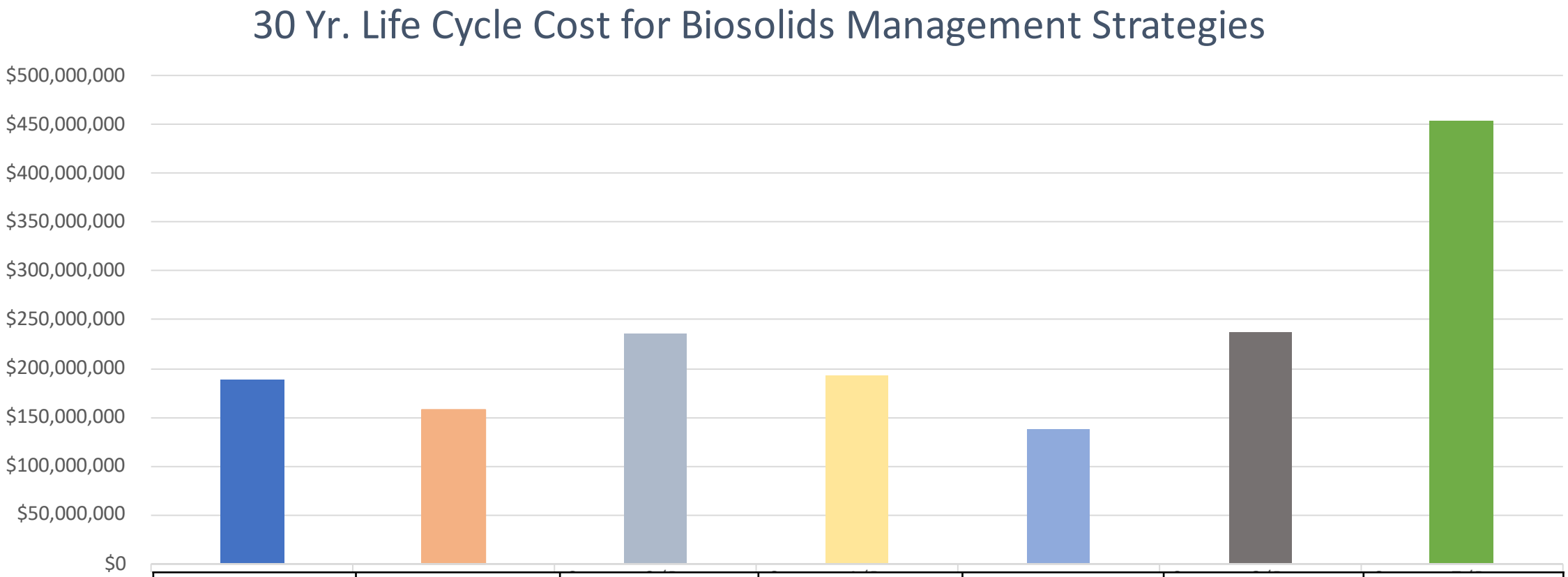
Approach: Equal weighting initially followed by sensitivity analysis prioritizing different criteria categories

Step 4 – Detailed Evaluation Results

LEGEND
Good / Low Impact
Neutral / Moderate Impact
Poor / High Impact

Key Differentiating Criteria	**Strategy 1:** AD + Liquid Biosolids Land Application	**Strategy 2:** AD + Dewatering + Cake Land Application	**Strategy 3:** AD + Advanced Stabilization (THP) + Fertilizer Quality Product	**Strategy 4:** AD + Dewatering + Advanced Alkaline Treatment	**Strategy 5:** AD + Dewatering + Composting + Product Distribution	**Strategy 6:** AD + Dewatering + Thermal Drying + Product Distribution	**Strategy 7:** AD + Dewatering + Thermal Processing (Incineration)
Greenhouse Gas Emissions	Neutral	Neutral	Good	Neutral	Good	Good	Poor
Nutrient Recovery and Potential for Beneficial Reuse by Agricultural Users	Good	Good	Good	Good	Good	Good	Poor
Proven Performance	Good	Good	Neutral	Good	Good	Good	Good
Odour at Garner Road Facility	Good	Good	Good	Neutral	Neutral	Neutral	Good
Truck Traffic	Neutral	Good	Good	Neutral	Good	Good	Good
Long Term Sustainability	Good	Good	Good	Good	Good	Good	Poor
Ease of Operation	Good	Good	Poor	Good	Neutral	Neutral	Neutral
Resiliency	Neutral	Neutral	Good	Good	Good	Good	Good
Ease of Implementation	Good	Good	Poor	Poor	Poor	Poor	Poor
Life Cycle Cost	Neutral	Good	Good	Good	Good	Good	Poor
RANKING	**3**	**2**	**5**	**1**	**6**	**4**	**7**

Step 4 – Detailed Evaluation Results - Costs



	Strategy 1 (Liquid Land App)	Strategy 2 (Dewater + Cake Land App)	Strategy 3 (Dewater + THP + Fertilizer Product)	Strategy 4 (Dewater + Advanced Alkaline Treatment)	Strategy 5 (Dewater + Compost + Product Distribution)	Strategy 6 (Dewater + Thermal Drying + Product Distribution)	Strategy 7 (Dewater + Incineration + Ash Disposal)
30Yr. Life Cycle Cost	$249,674,000	$166,542,000	$196,450,000	$205,903,000	$121,941,000	$174,595,000	$448,766,000
Cost per Dry Tonne (based on O&M only)	$819/dt	$439/dt	$278/dt	$597/dt	$308/dt	$328/dt	$632/dt

Average $/dry tonne (dt) for current program (2014 – 2016) = $647/dt

Step 4 – Detailed Evaluation Results - RANKING

Develop implementation plan to incorporate top 3 strategies

1	**Strategy 4:** AD + Dewatering + Advanced Alkaline Treatment + Fertilizer Quality Product
2	**Strategy 2:** AD + Dewatering + Cake Land Application
3	**Strategy 1:** AD + Liquid Biosolids Land Application
4	**Strategy 6:** AD + Dewatering + Thermal Drying + Product Distribution
5	**Strategy 3:** AD + Advanced Stabilization (THP) + Fertilizer Quality Product
6	**Strategy 5:** AD + Dewatering + Composting + Product Distribution
7	**Strategy 7:** AD + Dewatering + Thermal Processing

AD = Anaerobic Digestion

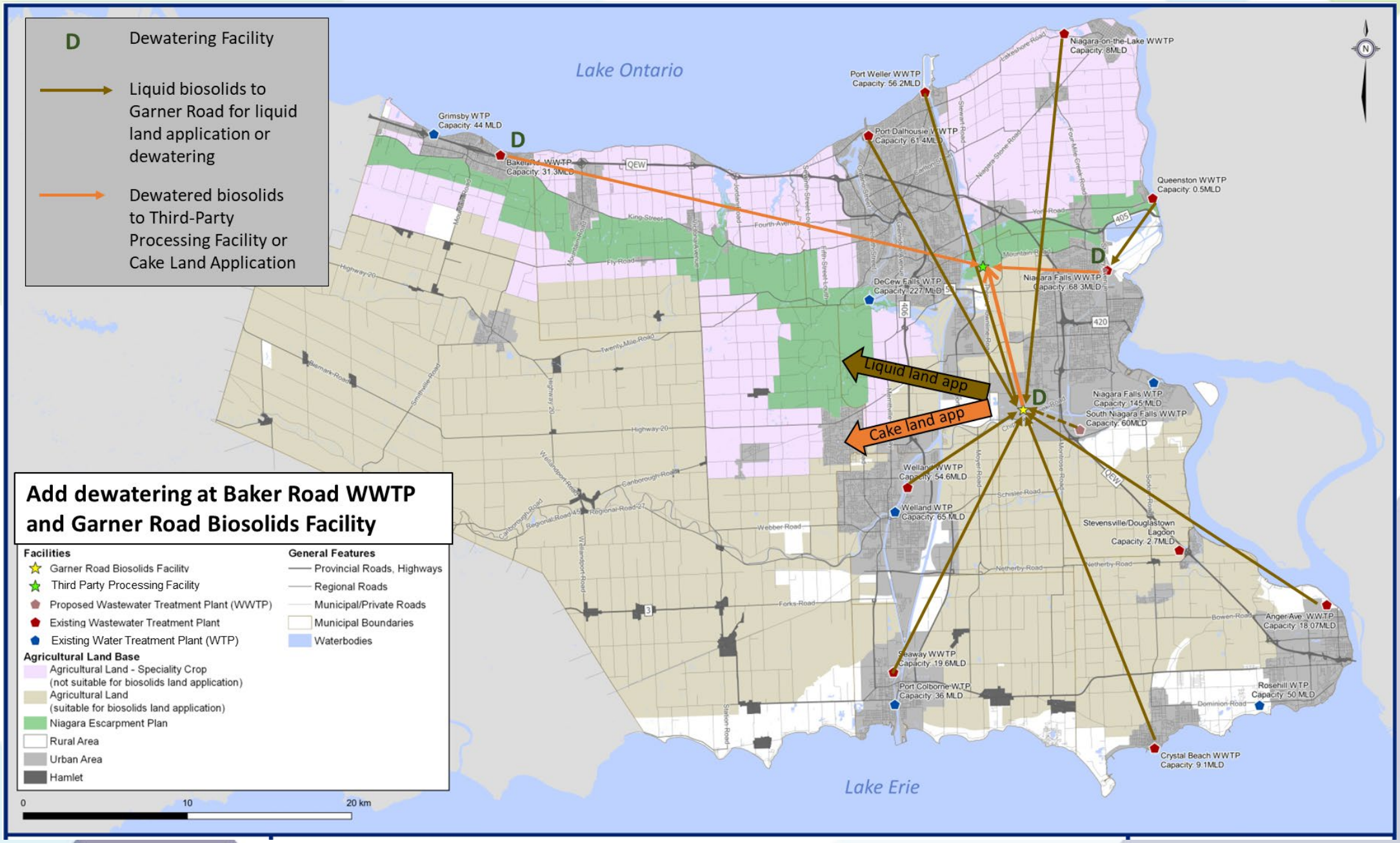
Step 5 – Preliminary Recommendations and Implementation

- Short Term Solution (1-3 years)
  - Conduct pilot study involving local farmers and third-party hauler to assess feasibility of direct land application of cake
  - Using portable centrifuge for temporary dewatering at Garner Road when existing centrifuges are unavailable
  - Continue transporting dewatered cake to N-Viro from Garner Road and Niagara Falls WWTP

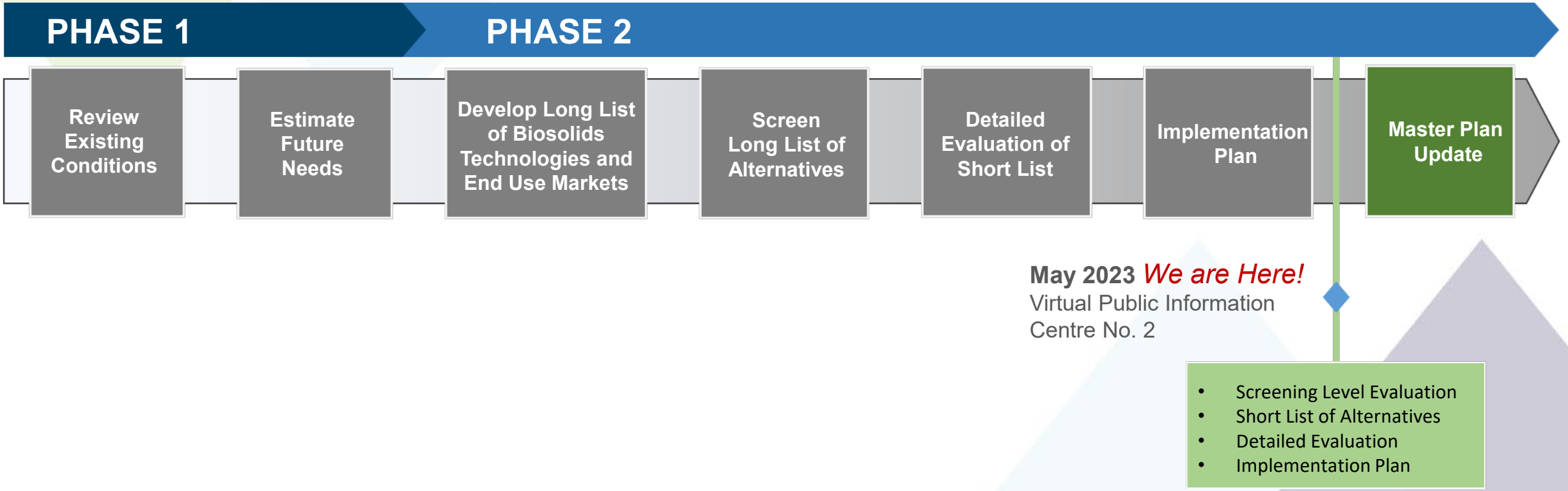
- Mid Term Solution (3-5 years)
  - Add biosolids dewatering at Baker Road WWTP

- Long-Term Solution (5+ Years)
  - Construct additional dewatering capacity at Garner Road, which may incorporate flows from Niagara Falls (NF) WWTP once centrifuge at NF WWTP reaches end of useful life
  - Construct cake storage facility at Garner Road if the pilot program confirms feasible / acceptance
  - Continue liquid storage at Garner Road to maximize flexibility

Step 5 – Preliminary Recommendations and Implementation



Project Schedule



Get Involved

Public feedback is important. Sign-up to be added to the study contact list and submit any questions or comments to the Project Team. You may also submit comments at the link below, including feedback on the long list of alternatives and the evaluation criteria most important to you.

Key Dates

- **May 17, 2023 to May 31, 2023:** Submit Questions and Comments to Region
- **June 14, 2023:** Responses to Questions and Comments Posted on the Region Website
- **Summer 2023:** Biosolids Management Master Plan Update files for 30-Day Public Review.

Sign-up for Project Notification Updates and Provide Feedback

Sign-Up for Project Updates

Project Survey

Contact Us

niagarabiosolidsmp@niagararegion.ca
Jason Oatley, Project Manager, Niagara Region
Laura Verhaeghe, Project Manager, GM BluePlan Engineering Limited

Project Webpage: 2021 Biosolids Management Master Plan - Niagara Region, Ontario

APPENDIX D:
PIC No. 2 Online Survey

Public Information Centre #2 - Niagara Region 2021 Biosolids Management Master Plan

Public Information Centre No. 2 comments and feedback will be accepted between May 17, 2023 - May 31, 2023

The Niagara Region is committed to ensure that all Regional services, programs and facilities are inclusive and accessible. Please contact the Project Manager, Jason Oatley (niagarabiosolidsmp@niagararegion.ca) if you require accommodations to provide feedback for this study.

Please note that information related to this study will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. All comments related will become part of the public record and may be included in the study documentation prepared for public review.

1. First and Last Name (Optional)

Enter your answer

2. Organization (Optional)

Enter your answer

3. Do you have any comments regarding the long list of treatment technologies or end-use markets, and the results of the screening evaluation? *

Enter your answer

4. Do you have any questions or comments on the seven (7) strategies developed for detailed evaluation? *

Enter your answer

5. Do you agree or disagree with the three (3) strategies selected for implementation? *(Strategy 1 - Land Application of Digested Biosolids, Strategy 2 - Land Application of Dewatered Cake Biosolids, Strategy 3 - Alkaline Stabilization of Dewatered Cake to Produce Fertilizer)* *

Enter your answer

6. Do you have any other comments or questions about this Master Plan? *

Enter your answer

7. If you wish to be notified for continued involvement in the study progress, please enter your email below

Enter your answer

APPENDIX E:
Comments Received Summary

2021 Biosolids Management Master Plan Update

Public Information Center No. 2 – Comments Received

Virtual Public Information Centre (PIC) No. 2 was held from May 17 to May 31, 2023. This included an introductory video presentation, project materials for review, and opportunity for interested individuals to provide comments via an online submission form or through the project email.

PIC No. 2 materials for review included project introduction, the problem and opportunity statement, project approach, review of the existing biosolids and residuals management program and future needs, long list of alternatives and screening results, detailed evaluation, preliminary recommendations, and the project schedule. These materials will remain posted on the Biosolid Management Master Plan Update project website:

- Video Presentation: https://www.youtube.com/watch?v=ydLe8X0v3B0
- Project Information: https://niagararegion.ca/projects/biosolids-master-plan/default.aspx

During the 2-week engagement period, the video presentation received 29 views. One individual signed-up to be on the mailing list and receive future project notices. Comments were also provided from interested stakeholders including:

- Requested that the Region considers testing the biosolids that are land applied for Per-and Polyfluoroalkyl Substances (PFAS) and inquired if this will be addressed within the Biosolids Management Master Plan Update
- Requested consideration for reduced truck traffic related to biosolids hauling through their community

The feedback above will be considered in the development of the preferred biosolids management strategies and implementation plan. The Master Plan Update will satisfy Phases 1 & 2 of the Municipal Class Environmental Assessment process.

Appendix B2– Indigenous Engagement Letters

Niagara Region

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

Mr. Leroy Hill
Secretary
Haudenosaunee Confederacy Chiefs Council
2634 6th Line Road
P.O. Box 714, Suite 600
Ohsweken, ON N0A 1M0

Dear Mr. Hill:

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

We wish to take this opportunity to provide an update regarding the above noted project. The Region of Niagara is undertaking a Region-wide Biosolids Management Master Plan (BMMP) Update for the future management of biosolids from each of the Region's water and wastewater treatment plants to the year 2051. Biosolids are the organic materials resulting from the physical, chemical and biological treatment of sewage sludge generated at wastewater treatment plants. Biosolids have many potential beneficial uses such as application on agricultural lands.

As Niagara Region continues to grow, it is essential that we plan infrastructure and services to meet increasing demands. More people mean more wastewater, which also means more biosolids and a higher demand for treatment and management of these materials. This Master Plan will develop a holistic, long-term strategy for biosolids management in Niagara that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible.

Currently, the Region is serviced by ten (10) wastewater treatment plants (WWTP), a wastewater lagoon serving Stevensville / Douglastown and six water treatment plants (WTPs). A new WWTP is planned to service south Niagara Falls. Biosolids are currently processed at the Garner Road Biosolids Facility, the Walker Environmental N-Viro Facility, or both, before being converted into a product appropriate for land application in the form of fertilizer or liquid biosolids**. A map of the Region showing these facilities is attached to this letter.**

As part of this study, the project team developed alternative strategies for managing biosolids. Based on results of our detailed evaluation, the preliminary preferred strategies are:

1. Anaerobically digest biosolids and land apply stabilized liquid biosolids

2. Anaerobically digest biosolids, dewater and land apply stabilized biosolids cake

3. Anaerobically digest biosolids, dewater, and treat with advanced alkaline stabilization (for example, the N-Viro process) to create a fertilizer quality product for land application

To ensure flexibility and diversity in the biosolids program, a combination of the above strategies is proposed, which will reduce the number of trucks required to haul biosolids, reducing greenhouse gas emissions and community impacts. All biosolids in the Region would continue to be land applied for beneficial use.

This study follows the master planning process, as established by the Municipal Engineer's Association Class Environmental Assessment. Following this master plan study, additional Environmental Assessments studies will follow to implement the preferred solution. The Region will continue to consult key stakeholders and landowners throughout the specific EAs following this Master Plan.

The Niagara Region values its relationships with Indigenous communities, and we appreciate any input or meaningful information you have to offer as the Region proceeds through this project. If your team is interested in hearing more about this project, please contact us to arrange either a virtual or in-person meeting.

We look forward to hearing from you. Should you have any questions, we invite you to please contact me at the email address or phone number below.

Yours truly,

Jason Oatley, B.Sc., C.Chem.
Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: Leroy Hill: ohahokta@hotmail.com
Wayne Hill: tworowarchaeology@gmail.com

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

VIA EMAIL (janicehdi@gmail.com)

Ms. Janice Bomberry
Office Administrator
Haudenosaunee Development Institute
16 Sunrise Court, Suite 402B
P.O. Box 714
Ohsweken, ON N0A 1M0

Dear Ms. Bomberry:

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

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Yours truly,

Jason Oatley, B.Sc., C.Chem.
Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: General Inbox: www.info@hdland
Todd Williams: williams.todd@gmail.com; toddwilliams@hdi.land
Janice Williams: janicewilliams@hdi.land

Niagara Region

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

Ms. Abby LaForme
Acting Consultation Coordinator
Mississaugas of the Credit First Nation
2789 Mississauga Road, R.R. #6
Hagersville, ON N0A 1H0

Dear Ms. LaForme:

Niagara Region Biosolids Management
Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

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Jason.oatley@niagararegion.ca

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Attach.

cc: Chief R. Stacey LaForme: stacey.laforme@mncfn.ca
Abby LaForme: abby.laforme@mncfn.ca
Cathie Jamieson: cathiej@mncfn.ca
Mark LaForme: mark.laforme@mncfn.ca
Adam LaForme: adam.laforme@mncfn.ca
Adrian Blake: adrian.blake@mncfn.ca
DOCA.admin@mncfn.ca

Niagara Region

Public Works
Water & Wastewater Services
3501 Schmon Pkwy., PO Box 1042, Thorold, ON L2V 4T7
Telephone: 905-980-6000 Toll-free: 1-800-263-7215 Fax: 905-685-5205
www.niagararegion.ca

April 19, 2023

VIA EMAIL (tanyahill-montour@sixnations.ca)

Ms. Tanya Hill-Montour
Archaeology Supervisor
Six Nations of the Grand River
2498 Chiefswood Road
P.O. Box 5000
Ohsweken, ON N0A 1M0

Dear Ms. Hill-Montour

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Master Plan Update
Region-Wide
Our File: O.02 13 20001326 - 2020 Biosolids MSP

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Project Manager
Water and Wastewater Services
905-980-6000, ext. 3758
Jason.oatley@niagararegion.ca

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Attach.

cc: Chief Mark B. Hill: markhill@sixnations.ca
Dawn LaForme: dlaforme@sixnations.ca
Tayler Hill: tayler.hill@sixnations.ca
Lonny Bomberry: lonnybomberry@sixnations.ca
Arleen Maracle: arleenma@sixnations.ca

Appendix B3 – Stakeholder Correspondence and Meeting Minutes

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

Ontario

June 3, 2022

Albert Succi *(Via email only)*
Senior Project Manager Water & Wastewater Engineering
Niagara Region
niagarabiosolidsmp@niagararegion.ca

Re: **Biosolids Management Master Plan, Niagara Region**
Municipal Class Environmental Assessment, Master Plan
Response to Notice of Commencement

Dear Albert Succi,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that Niagara Region has indicated that the study is following the approved environmental planning process for a Master Plan under the Municipal Class Environmental Assessment (Class EA).

The **updated (February 2021)** attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. **Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.**

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 its 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.

The 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 the proposed project**, the MECP is delegating the procedural aspects of rights-based consultation to the proponent 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 provided to date and the Crown`s preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River (Elected Council and Haudenosaunee Confederacy Chiefs Council with a copy to Haudenosaunee Development Institute)

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process". Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information, including the MECP's expectations for EA report documentation related to consultation with communities.

The proponent must contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) under the following circumstances subsequent to initial 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 with Indigenous communities or other stakeholders has reached an impasse
- A Part II Order request is expected on the basis of impacts to Aboriginal or treaty rights

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

A draft copy of the report should be sent directly to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's West Central Region EA notification email account (eanotification.wcregion@ontario.ca) after the draft report is reviewed and finalized.

Should you or any members of your project team have any questions regarding the material above, please contact me at joan.delvillarcuicas@ontario.ca or 365-889-1180.

Yours truly,

Joan Del Villar C
Regional Environmental Planner – West Central Region

cc Katy Potter, Supervisor, Environmental Assessment Services, MECP
Kim Groombridge, Niagara District Manager, MECP
Kristen Farrell, Communication Coordination, GM BluePlan Engineering Limited

Attach: Areas of Interest
A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with Aboriginal Communities

AREAS OF INTEREST (v. February 2021)

It is suggested that you check off each section after you have considered / addressed it.

☐ **Planning and Policy**

- Projects located in MECP Central Region are subject to **A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020).** Parts of the study area may also be subject to the Oak Ridges Moraine Conservation Plan (2017), Niagara Escarpment Plan (2017), Greenbelt Plan (2017) or Lake Simcoe Protection Plan (2014). Applicable plans and the applicable policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.

- The **Provincial Policy Statement (2020)** contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.

- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

☐ **Source Water Protection**

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**

    - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.

- If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.

- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.

- In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: http://www.applications.ene.gov.on.ca/swp/en/index.php. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the "Map Legend" bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.

- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information
For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to Conservation Ontario's website where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

Climate Change

The document "Considering Climate Change in the Environmental Assessment Process" (Guide) is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

- **The MECP expects proponents of Class EA projects to:**

1. Consider during the assessment of alternative solutions and alternative designs, the following:
    a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
    b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "Community Emissions Reduction Planning: A Guide for Municipalities" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

Air Quality, Dust and Noise

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**

- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:

    - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
    - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
    - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
    - A discussion of potential mitigation measures.

- As a common practice, "air quality" should be used an evaluation criterion for all road projects.

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.

- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to *Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities* report prepared for Environment Canada. March 2005.

- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.

- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:

- Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
- Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
- Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, you may consider the provisions of the Rouge Park Management Plan if applicable.

Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at https://www.ontario.ca/page/species-risk.

- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.

- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

Surface Water

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's Stormwater Management Planning and Design Manual (2003) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:

    - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
    - Watershed information, drainage conditions, and other relevant background information
    - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
    - Information on maintenance and monitoring commitments.

- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.

- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.

- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.

- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.

- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the Water Taking User Guide for EASR for more information.

- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled "On-Site and Excess Soil Management" (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don't go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit https://www.ontario.ca/page/handling-excess-soil.

- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "Management of Excess Soil – A Guide for Best Management Practices" (2014).

- All waste generated during construction must be disposed of in accordance with ministry requirements

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the MECP's D-4 guideline for land use considerations near landfills and dumps.
    - Resources available may include regional/local municipal official plans and data; provincial data on large landfill sites and small landfill sites; Environmental Compliance Approval information for waste disposal sites on Access Environment.

- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's website).

- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.

- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.

- We recommend referring to the ministry's environmental land use planning guides to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.

- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).

- Please include the full stakeholder distribution/consultation list in the documentation.

Class EA Process

- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the Environmental Assessment Act, although the plan itself would not be. **Please include a description of the approach being undertaken (use Appendix 4 as a reference).**

- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.

- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.

- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.

- Ministry guidelines and other information related to the issues above are available at http://www.ontario.ca/environment-and-energy/environment-and-energy. We encourage you to review all the available guides and to reference any relevant information in the report.

Amendments to the EAA through the Covid-19 Economic Recovery Act, 2020

Once the EA Report is finalized, the proponent must issue 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. The Notice of Completion must be sent to the appropriate MECP Regional Office email address (for projects in MECP Southwest Region, the email is eanotification.swregion@ontario.ca).

The public has the ability to request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. 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.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent 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 the project.

Please ensure that the Notice of Completion advises 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
EABDirector@ontario.ca

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 documentation;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigates 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.

Samantha Morrisey - GM BluePlan

From: Laura Verhaeghe - GM BluePlan
Sent: Wednesday, June 15, 2022 8:51 AM
To: Tansony, Cheryl (NDMNRF)
Cc: albert.succi@niagararegion.ca; Laurie Boyce - GM BluePlan; Laven, Amaraine (NDMNRF); Danielle MacKinnon - GM BluePlan
Subject: RE: Notice of Study Commencement and Public Information Centre No. 1 - Biosolids Management Master Plan Update

Good Morning Cheryl,

Thank you for your response below. We will keep you informed of updates related to the Biosolid Management Master Plan, and ensure you have opportunities to provide feedback as we progress through the study.

Best Regards,

Laura Verhaeghe, P.Eng.
Project Manager

GM BluePlan Engineering Limited
650 Woodlawn Road West, Block C, Unit 2 | Guelph ON N1K 1B8
t: 519.824.8150 ext. 1256 | c: 226.500.4771
laura.verhaeghe@gmblueplan.ca | www.gmblueplan.ca

From: Tansony, Cheryl (NDMNRF) <Cheryl.Tansony@ontario.ca>
Sent: Tuesday, June 14, 2022 4:02 PM
To: Kristen Farrell - GM BluePlan <Kristen.Farrell@gmblueplan.ca>
Cc: albert.succi@niagararegion.ca; Laurie Boyce - GM BluePlan <Laurie.Boyce@gmblueplan.ca>; Laura Verhaeghe - GM BluePlan <Laura.Verhaeghe@gmblueplan.ca>; Laven, Amaraine (NDMNRF) <Amaraine.Laven@ontario.ca>
Subject: RE: Notice of Study Commencement and Public Information Centre No. 1 - Biosolids Management Master Plan Update

Good afternoon,

Staff of the Niagara Escarpment Commission have received the Notice of Study Commencement for this project. We wish to be involved in this study, as the Queenston WWTP and Decew Falls WTP are within the Niagara Escarpment Plan Area and Area of Development Control.

For further information regarding the Niagara Escarpment Plan, please consult our website.
Niagara Escarpment Plan - Niagara Escarpment Commission

Kind regards,

Cheryl Tansony
Senior Planner | Niagara Escarpment Commission
232 Guelph Street, Georgetown, Ontario, L7G 4B1

905-703-5354 | www.escarpment.org

Niagara Escarpment Commission
An agency of the Government of 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.

The NEC offices are now open to the public in a limited capacity. In order to ensure a safe and secure environment for staff and clients, the NEC **requires** that you make an appointment to meet with staff in person. Alternatively, the NEC will continue to provide services via telephone and email. Updates can be found on our website: https://escarpment.org/covid-19-update/

From: Kristen Farrell - GM BluePlan <Kristen.Farrell@gmblueplan.ca>
Sent: May 25, 2022 2:52 PM
To: Kristen Farrell - GM BluePlan <Kristen.Farrell@gmblueplan.ca>
Cc: albert.succi@niagararegion.ca; Laurie Boyce - GM BluePlan <Laurie.Boyce@gmblueplan.ca>; Laura Verhaeghe - GM BluePlan <Laura.Verhaeghe@gmblueplan.ca>
Subject: Notice of Study Commencement and Public Information Centre No. 1 - Biosolids Management Master Plan Update

Good Afternoon,

Niagara Region has initiated the **Biosolids Management Master Plan Update** that will identify and develop a strategy for meeting Niagara's biosolids treatment needs to the year 2051.

Please find attached the Notice of Study Commencement and Public Information Centre No. 1 which contains further details about the study and the upcoming virtual Public Information Centre commencing **Wednesday June 8, 2022**. You are invited to attend to ask questions and provide input to the study.

As part of the study's consultation program, you are currently included in the study contact list. If you wish to be removed or would like to suggest an alternative representative, please contact the undersigned. Should we not hear from you, your details will remain on the study contact list and you will be notified of all future consultation opportunities during the undertaking of this study.

Should you have any comments or questions, please contact Albert Succi, Senior Project Manager (niagarabiosolidsmp@niagararegion.ca).

Sincerely,

Kristen Farrell, EPt
Communications Coordinator

GM BluePlan Engineering Limited
1266 South Service Road, Unit C31 | Stoney Creek, ON L8E 5R9
c: 289-442-2979
kristen.farrell@gmblueplan.ca | www.gmblueplan.ca

From:	Samantha Morrisey - GM BluePlan
To:	Kelly Walsh
Cc:	GStojanovic; Chris Pisaric; Laura Verhaeghe - GM BluePlan
Subject:	RE: Invitation: Niagara Region 2021 Biosolids Management Master Plan (Apr 21 10:00 AM EDT in Microsoft Teams Meeting)
Date:	Thursday, April 06, 2023 12:40:00 PM
Attachments:	image001.jpg

Hi Kelly

Thank you for your email regarding the Niagara Region 2021 Biosolids Management Master Plan

I have forwarded the meeting invite to George and Chris – of course let me know if there are any issues with accessing the meeting link and if you would like me to forward the invite along to anyone else

PIC No.1 materials are posted on the dedicated project website for review – this includes a video presentation with slides. Please see below for the website link

2021 Biosolids Management Master Plan Project Website : https://niagararegion.ca/projects/biosolids-master-plan

Additionally, if you would like to submit comments to us in writing ahead of the meeting, we can ensure they are addressed within the presentation

Thank you and hope you all have a great long weekend!
Sam

Samantha Morrisey, EIT
Asset Management

GM BluePlan Engineering Limited
1266 South Service Rd, Unit C3-1 | Stoney Creek, ON L8E 5R9
c:1-905-517-1304
samantha.morrisey@gmblueplan.ca | www.gmblueplan.ca

From: Kelly Walsh <KWalsh@forterie.ca>
Sent: Thursday, April 06, 2023 9:31 AM
To: Samantha Morrisey - GM BluePlan <samantha.morrisey@gmblueplan.ca>
Cc: GStojanovic <GStojanovic@forterie.ca>; Chris Pisaric <CPisaric@forterie.ca>
Subject: Re: Invitation: Niagara Region 2021 Biosolids Management Master Plan (Apr 21 10:00 AM EDT in Microsoft Teams Meeting)

Samantha,

I don't think anyone from Fort Erie attended the intial meetings or PIC.

We do have concerns with the program though. Please send this invite to both George Stojanovic and Chris Pisaric, Managers of Roads and Water/Wastewater respectively. Same email format as mine.

Kelly M. Walsh, P. Eng.
Director, Infrastructure Services
The Corporation of the Town of Fort Erie
1 Municipal Centre Drive | Fort Erie, ON | L2A 2S6
W: 905-871-1600 ext. 2400

Invitation: Niagara Region 2021 Biosolids Management Master Plan

2023-04-21 Fri 10:00 AM - 12:00 PM

Attendance is required for Kelly Walsh

Chair	samantha.morrisey@gmblueplan.ca
Location	Microsoft Teams Meeting

samantha.morriseyhas invited you to a meeting. You have not yet responded.

Required	Laura.Verhaeghe@gmblueplan.ca, jim.harnum@municipalvu.ca, Jason.oatley@niagararegion.ca, robert.daw@niagararegion.ca, brad.stewart@niagararegion.ca, josh.macarthur@niagararegion.ca, geoff.holman@thorold.com, bwartman@grimsby.ca, mingebrigtsen@grimsby.ca, wbasic@grimsby.ca, enickel@niagarafalls.ca, studini@niagarafalls.ca, kschachowskoj@niagarafalls.ca, aherlovitch@niagarafalls.ca, bchambers@niagarafalls.ca, kdren@niagarafalls.ca, bdick@niagarafalls.ca, sfelicetti@niagarafalls.ca, jguarasci@niagarafalls.ca, jmarr@pelham.ca, bwiens@pelham.ca, chris.kalimootoo@portcolborne.ca, Steve.Shypowskyj@portcolborne.ca, dan.aquilina@portcolborne.ca, david.schulz@portcolborne.ca, amartuccio@stcatharines.ca, tkitay@stcatharines.ca, rnan@wainfleet.ca, ssmith@wainfleet.ca, sherri-marie.millar@welland.ca, dgraham@lincoln.ca, kdale@lincoln.ca, Kelly Walsh/FortErie, smcgean@westlincoln.ca, jbernard@westlincoln.ca, rvachon@westlincoln.ca, gboerema@westlincoln.ca, kmccauley@notl.org, jeff.vyse@notl.com, Mike.Komljenovic@notl.com, Brett.Ruck@notl.com, Joan.DelVillarCuicas@ontario.ca, kim.groombridge@ontario.ca, lisa.myslicki@infrastructureontario.ca, colleen.fitzgerald-hubble@ontario.ca, mgruosso@niagaraparks.com, Cheryl.Tansony@ontario.ca, aaldworth@npca.ca, smiller@npca.ca, jdiamond@npca.ca, ngreen@npca.ca

Good Afternoon,

Niagara Region is undertaking a Region-wide Biosolids Management Master Plan (BMMP) Update for the future management of biosolids from each of the Region's water and wastewater treatment plants to the year 2051. The first PIC to introduce the study and approach was held virtually in June 2022. Since that time, our team has developed and evaluated alternative biosolids

management strategies. On April 21, we would like to present our preliminary strategy evaluation results and proposed implementation plan. This will provide an opportunity for local area municipalities and agencies to ask questions and offer feedback on the preferred strategy before we present this information to a greater audience through PIC 2.

Please forward this meeting invite along to others on your team that may be interested.

For further details on this study, please visit the Region's website at this link:
https://niagararegion.ca/projects/biosolids-master-plan

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting
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Learn More | Meeting options

Biosolids Management Master Plan Update

Agenda

1. Introductions
2. Background and Objectives
3. Study Area and Existing Conditions
4. Biosolids Management Strategies and Evaluation
5. Preliminary Recommended Strategies
6. Schedule and Next Steps

Meeting Objectives

1. Update Local Area Municipalities and Agencies on the Region's Biosolids Master Plan
2. Present biosolids management strategies, evaluation and preferred approach
3. Obtain feedback on preferred strategy

Introductions

STEERING COMMITTEE

Jason Oatley
Project Manager

Brad Stewart
Biosolids Manager

Robert Daw
Director of Wastewater Operations

CONSULTING TEAM

Zhifei Hu
Black & Veatch
Technical Lead

Laura Verhaeghe
GM BluePlan
Project Manager

Laurie Boyce
L3
Senior Advisor

Mark Lang
Black & Veatch
Market Assessment and Treatment Technology Lead

Brad Young
CIMA+
Process Engineer

Jim Harnum
Municipal VU
Communications Lead

Background and Objectives

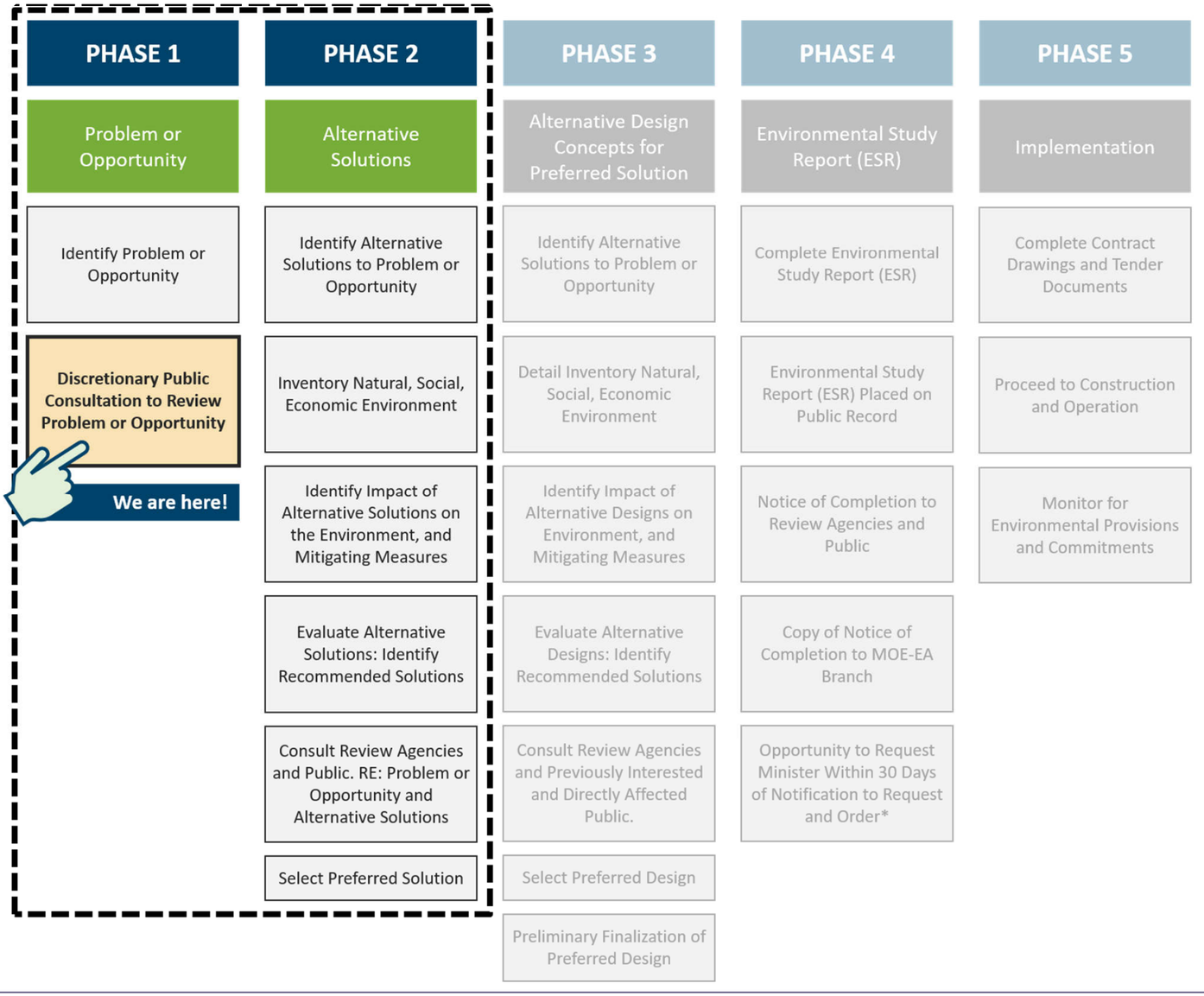
The Niagara Region is undertaking a region-wide **Biosolids Management Master Plan (BMMP) Update** for the future management of biosolids from each of the Region's water and wastewater treatment plants.

As Niagara Region continues to grow, we need to make sure that we plan our infrastructure and services to meet increasing demands. More people means more wastewater, which also means more biosolids and a higher demand for treatment and management of these materials. This project will also build upon the recommendations in the 2010 BMMP, by considering regulatory and environmental changes since its implementation. As part of Niagara Region's planning activities, the BMMP will continue to be updated every ten years.

Project Approach

This project is following the Class Environmental Assessment (EA) process for Master Plan Projects, which is a decision-making process that all Ontario municipalities follow for rehabilitating and building new infrastructure.

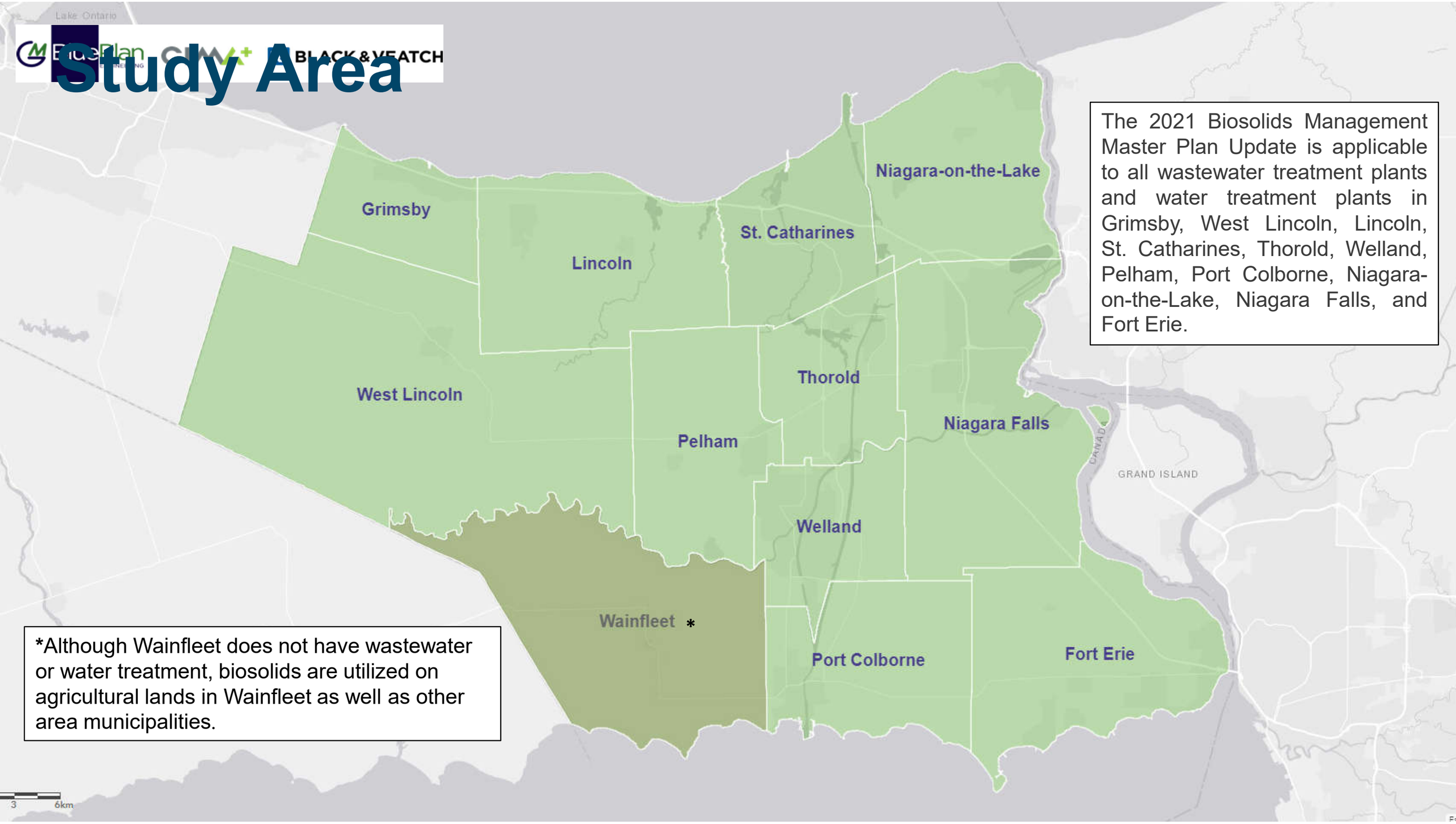
The 2021 BMMP follows the Municipal Engineers Association (MEA) Class Environmental Assessment (EA) process for Master Plans and will satisfy Phases 1 and 2 of the Class EA process.



Problem and Opportunity Statement

The purpose of the Biosolids Management Master Plan Update is to develop a holistic, long-term strategy for biosolids management in Niagara in a manner that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible.

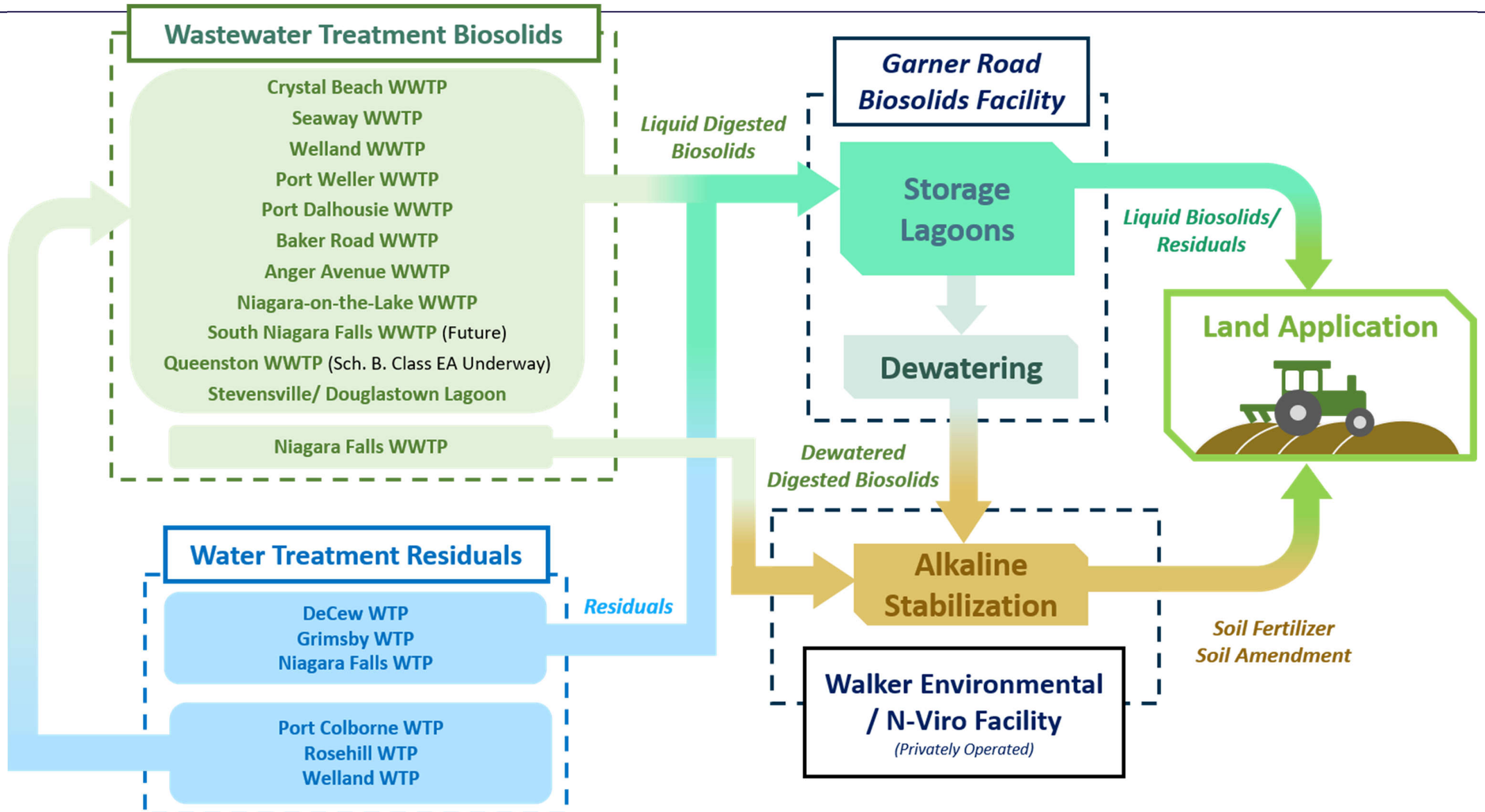
Study Area



The 2021 Biosolids Management Master Plan Update is applicable to all wastewater treatment plants and water treatment plants in Grimsby, West Lincoln, Lincoln, St. Catharines, Thorold, Welland, Pelham, Port Colborne, Niagara-on-the-Lake, Niagara Falls, and Fort Erie.

*Although Wainfleet does not have wastewater or water treatment, biosolids are utilized on agricultural lands in Wainfleet as well as other area municipalities.

Existing Biosolids Management System



Existing Beneficial Uses Program
Liquid Biosolids Management

Garner Road Biosolids Facility

Liquid biosolids and residuals (~50% of biosolids produced in Niagara Region) are:

1. Hauled to the Garner Road Biosolids Facility by Third Party Contractor (currently Thomas Nutrient Solutions),
2. Stored and thickened in lagoons at the Garner Road Biosolids Facility,
3. Hauled away and applied as a liquid fertilizer to agricultural land by Third Party Contractor (currently Thomas Nutrient Solution)

Land application of biosolids

Existing Beneficial Uses Program
Dewatered Biosolids Management

Walker Environmental (N-Viro) Facility

Dewatered biosolids from the Garner Road Biosolids Facility and Niagara Falls WWTP (~50% of biosolids produced in Niagara Region) are:

1. Hauled to the Walker Environmental Facility in Niagara Falls.

2. Treated using alkaline stabilization (N-Viro process) to produce a high solids, nutrient rich soil-like product (N-Rich)

3. Hauled away and applied as a solid cake fertilizer to agricultural land by Third Party Contractor. Approximately 30% (8,000 – 10,000 metric tonnes) of N-Rich product is utilized in Niagara.

Alternative Evaluation Approach

Step 1

Develop Long List of Alternatives

- Treatment Technologies
- End Use Markets

Step 2

Screen Long Lists based on "Must Have Criteria" to develop short lists

Step 3

Develop Alternative Biosolids Management Strategy

Combine short-listed technologies and end use markets to create strategies

Step 4

Detailed Evaluation of Biosolids Management Strategies

Step 5

Recommend and Develop Biosolids Management Plan

- Service Delivery Options (3rd party vs In House)
- Sewer Use By Law Changes
- Infrastructure and operational requirements at WWTPs, WTPs and Garner Road Facility
- Implementation and Contingency Plans

Step 1 – Develop Long List of Biosolids End Use Markets

Beneficial Reuse

- Agriculture, Silviculture and Horticulture
- Parks and Recreation Departments
- Ontario Ministry of Transportation
- Landscape Contractors
- Golf Courses
- Land Rehabilitation
- Co-management with Source Separated Organics
- Fuel Additives (ie. syngas, biochar).

Disposal

- Landfill

Step 2 – Screen Long List of Biosolids End Use Markets

	Market Availability		Compatibility with Current Program		Long Term Reliability and Sustainability		Implementable		Screening Results
Agricultural, Silviculture and Horticulture	✓	Pass	✓	Pass	✓	Pass	✓	Pass	Carried Forward
Parks and Recreation Department	✓	Pass	✓	Pass	✓	Pass	✓	Pass	Carried Forward
Ontario Ministry of Transportation	✗	Fail	✓	Pass	✓	Pass	✓	Pass	Screened Out
Landscape Contractors	✓	Pass	✓	Pass	✓	Pass	✓	Pass	Carried Forward
Golf Courses	✓	Pass	✓	Pass	✓	Pass	✓	Pass	Carried Forward
Land Rehabilitation	✗	Fail	✓	Pass	✗	Fail	✓	Pass	Screened Out
Co-management with Source Separated Organics	✓	Pass	✓	Pass	✓	Pass	✓	Pass	Carried Forward
Fuel Additions (ie. Syngas)	?	Further Review	✓	Pass	✓	Pass	?	Further Review	Carried Forward
Landfill	✗	Fail	✓	Pass	✗	Fail	✓	Pass	Screened Out

Step 1 – Develop Long List of Biosolids Treatment Technologies

- **Biological Digestion Technologies**
  - Anaerobic Digestion *(existing conditions)*
  - Thermal Hydrolysis Process Post-Anaerobic Digestion
- **Composting**
  - Windrow
  - Aerated Static Pile
  - Agitated Bin
- **Thermal Conversion Technologies**
  - Incineration
  - Gasification
  - Pyrolysis
  - Wet Oxidation
  - Hydrothermal Liquification
- **Thermal Drying Technologies**
  - Direct Contact (Convection)
    - Rotary Drum
    - Belt Dryer
    - Fluidized Bed
  - Indirect Contact (Conduction)
    - Paddle / Disc
    - Solar Dryer
- **Chemical Stabilization Technologies**
  - Alkaline Stabilization
    - Alkaline Stabilization
    - Alkaline Stabilization with Supplement Heat or Acid *(existing conditions)*
    - Alkaline Stabilization with Heat and High-Speed Mixing

Step 2 – Screen Long List of Biosolids Treatment Technologies

		1. Maturity of Technology	2.Compatibility with Existing and Future Site Development and Biosolids End Use Markets	3. Proven Applicability at Similar Scale Facilities	4. Implementable	Consider for Detailed Evaluation
Biological Digestion Technologies	Thermal Hydrolysis Post-Treatment (THP)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
Thermal Drying Technologies	Direct Thermal Dryer (Drum Dryer, Belt Dryer)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Fluidized Bed Dryer	✓ Pass	✓ Pass	✗ Fail	✗ Fail	Screened Out
	Indirect Thermal Dryer (Paddle Dryer, Disc Dryer)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Solar Dryer	✓ Pass	✓ Pass	✗ Fail	✗ Fail	Screened Out
Chemical Stabilization Technologies	Alkaline Stabilization	✓ Pass	✓ Pass	✓ Pass	✗ Fail	Screened Out
	Alkaline Stabilization with Supplemental Heat or Acid	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Alkaline Stabilization with Supplemental Heat and High-Speed Mixing	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
Composting Technologies	Composting (Open Technologies Aerated Static Pile and Windrow Composting)	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
Thermal Conversion Technologies	Incineration	✓ Pass	✓ Pass	✓ Pass	✓ Pass	**Carried Forward**
	Gasification	✗ Fail	✓ Pass	✗ Fail	✗ Fail	Screened Out
	Pyrolysis	✗ Fail	✓ Pass	✗ Fail	✗ Fail	Screened Out
	Wet Oxidation	✗ Fail	✓ Pass	✗ Fail	✗ Fail	Screened Out
	Hydrothermal Liquification	✗ Fail	✓ Pass	✗ Fail	✗ Fail	Screened Out

Step 2 – Results of Biosolids Treatment Technologies Screening and Associated Products

Short-Listed Biosolids Technologies	Anaerobic Digestion	Thermal Hydrolysis Post-Treatment	Direct Thermal Dryer	Alkaline Stabilization with supplemental heat	Composting	Incineration
Associated Products	• Liquid biosolids • Dewatered biosolids (when combined with dewatering)	• Fertilizer	• Fertilizer	• Fertilizer	• Compost product	• Residual Ash

Technologies currently in use for biosolids produced in Niagara Region

Step 3 – Develop Alternative Biosolids Management Strategies

	Management Alternative	Process	Product	Final User
Strategy 1	Beneficial Use on Land	AD	Stabilized Liquid biosolids	Land application with liquid biosolids
Strategy 2		AD + Dewatering	Stabilized Biosolids Cake	Land application with biosolids cake
Strategy 3		AD+ Advanced Digestion + Dewatering	Fertilizer quality Cake	Land application of cake / un-restricted use
Strategy 4		AD + Dewatering + Advanced Alkaline Stabilization	Fertilizer / soil amendment	Un-restricted use on land
Strategy 5		AD + Dewatering + Composting	Compost	Un-restricted use on land
Strategy 6		AD + Dewatering + Drying	Dried Product	Un-restricted use on land or fuel source
Strategy 7	Thermal Processing	AD + Dewatering + Incineration	Ash	Ash beneficial use + landfill

Strategy 0 – "Do Nothing" was screened out as it does not pass criteria for 'Long Term Sustainability and Reliability' due to capacity limitations in existing system to process future biosolids quantities.

AD = Anaerobic Digestion

Step 4 - Detailed Evaluation Criteria

Natural Environment

- Terrestrial Systems
- Aquatic Systems
- Surface Water Quality
- Groundwater Quality, Quantity and source water protection
- Soil Quality
- Air Quality/GHG

Technical Considerations

- Performance
- Sustainability
- Ease of Operation
- Resiliency
- Ease of Implementation
- Compatibility with existing infrastructure
- Energy use and recovery
- Climate change adaptability
- Permits and Approvals

Socio-Cultural Environment

- Odour
- Noise/Vibrations during operation
- Visual/Aesthetics
- Truck Traffic
- Disruption during Construction
- Property Acquisition and Easements
- Recreational Use and Users
- Agricultural Land Users
- Human health and well being
- Existing and Future Adjacent Land Use Compatibility
- Archaeology / Cultural Heritage

Economic Considerations

- Capital Cost
- Operating and Maintenance Cost
- Life Cycle Costs
- Best Use of Existing Investments

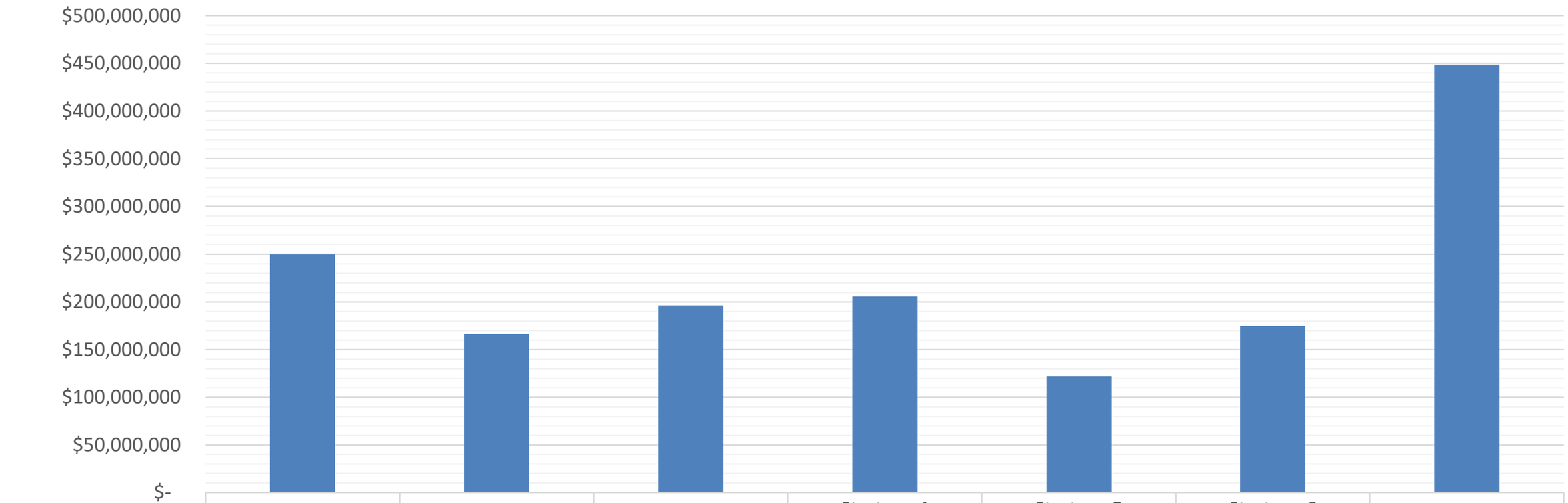
Approach: Equal weighting initially followed by sensitivity analysis prioritizing different criteria categories

Step 4 – Detailed Evaluation Results

LEGEND
Good / Low Impact
Neutral / Moderate Impact
Poor / High Impact

Key Differentiating Criteria	**Strategy 1:** AD + Liquid Biosolids Land Application	**Strategy 2:** AD + Dewatering + Cake Land Application	**Strategy 3:** AD + Advanced Stabilization (THP) + Fertilizer Quality Product	**Strategy 4:** AD + Dewatering + Advanced Alkaline Treatment	**Strategy 5:** AD + Dewatering + Composting + Product Distribution	**Strategy 6:** AD + Dewatering + Thermal Drying + Product Distribution	**Strategy 7:** AD + Dewatering + Thermal Processing (Incineration)
Greenhouse Gas Emissions							
Nutrient Recovery and Potential for Beneficial Reuse by Agricultural Users							
Proven Performance							
Odour at Garner Road Facility							
Truck Traffic							
Long Term Sustainability							
Ease of Operation							
Resiliency							
Ease of Implementation							
Life Cycle Cost							
RANKING	**3**	**2**	**5**	**1**	**6**	**4**	**7**

Step 4 – Detailed Evaluation Results - Costs



	Strategy 1 (Liquid Land App)	Strategy 2 (Dewater+Cake Land App)	Strategy 3 (Dewater+THP+Fertilizer Product)	Strategy 4 (Dewater+Advanced Alkaline Treatment)	Strategy 5 (Dewater+Compost+Product Distribution)	Strategy 6 (Dewater+Thermal Drying+Product Distribution)	Strategy 7 (Dewater+Incineration+Ash Disposal)
30Yr. Life Cycle Cost	$249,674,000	$166,542,000	$196,450,000	$205,903,000	$121,941,000	$174,595,000	$448,766,000
Cost per Dry Tonne (based on O&M only)	$819/dt	$439/dt	$278/dt	$597/dt	$308/dt	$328/dt	$632/dt

Average $/dry tonne (dt) for current program (2014 – 2016) = $647/dt

Step 4 – Detailed Evaluation Results - RANKING

Develop implementation plan to incorporate top 3 strategies

1	**Strategy 4:** AD + Dewatering + Advanced Alkaline Treatment + Fertilizer Quality Product
2	**Strategy 2:** AD + Dewatering + Cake Land Application
3	**Strategy 1:** AD + Liquid Biosolids Land Application
4	**Strategy 6:** AD + Dewatering + Thermal Drying + Product Distribution
5	**Strategy 3:** AD + Advanced Stabilization (THP) + Fertilizer Quality Product
6	**Strategy 5:** AD + Dewatering + Composting + Product Distribution
7	**Strategy 7:** AD + Dewatering + Thermal Processing

AD = Anaerobic Digestion

Step 5 – Preliminary Recommendations and Implementation

Short Term Solution (1-3 years)

- Conduct pilot study involving local farmers and third-party Biosolids Management Contractor to assess feasibility of direct land application of cake
- Use the Region's portable centrifuge for temporary dewatering at Garner Road when existing centrifuges are unavailable
- Continue transporting dewatered cake to N-Viro from Garner Road and Niagara Falls WWTP

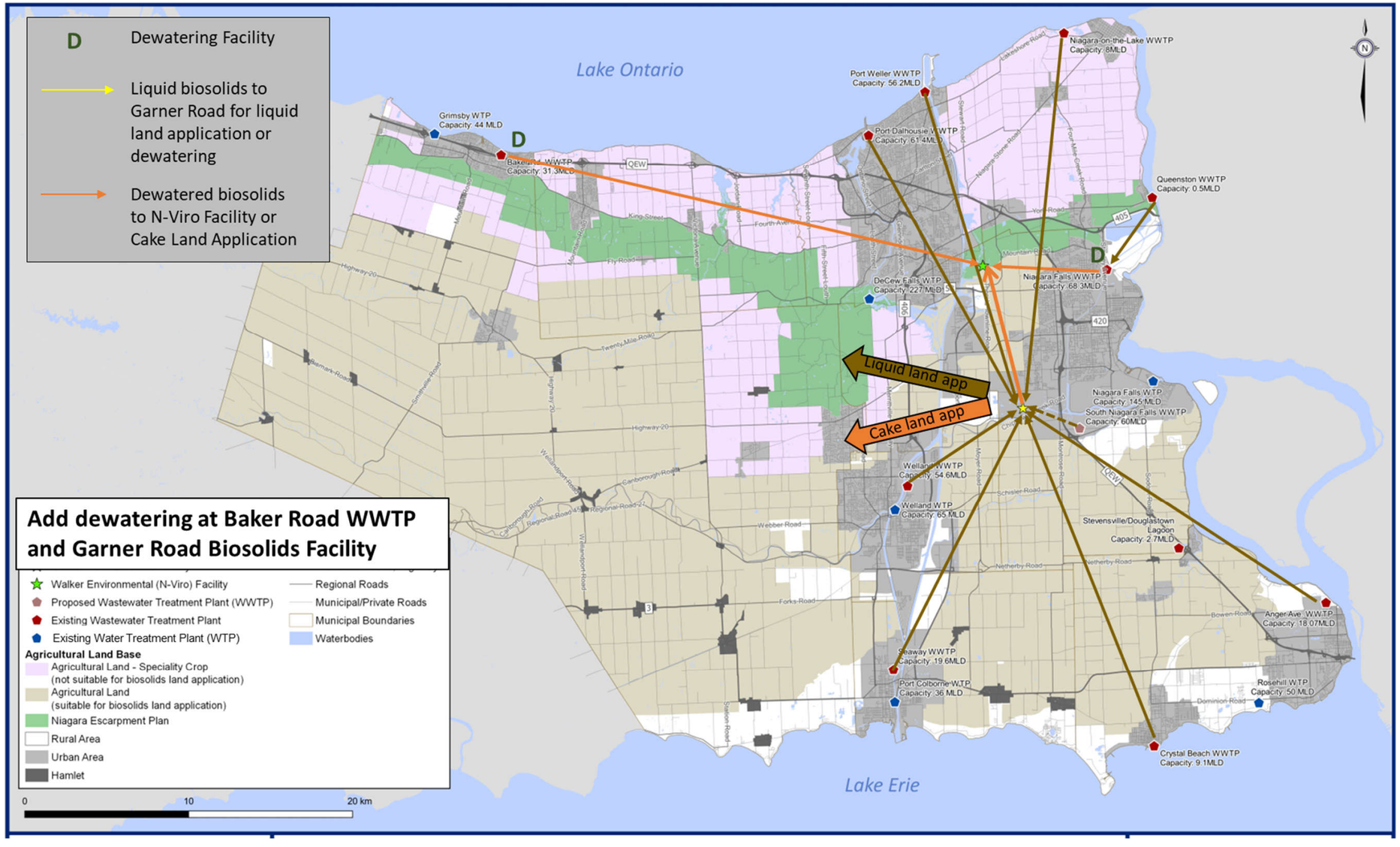
Mid Term Solution (3-5 years)

- Add biosolids dewatering at the Baker Road WWTP

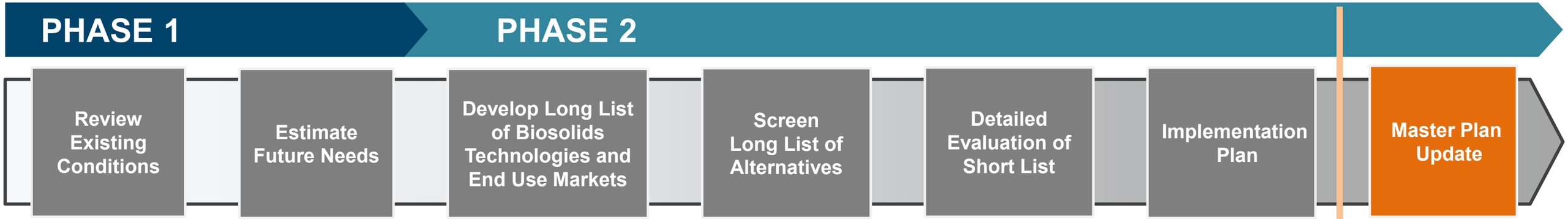
Long-Term Solution (5+ Years)

- Construct additional dewatering capacity at Garner Road, which may incorporate flows from Niagara Falls (NF) WWTP once the dewatering system at the NF WWTP reaches end of useful life
- Construct cake storage facility at Garner Road if the pilot program confirms feasible / acceptance
- Continue liquid storage at Garner Road to maximize flexibility

Step 5 – Preliminary Recommendations and Implementation



Project Schedule



Questions?

REGION OF NIAGARA
2021 BIOSOLIDS MANAGEMENT MASTER PLAN UPDATE
GMBP File No. 621143
LOCAL AREA MUNICIPALITY AND AGENCY WORKSHOP

DATE: Friday April 21, 2023, 10:00 am – 12:00 pm

LOCATION: Microsoft Teams

INVITED:

Jason Oatley (JO)	Region of Niagara, Project Manager
Josh Macarthur (JM)	Region of Niagara
Brad Stewart (BS)	Region of Niagara
Laura Verhaeghe (LV)	GM BluePlan, Project Manager
Jim Harnum (JH)	Municipal VU Consulting
George Stojanovic (GS)	Town of Fort Erie
Chris Pisaric (CP)	Town of Fort Erie
Lyndsay Dunville (LD)	Ministry of the Environment, Conservation and Parks
Taylor Buck (TB)	Ministry of the Environment, Conservation and Parks
Kent Schachowskoj (KS)	City of Niagara Falls
Adam Allcock (AA)	City of Niagara Falls
Mike Komljenovic (MK)	MNRF
Amaraine Laven (AL)	MNRF
Darren MacKenzie (DMK)	Town of Niagara-on-the-Lake
Brett Ruck (BR)	Town of Niagara-on-the-Lake
Tray Benish (TB)	Township of West Lincoln
Marvin Ingebrigtsen (MI)	Town of Grimsby
Geoff Holman (GH)	City of Thorold
Sherri-Marie Millar (S-MM)	City of Welland
Anthony Martuccio (AM)	City of St.Catharines
Mark Green (MG)	City of St. Catharines
Dale McComb (DMc)	OMAFRA
Dawn Macarthur (DM)	Niagara Region

REGRETS:

Brandon Wartman	Town of Grimsby
Jason Marr	Town of Pelham
Steve Shypowskyj	City of Port Colborne
Anthony Martuccio	City of St.Catharines
Jennifer Bernard	Township of West Lincoln
Colleen Fitzgerald-Hubble	Ministry of Agriculture, Food and Rural Affairs
Kirsten McCauley	Town of Niagara-on-the-Lake
Matt Bruder	Town of Lincoln
Rome D'Angelo	Town of Niagara-on-the-Lake
Cale Selby	(OMAFRA)

Objectives:

1. Update Local Area Municipalities and Agencies on the Region's 2021 Biosolids Master Plan
2. Present biosolids management strategies, evaluation and preferred approach
3. Obtain feedback on preferred strategy

	Action Item
1. Introductions • JO introduced Region staff; JO is Project Manager, BS is Biosolids Manager, RD is Director of Wastewater • LB introduced consultant team members • Objectives of meeting to updated local area municipalities (LAM) and Agencies on the Region's Biosolids Master Management Plan (BMMP), present biosolids management strategies, evaluation and preferred approach and obtain feedback on the preferred strategy	
2. Background and Objectives • Niagara Region is growing which means more wastewater which also mean more biosolids and a higher demand for treatment and management of these materials • The project builds upon the recommendations in the 2010 BMMP by considering regulatory and environmental changes since its implementation and continue to be updated every ten (10) years • This study follows the Class Environmental Assessment process for Master Plans, which identifies the problem or opportunity, develops and evaluates alternative solutions and consults with the public and other stakeholders. • The purpose of this Biosolids Management Master Plan Update is to develop a holistic, long-term strategy for biosolids management in Niagara in a manner that is transparent, sustainable, reliable, environmentally friendly, cost-effective and flexible	

3. Study Area and Existing Conditions

Study Area (Slide 7)

- The study area encompasses the entirety of Niagara Region and considers all the biosolids produced within the Region.

Existing Biosolids Management System (Slide 8)

- The existing biosolids management system involves sending biosolids from their wastewater treatment plants (WWTPs) to the Garner Road Biosolids Facility in Niagara Falls for further processing. Some Water Treatment Plants (WTP) connect to the sanitary sewer system and the solid residuals from these plants are conveyed through the sewer to a nearby WWTP.
- For the WTPs that are not connected to the sewer system, residual solids are trucked to Garner Road Facility for blending with the wastewater biosolids. Lagoons on the Garner Road property are used to thicken the liquid biosolids.
- The thickened liquid biosolids can then be land applied directly, while the remaining biosolids are dewatered using centrifuges to produce a much dryer “cake-like” material that is then sent off –site to a privately owned alkaline stabilization facility.
- Niagara Falls WWTP has a centrifuge for dewatering biosolids in which the dewatered cake from the site is trucked off site to a privately owned alkaline stabilization facility.

Existing Beneficial Uses Program (Slides 9 / Slide 10)

- Liquid biosolid and residuals make up about 50% of the total biosolids produced in the Region which are hauled by a third-party contractor to the Garner Road Facility where they are stored and thickened in lagoons. They are then land applied as a liquid on agricultural land
- Dewatered biosolids from the Garner Road Facility and Niagara Falls WWTP make up the remaining 50% of biosolids produced. They biosolids are hauled to a privately owned biosolids management center in Niagara Falls where they are processed using alkaline stabilization. The high solids, nutrient-rich product is then land applied as a fertilizer.

4. Biosolids Management Strategies and Evaluation

Alternative Evaluation Approach (Slide 11)

- The approach to developing the preferred biosolids management strategy consisted of five (5) key steps

Step 1 - Develop Long List of End Use Markets (Slide 12)

- The long list of end use markets consisted of the following two categories:
  - Beneficial Reuse
  - Disposal

Step 2 – Screen Long List of Biosolids End Use Markets (Slide 13)

- The long list of end use markets was screened against key screening criteria and alternatives that did not meet the requirements were emitted from further evaluation.
- End use markets that were carried forward included:
  - Agricultural, Silviculture and Horticulture
  - Parks and Recreation Department
  - Landscape Contractors
  - Golf Courses
  - Co-management with Source Separated Organics
  - Fuel Additives

Step 1 – Develop Long List of Biosolids Treatment Technologies (Slide 14)

- The long list of technologies includes biological digestion, thermal conversion, thermal drying, composting and chemical stabilization technologies.

Step 2 – Screen Long List of Biosolids Treatment Technologies (Slide 15)

- The long list of biosolid treatment technologies was screened against key screening criteria and alternatives that did not meet the requirements were emitted from further evaluation.
- Biosolid treatment technologies that were carried forward included:
  - Thermal hydrolysis post-treatment
  - Direct and indirect thermal drying
  - Alkaline stabilization with supplemental heat
  - Acid or high-speed mixing
  - Composting
  - Incineration

Step 2 – Results of Biosolids Treatment Technologies Screening and Associated Products (Slide 16)

- Each short-listed technology results in a specific product. The Region is currently using anaerobic digestion and alkaline stabilization that result in products that are land applied.

Step 3 – Develop Alternative Biosolids Management Strategies (Slide 17)

- From the short-listed technologies, and their associated products and compatible end use markets, seven (7) biosolid management strategies were developed
- 'Do Nothing" option was considered but screened out as the existing biosolids infrastructure does not have the capacity to meet future needs to 2051

Step 4 – Detailed Evaluation Criteria (Slide 18)

- The following four (4) criteria were used to complete a detailed evaluation on each of the biosolid management strategies:
  - Natural Environment

- Technical Considerations
- Socio-Cultural Environment
  - LV noted that with initial consultation with the Public and Local Area Municipalities highlighted that truck traffic was a major concern of the BMMP and was incorporated into the evaluation criteria
- Economic Considerations

- A second level evaluation was completed using key differentiating criteria to evaluate and select the preferred strategy
- MG inquired how the project team quantified the screening criteria
  - LV described that the final project report will provide further details on how each screening criteria was quantified.
- DM inquired if the storage of finished material factored into the evaluation
  - LV described that storage of the finished materials was considered under the technical criteria of 'ease of operation' and 'ease of implementation'.

Step 4 – Detailed Evaluation Results (Slide 19)

- A detailed evaluation of each strategy was completed by assigning an impact score for each strategy against the key differentiating criteria and then ranked from most preferred to least preferred. A summary of the evaluation for each strategy is detailed in the presentation slides, attached.

Step 4 – Detailed Evaluation Results (Cost) (Slide 20)

- 30-year lifecycle costs for the strategies were also considered for the evaluation
- Strategies one through six have relatively comparable lifecycle costs, although the capital investments with strategies with new technologies (i.e. Strategies one and three) lead to higher lifecycle costs.
- Strategy seven has a significantly higher lifecycle cost
- Operations costs for Strategy one, two and five are the lowest

Step 4 – Detailed Evaluation Results – Ranking (Slide 21)

- Strategy four (AD + Dewatering + Advanced Alkaline Treatment), Strategy two (AD + Dewatering + Cake Land Application) and Strategy one (AD + Liquid Biosolids Land Application) were ranked the highest and selected are the preliminary preferred alternative
- Multiple strategies were selected to ensure diversity on the biosolids program

5. Preliminary Recommended Strategies

Step 5 - Preliminary Recommendations and Implementation (Slide 22)

- Implementation strategies were developed for the short, mid and long term :
  - **Short Term** – Pilot study to determine acceptability of cake land application for local farmers and confirm logistics of operation. Region recently purchased a centrifuge to use as a back-up to support current dewatering operations before permanent dewatering capacity is added.
  - **Mid-Term** – Add dewatering at Baker Road WWTP to increase dewatering capacity, and reduce truck traffic and hauling costs. Location of WWTP will allow for significant reduction in hauling verses other plants.
  - **Long Term** – Additional dewatering at Garner Road. Once dewatering equipment at Niagara Falls WWTP reaches end of useful life, review the feasibility of keeping a centrifuge on site or transporting the liquid biosolids to the Garner Road facility. It is anticipated that the new WWTP being designed

for South Niagara Falls will also haul liquid biosolids to the Garner Road facility. Both cake storage and liquid storage are proposed at Garner Road to maximize flexibility. **Step 5 - Preliminary Recommendations and Implementation Mapping (Slide 23)** • The program will involve liquid biosolids being hauled to Garner Road where they are either hauled to land for application, or dewatered. • Dewatered cake could continue to be sent to a third-party alkaline stabilization facility for further processing or directly land applied as dewatered cake. • Baker Road and Niagara Falls WWTPs would have dewatering and send their cake to a third-party facility. Cake storage is proposed at Garner Road to allow portions to be stored for future land application, reducing reliance on the third-party facility	
6. Schedule and Next Steps • Completed the screening level evaluation, developed the short list of alternatives, completed the detailed evaluation and developed a preliminary implementation plan. • Complete the virtual Public Information Centre No. 2, starting May 17th to May 31st • Incorporate any feedback and or comments from the Public Information Centre • Update the Biosolids Management Master Plan • File for 30-day review	
7. Questions • No additional questions were received from the stakeholders	

Prepared by:

GM BLUEPLAN ENGINEERING LIMITED
Per:

Laura Verhaeghe, P.Eng.
Project Manager