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Welcome to the second **Community Information Session** November 25, 2020

Background and purpose:

- We have reviewed research, secured documents and interviewed experts about the situation at the former GM site;
- We've spoken to citizen leaders in communities faced with similar health and security issues;
- Our findings point to the absolute need to act without delay or hesitation.



## Outline of the Presentation

- Background and purpose
- Orientation to the site
- Potential problems: safety, security, health hazards
- Potential Solutions
- What must be done now
- What you can do
- Questions



#### Orientation to the site as of 2010 – as many as 5,000 people worked here



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#### Orientation to the former GM site - when it was a working components plant.



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#### The site in 2018 – now owned by Bayshore when demolition ceased.



Haig

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#### Zooming in - showing key features – East Side



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#### Zooming in to show key features – West Side



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Creek



#### Partially demolished and deteriorating buildings left exposed to the elements



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#### The remaining structures are dangerous, unsafe and not secure







Industrial contaminants can be found under and on the surface, in debris piles and in the soil and surface water.





#### Dozens of industrial contaminants remain under and on the surface.



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#### Contaminants at the West side bordering Twelve Mile Creek and Woodruff Estates

Tables 1 to 9 sets out prescribed maximum soil concentrations for in this case residential properties



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Industrial contaminants leaving the site entering Twelve Mile Creek and into Lake Ontario. Detected from surface water collected by by MOECP on February, 2020, during a snow melt event.

Ministry of the Environment, Conservation and Parks Drinking Water and Environmental Compliance Division West Central Region

119 King Street West, 12<sup>th</sup> Floor Hamilton, Ontario L8P 4Y7 Tel.: 905 521-7640 Fax: 905 521-7820 Ministère de l'Environnement de la Protection de la nature et des Parcs Division de la conformité en matière d'eau potable et d'environnement Direction régionale du Centre-Ouest

119 rue King Ouest, 12e étage Hamilton (Ontario) L8P 4Y7 Tél.: 905 521-7640 Téléc.: 905 521-7820

July 16, 2020

#### MEMORANDUM

- To: Phil Hull Environmental Officer Niagara District Office
- From: Michael Spencer Surface Water Group Leader Technical Support Section
- RE: Former General Motors Property, St. Catharines February 13, 2020 Surface Water Quality Sampling Results Twelve Mile Creek and Storm Sewer Outfalls



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Industrial metals leaving the site: into Twelve Mile Creek Exceed Provincial Water Quality Standards as reported by MOECP

Metals	Units	<b>PWQO</b> 0.1	TMCUS <0.0005	TMC1	TMCOut1	TMCOut2	TMC2	TMCDS	
Arsenic	mg/L			< 0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005
Antimony	mg/L	0.02	< 0.001	< 0.001	< 0.001	< 0.001	<0.0005	<0.0005	< 0.0005
Selenium	mg/L	0.1	<0.0005	< 0.0005	< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005
Silver	ug/L	0.1	0	0	0	0	0	0	0
Aluminum	ug/L	75	52.5	54.2	41.7	167	62.4	70.6	53.1
Barium	ug/L		22.5	22.	36.2	62.7	22.7	22.7	23
Beryllium	ug/L	1100	0.0254	0.0318	7.0303	0	0.0417	0.0258	0.0265
Bismuth	ug/L		0	0		0	0	0	0
Calcium	mg/L		37.5	37.4		100	37.6	37.7	35.3
Cadmium	ug/L	0.2	0.238	0.474	0.8	0.574	0.52	0.551	0.624
Cobalt	ug/L	0.9	0.44	0.53	0.52	2.24	0.534	0.565	0.38
Chromium	ug/L	1	0.153	0.148	0.707	2.42	0.348	0.336	0
Copper	ug/L	5	2.18	2.23	4.85	35.2	2.25	2.23	1.91
Iron	ug/L	300	52.9	53.2	332	391	56.2	59.8	51.3
Hardness	mg/L		133	133	354	349	135	134	129
Potassium	mg/L		1.56	1.57	9.89	8.37	1.6	1.58	1.59
Lithium	ug/L		7.28	7.48	16.2	25.4	6.31	5.99	4.04
Magnesium	mg/L		9.65	9.62	24.1	24.1	10.1	9.67	9.83
Manganese	ug/L		3.05	3.03	31.7	67.7	3.09	3.13	2.86
Molybdenum	ug/L	40	0	0.276	1.92	0	0.0833	0.216	0.953
Sodium	mg/L		17.8	17.5	59.4	954	19.9	19.1	19.5
Nickel	ug/L	25	0.879	0.416	3.7	11.5	0.854	0.795	0.504
Lead	ug/L	25	0	0	0	0	0	0	0
Tin	ug/L		0	0	0	0	0	0	0
Strontium	ug/L		207	208	2	593	209	210	209
Titanium	ug/L		1.44	1.64		0.984	1.9	2.01	1.6
Uranium	ug/L	5	0.893	1.38	0	2.41	0.0885	1.05	0.586
Vanadium	ug/L	6	0.14	0.184	0.0255	0	0.192	0.219	0.32
Zinc	ug/L	30	2.38	2.22	20.2	93.3	2.76	7.07	2.49
Zirconium	ug/L	4	0	0	0	0	0	0	0

#### PAH contaminants leaking into Twelve Mile Creek exceed Provincial Water Quality Standards (as reported by MOECP)

Long-term **health effects** of exposure to **PAHs** may include cataracts, kidney and liver damage, and jaundice.

http://www.idph.state.il.us/c ancer/factsheets/polycyclicar omatichydrocarbons.htm#:~:t ext=Long%2Dterm%20health %20effects%20of,breakdown %20of%20red%20blood%20c ells.

Polycyclic Aromatic Hydrocarbons	Units	PWQO (CWQG) 2000	TMCUS <10	TMC1	TMCOut1	TMCOut2	TMC2 <10	TMCDS	
1-methylnaphthalene	ng/L			<10	<10	<50		<10	<10
2-methylnaphthalene	ng/L	2000	<10	<10	<10	<50	<10	<10	<10
Acenaphthene	ng/L	5800	<10	<10	<10	<50	<10	<10	<10
Acenaphthylene	ng/L		<10	<10	<10	<50	<10	<10	<10
Anthracene	ng/L	0.8	<10	<10	19	<50	<10	<10	<10
Benz(a)anthracene	ng/L	0.4	<20	<20		<100	<20	<20	<20
Benzo(a)pyrene	ng/L	15	<1	<1	<1	33	<1	<1	<1
Benzo(b)fluoranthene	ng/L		<10	<10	10	55	<10	<10	<10
Benzo(e)pyrene	ng/L		<10	<10	10	<50	<10	<10	<10
Benzo(k)fluoranthene	ng/L		<10	<10		<50	<10	<10	<10
Chrysene	ng/L	0.1	<10	<10	<10	93	<10	<10	<10
Dibenz(a,h)anthracene	ng/L	2	<20	<20	<20	<100	<20	<20	<20
Fluoranthene	ng/L	0.8	<10	<10	<10	210	<10	<10	<10
Fluorene	ng/L	200	<10	<10	<10	<50	<10	<10	<10
Benzo(g,h,i)perylene	ng/L	0.02	<20	<20	<20	<100	<20	<20	<20
Indeno(1,2,3-c,d)pyrene	ng/L		<20	<20	< 20	<100	<20	<20	<20
Naphthalene	ng/L	7000	<10	<10		<50	<10	<10	<10
Perylene	ng/L	0.7	<10	<10	10	<50	<10	<10	<10
Phenanthrene	ng/L	30	<10	<10	<10	130	<10	<10	<10
Pyrene	ng/L	25	<10	<10	<10	180	<10	<10	<10





PAH contaminants leaking into Twelve Mile Creek and flowing into Lake Ontario exceed Provincial Water Quality Standards (as reported by MOECP)

The PAHs derived from the aquatic environment are accumulated and are toxic to fish and invertebrates. Even if PAH levels in the aquatic environments are low, we should emphasize the prevention of aquatic PAH pollution. Toxicities of Polycyclic Aromatic Hydrocarbons for Aquatic Animals Int J Environ Res Public Health. 2020 Feb; 17(4): 1363.





#### PCBs leaving the site: into Twelve Mile Creek exceed Provincial Water Quality Standards as reported by MOECP: PCBs

Polychlorinate d Biphenyls	Units	PWQO	TMCUS	TMC1	TMCOut1	TMCOut2	TMC2	TMO	:DS
PCB congeners; total	ng/L	1	0.111	0.066	19.5299	11.0231	<mdl< th=""><th><mdl< th=""><th><mdl< th=""></mdl<></th></mdl<></th></mdl<>	<mdl< th=""><th><mdl< th=""></mdl<></th></mdl<>	<mdl< th=""></mdl<>

PCBs have been demonstrated to cause a variety of adverse health effects. Studies in humans support evidence for potential carcinogenic and non-carcinogenic effects of

PCBS. www.epa.gov/pcbs/learn-about-polychlorinatedbiphenyls-pcbs#healtheffects

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#### Evidence that Contaminants are leaving the site and entering Twelve Mile Creek.

"The presence of disturbed/ distressed vegetation along drainage to TMC also indicates these contaminants are likely entering TMC, with unknown consequences on wildlife and human health." ELM memo August 25, 2020



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Contaminants leaving the site could be entering the adjoining Haig and Woodruff residential neighbourhoods.

"The evidence of the presence of unknown contaminant(s) on the site suggests that some contaminants may also be migrating from the Site to adjacent residential areas via surface water, ground water, or windblown dust, as migration of contaminants does not occur only in one direction or by a single pathway." ELM Memo August 25, 2020.



#### Haig Neighbourhood proximity to contaminants

**Toxic substances list: trichloroethylene** 

Trichloroethylene (TCE) is primarily used as a solvent in the vapour-degreasing and cold-cleaning of fabricated metal parts.. Trichloroethylene has been detected in ambient air and in the air inside homes in Canada, as well as, occasionally, in drinking water and surface waters across the country. It has also been detected in groundwaters as a result of inappropriate disposal.



## Haig Neighbourhood exposure to contaminants: TCE

"There are about 75 homes in the Bishop Street area of Preston in Cambridge with sheds in their backyards. The sheds are needed to keep neighbours safe.

In 2004, they found out the chemical trichlorethylene (TCE) had made its way into the groundwater, making the ground and many of the homes in the area toxic."

https://www.cbc.ca/news/canada/kitchenerwaterloo/cambridge-tce-groundwatercontamination-northstar-1.4067962

#### **Kitchener-Waterloo**

## Cambridge residents living near TCE contamination fear health problems



'I just don't feel safe living in that house anymore,' says one Bishop Street resident Kate Bueckert · CBC News · Posted: Apr 14, 2017 8:00 AM ET | Last Updated: April 14, 2017



Linda Watson and Axel Meerman pull up their pant legs to reveal similar rashes on their legs. They said their doctors are unsure what is causing it. Watson and Meerman both live in the Bishop Street community in Cambridge. (Kate Bueckert/CBC)

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abbaurs Aval Maarman and Linda Matcan stand side by side comparing similar rashes on

#### Haig Neighbourhood exposure to contaminants: Cadmium

X

Cadmium, is an example for an industrially used substance with negative long-time effects on human health. Recent epidemiological studies have provided numerous evidence that even low-level environmental exposure to this toxic metal, creates a risk for health of the general population.

The toxicity of cadmium and resulting hazards for human health Johannes Godt, <sup>1</sup> Franziska Scheidig,<sup>2</sup> Christian Grosse-Siestrup,<sup>3</sup> Vera Esche,<sup>3</sup> Paul Brandenburg,<sup>3</sup> Andrea Reich,<sup>3</sup> and David A Groneberg<sup>2</sup>



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#### Health Hazards from Exposure to Asbestos:

Breathing in asbestos fibres can cause cancer and other diseases, such as: asbestosis

> a scarring of the lungs, which makes it difficult to breathe

mesothelioma

a rare cancer of the lining of the chest or abdominal cavity lung cancer smoking can greatly

increase this risk



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#### Contaminant exposure: Asbestos

For over 40 years asbestos brake linings were assembled at the GM factory. Workplace exposure resulted in a high number of cancers among workers leading WSIB to label the GM site a "cancer cluster"

Asbestos was used extensively in building materials and pipe insulation in all parts of the property.

Due to the amount and widespread distribution on the property Asbestos will likely still be found in building debris piles, in the soil and in ground water.





#### Mayor says he's been assured asbestos removed from former GM property Fri, Oct. 16, 2020timer2 min. read

Sendzik said staff from the ministry of environment, conservation and parks **confirmed the removal program and that ministry officials, along with staff from the ministry of labour, "did not find any evidence of obvious sources of asbestos insulation"** during a **previous site visit.** 





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#### What are the options to get the site cleaned up.

- 1. The site is sold to a new developer with deep pockets
- 2. MOECP enforces violations of the Environmental Protection Act
- 3. The city enforces its existing by-laws
- 4. Citizens initiate a legal action against the City.



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The site is sold.

A developer purchases the land and initiates a process to develop it.

**Problems:** 

- Time frame would likely be 5 10 years
- The site may not saleable or may not be developable
- The developer may demand n unacceptable tax incentive to offset risk



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## **MOECP** enforces violations of the Environmental Protection Act

Owner (s) Bayshore and possibly GM could be subject to orders to clean up the site. Problems:

- To date MOECP has shown little interest in getting involved in this site
- Bayshore is insolvent.
- GM is indemnified.





## 3. The city enforces existing by-laws

St. Catharines existing by-laws and the Ontario Building Code allow municipalities recourse to remedy these situations:

#### **Ontario Building Code**

#### Power of municipality if order not complied with

**15.4** (1) If an order of an officer under section 15.2 (2) is not complied with in accordance with the order as deemed confirmed or as confirmed or modified by the committee or a judge, **the municipality may cause the property to be repaired or demolished accordingly**. 1997, c. 24, s. 224 (8).

CITY OF ST. CATHARINES BY-LAW NO. 2020 – 106 A By-law to prohibit the use of certain lands for the disposal of waste and establish standards respecting their maintenance **The Director or an Officer may, by order.....require the Owner or** -8- Occupant within the time specified in the order to do any one or combination of the following: (a) To clean, clear or remove from the land or structure, Refuse and Waste material of any kind

CITY OF ST. CATHARINES BY-LAW NO. 2001-409 A By-law to prohibit the use of certain lands for the disposal of waste. **9**. Notwithstanding the provisions of this by-law to the contrary, if the City Engineer or his agent, is satisfied that there exists an immediate danger to the health and safety of the inhabitants of the municipality, the City Engineer or his agent may enter upon private property, without notice and take immediate necessary action to terminate the immediate danger, and the Corporation may recover such expenses by action and/or like manner as taxes.



Citizens initiate legal proceedings with the Province for environmental damage or against the City for damages to health or for loss of property value.

An action is commenced against the City by citizens for its failure to protect the citizens it serves or losses due to declining property values. An action would force the city to confront potential financial risk of inaction.



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## What should be done immediately:

#### ACTION #1

#### **Clean the site including:**

- Removal of equipment and any valuable salvageable material;
- Demolition of the buildings and removal of asbestos and all debris to appropriate disposal facilities;
- Removal of water-impermeable covers such as concrete or to control drainage.
- Drain all existing ponds
- Secure the land and drainage against migration of soil and dust via air and water.

#### Short of this clean up, there is no way the site can be secured

#### ACTION #2

#### Initiate independent perimeter testing and monitoring

MOECP testing of air quality and contaminant discharge at Twelve Mile Creek will only yield partial data.

Until citizens hear from experts that contaminants are not leaking into their neighbourhood, no one can say with certainty that the community is not being exposed to potentially harmful toxins.



## What you can do:

- Communicate your concern to the mayor and council at: <u>mayorcouncil@stcatharines.ca</u>
- Identify yourself to us if you are interested in possible compensation for being impacted by the condition of the site.

info@abetterstcatharines.ca

 Engage with friends and family, spread the word and help us increase the community of concerned citizens via our

facebook page: Coalition for a Better St.Catherines and Instagram @abetterstcatharines Website abetterstcatharines.ca

• Help support the work of the Coalition



#### **THANK YOU!**

#### **Questions?**

