



PORT COLBORNE

Meeting Environmental Advisory Committee February 9, 2022 6:00 p.m.

The following were in attendance:

Staff: Cassandra Banting
Janice Peyton

Council: Councillor Mark Bagu
Councillor Harry Wells

Public Members: George McKibbin
Jack Hellinga
Katherine Klauck
Norbert Gieger
Tim Lamb
Ryan Waines
Kerry Royer (Portion of the Meeting)

Also in attendance, resident Rod Tennyson.

This was an online Microsoft Teams meeting.

1. **Call to Order**

George called the meeting to order at 6:00 p.m.

2. **Adoption of the Agenda**

Moved by Norbert Gieger
Seconded by Harry Wells

That the agenda dated February 9, 2022, be accepted as circulated.
CARRIED.

3. **Disclosures of Interest**

Nil.

4. Approval / Review of Previous Meeting Minutes

Moved by Tim Lamb
Seconded by Trent Doan

That the minutes of December 8, 2021, be accepted as written.
CARRIED.

5. NPCA Update – Kerry Royer

Kerry gave an update on NPCA items. The NPCA has completed a Strategic Plan, Kerry will send a copy to Janice for distribution. The plan focuses on things like healthy and resilient watersheds and partnering with the community, connecting people to nature and supporting sustainable growth.

Kerry has been working with Mike Audit, Parks Supervisor, on a grant application for the 2Billion tree program. Mike and Kerry are working on a tree giveaway for Earth Day, trees to be handed out at the market on April 22nd.

The Wainfleet Bog Advisory Committee is taking member applications, the link has been emailed to the group, anyone interested can send their information to Kerry if they don't have the link.

Kerry has been working with a volunteer that has been collecting broken glass at the Wainfleet Wetlands. Over 45 kgs of glass has been collected so far and there more remaining on site. A community clean-up day at the Wainfleet Wetlands is being arranged for late March, early April. Please share this information within your networks. Rod T. asked if the broken glass could be recycled and provide some income. Rod is going to look further to see if this is a possibility.

6. Items Arising from Previous Minutes

a) Electric Vehicles

George advised that he and Norbert have not yet had a chance to discuss electric vehicles with Planner David Schulz.

Mark advised that in 2019, mandatory EV charging station rough ins in new residential homes being built was rescinded due to cost. In Ontario, EV charging stations in new residential homes is not mandatory.

b) Site Alteration By-law

Cassandra advised that she has begun rewriting the Site Alteration By-law. Once a draft is prepared, Cassandra will circulate it to the committee. Cassandra will review examples of Site Alteration By-laws that have recently been prepared, Wellington County was suggested by Jack. There is talk of having a consistent approach across the Region.

c) Grant Application Re: Tree Planting

Cassandra advised that staff have submitted a grant application to the Niagara Community Foundation for 1000 trees, to be planted along the Friendship Trail. Mike Audit and Kerry Royer have been planning the tree planting initiative together. Results of the application are not yet known. The grant committee liked the idea and were pleased about the collaboration with NPCA. Once results are in, the committee will be notified.

d) Land Use Compatibility

George advised that the EAC report on Land Use Compatibility has been forwarded as recommended at the EAC meeting on December 8, 2021.

7. Regional Transit Comment

As Chair of the EAC, George was asked to comment on the Regional Transit proposals that were being considered by Council. A copy of the reply George sent on behalf of the committee is attached to the minutes.

8. Response to Planning & Development Report 2022-09, Public Meeting Report for OPA and ZBA to the Mineral Aggregate Policies and Zone, File D09-01-20 and D14-03-20.

George provided a detailed review of the comments he prepared as a response to Planning & Development report 2022-09. A copy of the comments is provided in the minutes.

Jack commented that Port Colborne Quarries has withdrawn their site alteration application for pit one.

Regarding the minimum 500 metre setback under the mineral aggregate policy, Norbert commented that in the past few years, with the increased winds, particulates have become much worse. He has noticed evidence of this on his air filter connected to his HVAC at his office/home on West Street and notices particulates on the sidewalk and on his windows.

Moved by Jack Hellinga
Seconded by Tim Lamb

That the response to Planning & Development Report 2022-09 be forwarded to Planner David Schulz for distribution to the Planning Consultant so that each will have the EAC's comments in advance of finalizing their analysis.
CARRIED.

9. Proposals

a) Draft Fossil Fuel Reduction Proposal – Tim Lamb

Tim L. presented his work on the draft Fossil Fuel Reduction Proposal, created to help Port Colborne reach net zero emissions by 2050. A copy of the proposal is attached to the minutes. Tim responded to comments and questions of the committee. Moving forward, Tim would like to see new homes set up with heat pumps as opposed to gas furnaces.

b) Proposal to Establish a Committee on Climate Change - Rod Tennyson

Resident Rod Tennyson prepared a proposal to establish a committee on climate change for EAC consideration. A copy of the proposal is attached to the minutes.

Cassandra was asked to comment on city staff works regarding climate change. Cassandra advised that, from a public works perspective, staff are working on adapting to climate change.

- Staff are working on an RFP for Urban Forest Management Plan
- The Climate Change Coordinator position is now a full-time permanent position, working with Cassandra, Environmental Compliance Supervisor, on compliance for the city, making sure our facilities comply.
- Staff are working on an RFP for ECDM, Energy Conservation Demand Management Plan adding specific targets for city operations and services, such as City Hall windows, installing an EV station. Looking at the city's carbon footprint and greenhouse gas emissions for city facilities.
- Fleet Supervisor has been hired.
- Establishing a grant program (\$1000.) for residents for their private sewer, lateral upgrades, and a loan program (\$2500).
- Application for a grant for home flood assessment and backwater valves.
- RFP for innovative stormwater management solutions in the Omer drainage area.
- Private property inflow inspections and education and remediation services.

Committee members feel that public education in relation to both proposals discussed would be helpful and that the market would be a good location for distribution of educational material.

George, Cassandra, Jack and Rod will get together to discuss this proposal further, Kerry will be consulted as well. The points proposed and discussed this evening will be written up and given to Mark and Harry to take to Council to refer to EAC to create a climate action plan.

10. Other Business

a) Decision Making Principles

George feels that principles for decision making are very important for groups like this one. He will put some principles together and provide a draft at a future meeting for adoption of the committee.

b) Vice-Chair

Moved by Harry Wells
Seconded by Norbert Gieger

That Jack Hellinga be appointed Vice-Chair of the committee for the balance of 2022.
CARRIED.

Jack accepted with thanks.

c) EAC Annual Report to Council

As discussed at a previous meeting, George will draft an annual report to Council and distribute to the committee for review. The final report will be sent to the Clerk.

d) Region Amendment to the Official Plan

Harry advised that the Region is undergoing an amendment to their Official Plan and gave details of a webinar dealing with the natural environmental portion of the Official Plan. Also, a draft of the Official Plan is available on the website, should anyone want to review changes regarding source water protection, mineral aggregates and other items that have been discussed within this committee.

e) 2023 Budget Requests

Mark advised that there are two more EAC meetings before Council is asked for 2023 budget requests. Mark and Harry would like any requests from this committee by the end of June.

11. Next Meeting /Adjournment

With no further business to discuss, the meeting was adjourned at 8:00 p.m.
CARRIED.

The next EAC meeting will be on Wednesday April 13th at 6 p.m.

From George for your information

From: George McKibbon <georgeh@mckibbonwakefield.com>
Sent: Tuesday, December 14, 2021 10:30 AM
To: Janice Peyton <Janice.Peyton@portcolborne.ca>; Cassandra Banting <Cassandra.Banting@portcolborne.ca>
Subject: Fwd: Regional transit

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good Morning

Could you forward this to the EAC for information. The request for comment came last Friday morning and there wasn't time to distribute the link to the documents for comment. So I put together my notes from the previous Webinar and forwarded the comment below.

Regards

George

Begin forwarded message:

From: George McKibbon
<georgeh@mckibbonwakefield.com>
Subject: Regional transit
Date: December 13, 2021 at 9:26:34 AM EST
To: deputyclerk@portcolborne.ca
Cc: Harry Wells <harry.wells@portcolborne.ca>, Mark Bagu <mark.bagu@portcolborne.ca>

Michelle Idzenga asked the Environmental Advisory Committee Chair, George McKibbon, for comment on the Regional transit proposals Council will be considering. Earlier members of Port Colborne's Environmental Advisory Committee were asked to attend a webinar on the regional transit proposal. Three members attended including Norbert Geiger, Steven Rivers and myself, George McKibbon. We reported on our efforts at our August EAC Meeting.

We expressed concerns that whatever action is taken on this organizational innovation, consideration needs to be given to the electrification of vehicular fleets and the rapid introduction of autonomous vehicle technology. These changes will transform our communities: witness the articles in the Toronto Star and Hamilton Spectator this weekend on the use of robots to move parcels on sidewalks and bike lanes. I have some experience in these new technologies as I

am one of the W. Booth School of Engineering Practice and Technology (McMaster University) faculty leads helping others develop an ISO standard on robotic delivery devices. The question we asked at the earlier Regional presentation is what would a viable transit system look like with these technological changes and what organizational adaptations will be needed to implement them? The links to the reports being presented to you which ~~BN~~ Mzdenga forwarded to me Friday for a brief and quick review do not appear to answer these questions.

I think the decision you are being asked to make is significant and very important! I recommend you ask Regional proponents to answer how this proposal will address these technological transportation changes in order to provide Port Colborne with a viable scheme that will be as sustainable as possible going forward.

Regards

George McKibbin
Chair
Environmental Advisory Committee
905 631-8489

Cassandra Banting
Environmental Compliance Supervisor
City of Port Colborne

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PORT COLBORNE



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Response to Planning and Development Report #2022-09

Environmental Advisory Committee

February 9, 2022

1. Introduction:

On December 23 2021, notice of a public meeting on Tuesday January 18, 2022 to review proposed amendments to Port Colborne's official plan and zoning bylaw was issued. The amendments address adding a Mineral Aggregate Ancillary Use (MAAU) policy to the Official Plan and a new MAUA zone to the zoning bylaw.

New policy is proposed to be added to the Official Plans mineral aggregate policy. It will require zoning bylaw amendments for asphalt plants, cement/concrete plants and stockpiling of aggregate materials with salt and aggregate transfer facilities. The MAUA provisions are to be implemented in the Mineral Aggregate Operations, Gateway Industrial and Heavy Industrial Zones following a bylaw amendment, demonstrating a number of requirements are met. Site plan control will apply to the uses and a 500 metre setback from any residence will be required.

New definitions are provided for "aggregate depot", "asphalt plant, permanent", "asphalt plant, portable", and "cement concrete plant".

EAC has commented on ground water and land use concerns arising from the proposed amendments. Upon being notified that this matter was coming before a public meeting your Chair prepared comments based upon previous concerns and presented these to the public meeting. These comments are part of the public record.

The written and verbal presentation at the public meeting was minimal: not much new information was provided to answer questions arising from the text. It is understood from Dave Schulz, City Planner, several parties raised concerns about the 500 metre setback. We understand the Planning Consultant, NPG Planning Consultants, undertook a national survey of best practices to develop the standard. A more complete planning report describing this analysis will be provided in the future.

This report is to set out concerns with the information presently in hand so the City planner and the Planning Consultant will have EAC's comments in advance of finalizing their analysis.

2. The January 18, 2022 Public Meeting:

Here are the specific comments made on EAC's behalf on January 18, 2022:

1. "The proposed asphalt plant (permanent and portable), cement concrete plant and aggregate depot uses generate air and noise emissions. Municipal studies show these air emissions can result in hospitalizations and mortalities when air quality is poor. These conditions exist even with the best efforts of Ministry of the Environment Conservation and Parks (MECP) Environmental Protection Act regulators, who apply

Ontario Regulation 348 and 419 and NPC 300, and municipal planners, who apply the MECP D Series Land Use Compatibility Guidelines.

2. Port Colborne has no air monitoring stations within its jurisdiction with which to benchmark local community air quality. Track out occurs from existing comparable uses. Lands under the Seaway jurisdiction are Federal lands on which Provincial and Municipal authority is constrained. Fugitive emissions from existing uses are available for re-suspension with traffic and extreme wind events. Caution should be applied when considering these amendments.
3. When these uses are proposed, assessment of cumulative air and noise emissions from existing and proposed industrial uses and local traffic is needed. Under 29.3, Zone Requirements, (a) it is recommended the following underlined words be added after *"appropriate studies including cumulative and worst case scenario noise and air analyses"*.
4. Under 29.3 Zone Requirements, (b) it is recommended that the minimum 500 metre distance from the closest residential use be amended to read: *"is at least 500 metres from any residential use provided the maximum emissions scenario (worse case scenarios) and cumulative air and noise analyses do not require a greater separation distance."*
5. Last, where Mineral Aggregate Operations are considered, *these uses should not be permitted where the Aggregate Resources license and site plan provide for extraction below the water table.*

NPG Planning Consultants prepared and presented the recommended changes to the Official Plan and Zoning Bylaw. Comments from the public, the Regional Municipality of Niagara and verbal comments from meetings with aggregate producers were reviewed. Little verbal reporting and no written report was offered by the consultant on the analysis that went into the recommended policies, specifically how the 500 metres setback from residences was derived. Concerns about aquifer protection were not addressed specifically except in very general policy. The policy didn't identify the significance of the aquifer other Official Plan policy attributes to it. No studies appear to have been undertaken to address specifically land use compatibility or aquifer concerns.

3. Further Recommended Comments:

Based on what transpired at the public meeting, additional comments are warranted. Here are the additional comments:

a) Definitions:

We recommend the words "cement plant" be removed from the definition and any text proposed for the amendments. From information produced by Mark Dorfman, in 2018, in a report to the Township of Champlain there were 18 cement plants in Canada. On average

these plants were separated by 1,270 metres from residential uses. The median distance was 1,000 metres. The minimum distance was 380 metres and the maximum distance was 4,000 metres.

The air and noise emissions and community impacts associated with cement production are much more complex than those associated with asphalt and concrete batch plants, concrete products plants, or aggregate storage and handling depots.

A cement plant isn't an ancillary operation of a mineral aggregate operation as defined in the Provincial Policy Statement 2020 (PPS 2020). Neither is a plant used for the fabrication of concrete products. For this and other reasons discussed below, cement plants used to produce cement should be removed from consideration in the recommended bylaw.

Large international enterprises involved in cement production have stringent internal environmental audit systems that usually provide for significant separation from sensitive uses and new cement plants. Care should be taken in the drafting of the proposed bylaw to ensure that less scrupulous interests don't exploit a poor choice of words to create a bad outcome. This is especially important where lands under Federal jurisdiction exist on which Ontario's Planning Act doesn't have the same jurisdiction.

b) Land Use Compatibility: What this policy is and isn't.

Below are three diagrams which set out the current basis for land use compatibility analysis in the Ministry of Environment, Conservation and Parks' (MECP) D Series Guidelines. Three industrial classifications are used: Classes III, II and I. Each industry being considered in these amendments should be assigned to one of those classes. MECP provides instructions in the Guideline on how to make these assignments.

Once assigned, the following analysis of each industrial Class applies.

Why is this analysis undertaken? Air and noise regulation under the Environmental Protection Act (EPA) needs to be undertaken in sync with Planning Act decisions on land use to minimize adverse effects. These adverse effects include:

"Adverse effects: as defined in the Environmental Protection Act, means one or more of:

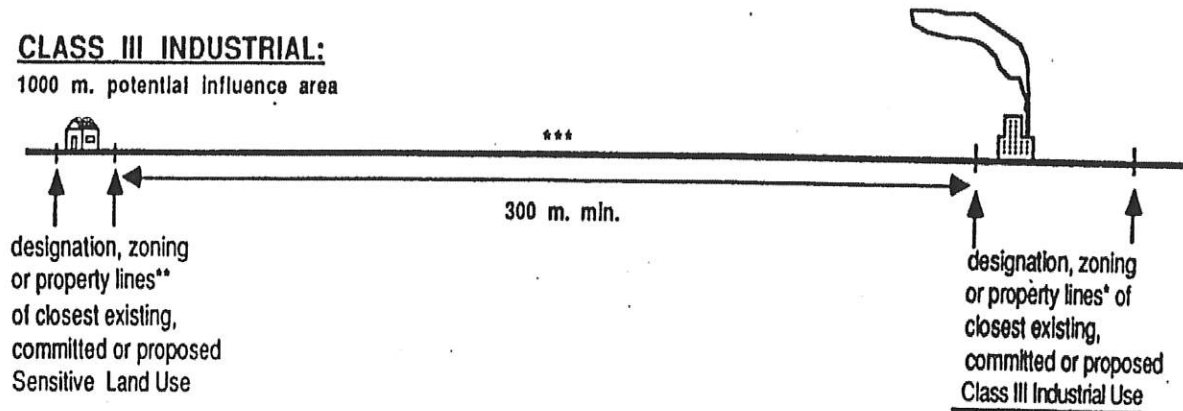
- a) impairment of the quality of the natural environment for any use that can be made of it;*
- b) injury or damage to property or plant or animal life;*
- c) harm or material discomfort to any person;*
- d) an adverse effect on the health of any person;*
- e) impairment of the safety of any person;*
- f) rendering any property or plant or animal life unfit for human use;*

- g) loss of enjoyment of normal use of property; and
- h) interference with normal conduct of business."¹

Port Colborne has experience with risk analyses when these adverse effects occur (e.g., nickel contamination). Care is required when addressing these potential effects when separating industrial uses from sensitive residential uses.

CLASS III INDUSTRIAL:

1000 m. potential influence area



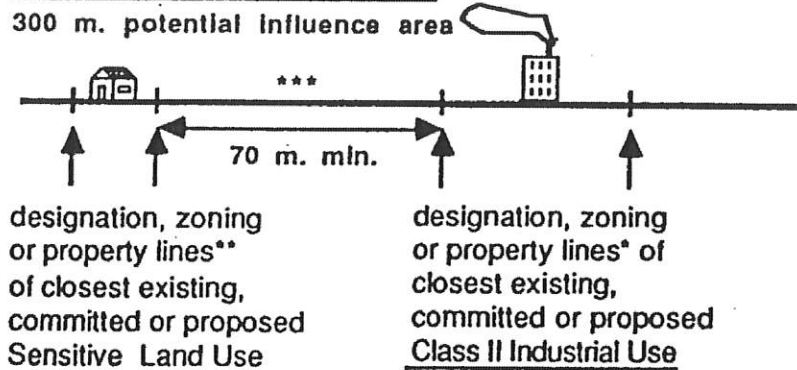
Each of these diagrams is copied from MECP's D Series Land Use Compatibility Guidelines.

Each industry under consideration is assigned to one of three classes. For each class a potential influence area is assigned. For Class 3 industrial uses that influence area is 1000 metres. That influence area is the default separation distance where no air and noise analyses are used to assign a lesser separation distance. Notwithstanding the results of air and noise analyses, a minimum separation distance applies: 300 metres.

Ideally, the separation distance identified after noise and air emissions are considered is measured from property boundary to property boundary. It can also be measured using site plan requirements applied to the industry.

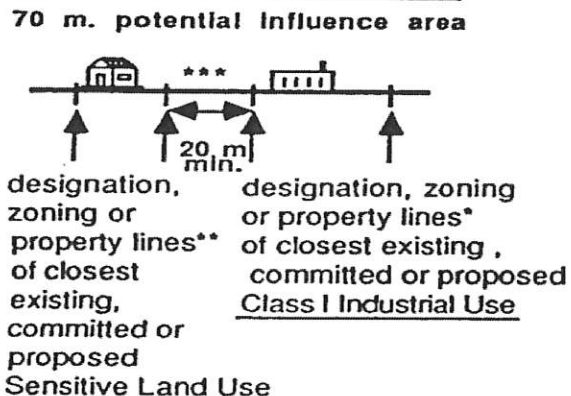
¹ Provincial Policy Statement 2020, Definition of adverse effect.

CLASS II INDUSTRIAL:



The above air and noise analyses apply to Class 2 industries and Class 1 Industry (below).

CLASS I INDUSTRIAL:



Implementation of the D Series Land Use Compatibility Guidelines were transferred from the Province to the Regional Municipality of Niagara in the 1990s when various approvals under the Planning Act were transferred from the Minister of Municipal Affairs to the Region.

No analysis was presented by NPG Planning Consultants on how Class III Industrial use potential influence areas were reduced from 1000 metres to 500 metres and how the 500 metres setback distance was arrived at from air and noise analyses of potential adverse effects.

The D Series Guidelines have been around for a long time. Changes to the PPS 2020 in May 2020 emphasized and strengthened policy requiring land use compatibility between industrial facilities and sensitive land uses such as residential uses.

In 2021, MECP released a draft guideline intended to replace the D Series Guidelines. After public comments were received MECP withdrew the Guidelines for further review. While there was agreement among commenters a review was needed, there was no consensus on recommended revisions. Here are the general changes which were recommended. It is useful

to consider the numbers as background to considering this file because they better represent the science involved.

Both of the following tables were contained within an MECP Powerpoint presentation provided on June 8, 2021. AOI is short for Area of Influence while MSD is short for Minimum Separation Distance.

AOIs and MSDs for classes of major facilities

Class	Description of Major Facility	AOI	Examples of Major Facility	MSD
Class 1	Operations with known smaller adverse effects.	500 m	Food Manufacturing; Sewage Lagoons; Various EASR activities	200 m
Class 2	Operations with moderate effects. May include some outdoor operations.	750 m	Manufacturing Metal and Glass Parts	300 m
Class 3	Operations with moderate to significant adverse effects that may be difficult to mitigate. May include larger outdoor operations	1,000 m	Aggregate Operations (in relation to sensitive land use proposals only)	500 m
Class 4	Operations with significant adverse effects that may be difficult to mitigate. May include larger outdoor operations.	1,500 m	Meat and meat product processes (slaughterhouses and rendering)	500 m
Class 5	Operations with the most significant adverse effects that may be difficult to mitigate. May include larger outdoor operations	2,000 m	Chemical product manufacturing	500 m

Five as opposed to three industrial classes were recommended. Where aggregate operations are considered, the area of influence is 1000 metres and the minimum separation distance proposed is 500 metres.

- The following provides a comparison of existing AOIs and MSDs in D-6 vs. proposed AOIs and MSDs in the Guideline.

Class	Existing AOIs	New AOIs	Existing MSDs	New MSDs
1	70m	500m	20m	200m
2	300m	750m	70m	300m
3	1000m	1000m	300m	500m
4		1500m		500m
5		2000m		500m

This chart compares the changes between the D Series Guidelines and the proposed revisions. More emphasis is placed on heavy industrial facilities with the introduction of two additional classes with successively larger areas of influence. More important, bigger changes are made to both the areas of influence and minimum separation distances for Classes 1 and 2 facilities.

With the changes made to PPS 2020 policy on land use compatibility, land use separation analysis is less discretionary: it has to be done. The planning and engineering professions are not qualified to do the risk analyses required to implement them, e.g., reduce the areas of influence to a lesser distance. Teams with wider expertise, including public health, are needed to undertake this work. In the past PPS 2014 policy implementation was weaker, so if applicants met Ontario Regulation 419 and NPC 300 requirements and obtained MECP approvals, that carried considerable weight. Minimum separation distances became maximums. New PPS 2020 policy is more stringent and requires detailed analyses. Just because a compliance approval is obtained from MECP, the separation distance requires a more complete analysis.

If 500 metres is to be applied in the proposed amendments, the analysis has to be documented and reviewed. That documentation wasn't provided in Report 2022-09.

c) Non-conformity and the East Village

Lands bordering the Canal in the East Village south of Clarence Street are used for aggregate storage and transshipment from Lakers to local users. The separation distance between these operations and residential uses isn't 300 metres let alone 500 metres. The lands are under the jurisdiction of the Seaway Authority. With respect, this storage and transshipment use needs to be relocated northward to the Gateway Industrial and Heavy Industrial zones, provided the land uses are properly separated from residential uses in the immediate areas.

With respect, this matter needs to be addressed together with these amendments.

d) Planning Comments

We understand the City's planning consultant draft bylaw is a work in progress. In addition to the previous comments, here are recommendations intended to assist Council and City Planning Department endeavours:

- 1) Remove references to cement plant for the reasons provided earlier.
- 2) Use PPS 2020 definitions wherever possible.
- 3) Remove "concrete fabrication plants" from the proposed bylaw. One such plant is permitted in PCQ Pit #1. That plant's rezoning was approved (October 2014) by an Ontario Municipal Board hearing. That approval is subject to a number of conditions including site plan approval. The conditions have not been met to date. That approval was site specific and shouldn't be used to set policy for all aggregate licenses.

Employment land uses in PCQ Pit 1 beyond that which was approved in October 2014 require Regional Official Plan amendment (see Regional Municipality of Niagara letter dated December 21, 2016).

- 4) The Ministry of Northern Development Mining, and Forestry (MNDMF) is proposing to change existing Aggregate Resource Act regulations where excess soils and policy where filling with inert materials are used when rehabilitation occurs in quarries extracting below the water table (<https://ero.ontario.ca/notice/019-4801>). If approved as proposed, the changes strengthen sensitive ground water table protection measures. This will address a major concern EAC raised previously.
- 5) Don't use the word "ancillary" because other better terms apply: namely "accessory". An "accessory use" is defined in the Port Colborne zoning bylaw and the word "accessory" is used to describe those "associated accessory facilities" provided for the bylaw's definition of "Mineral Aggregate Operation." An accessory use or facility means a use or facility which is subordinate and incidental to the principle use.
- 6) Normally "associated accessory facilities" mean asphalt and concrete batch plants. If portable and used for municipal contracts these are approved. Portable plants should not be permitted in areas being extracted below the water table. Permanent asphalt and concrete batch plant structures should also not be permitted below the water table. The sites should be designed so drainage isn't allowed into areas extracted below the water table. Consider policy to this effect.
- 7) Port Colborne's gateway and industrial zoning is constructed on the assumption MECP's land use compatibility guidelines apply during site plan and conditional approvals. Where an industrial use requires an amendment to the zoning bylaw, either a conditional approval or a holding zone condition is applied requiring: a) air and noise studies; and b) site designs that meet land use compatibility requirements. If air and noise compatibility isn't achieved, the use is a noxious use and not permitted.
- 8) Whether this was a workable framework is a debate to be left to another time and place. It isn't consistent with stringent land use compatibility policy introduced in the PPS 2020. It appears the recommended amendments to the bylaw's 29.3 a) and b) are a workaround for larger issues arising from how the zoning bylaw addresses land use compatibility. We recommend consideration be given to addressing this larger issue.

Wednesday, January 26, 2022

Draft Fossil Fuel Reduction Proposal

Environmental Advisory Committee

Climate Change is the number 1 threat to our environment. The Canadian Government has committed to reduce greenhouse gas emissions 40% to 45% by 2030 and to net zero by 2050. The City of Port Colborne needs to do its part to support this aggressive, important, strategy.

- The current fossil fuel greenhouse gas emissions for the heating and water heating of the residences in the city of Port Colborne is likely more than 50% of Port Colborne's total greenhouse gas emissions. (Based on Toronto's stats)
Toronto's 2019 Greenhouse Gas Emissions Inventory – City of Toronto
- There are currently about 7,000 private dwellings in the city of Port Colborne, without a doubt most of these residences are using fossil fuels to heat their homes and their water.
- Most new homes being built in Port Colborne continue to be serviced with natural gas lines.
- We have less than 28 years to reach net zero emissions, to meet that goal, we need to stop installing fossil fuel appliances in new homes and retrofits, now! It will take an average of 5 dwellings a week to retrofit to meet that goal.
- Retrofits can be done as current appliances become unserviceable and need to be replaced or as owners see fit.
- Technologies and expertise do exist to complete this goal, in the form of heat pump technology and local home heating and cooling businesses. Costs will be very competitive to current natural gas technologies and home heating costs, electricity, and natural Gas. Heat pumps can operate at very high efficiencies as much as 300% or more, strip or radiant heat are 100% and best natural gas performance is about 94%. There are no emissions with electric heat especially with a green energy supply.
Heating and Cooling With a Heat Pump (nrcan.gc.ca)
Home (canadianheatpumps.ca)

- The installation of these technologies will eliminate the need for natural gas and reduce the City's greenhouse gas emissions substantially.
- Residents can take advantage of any Government Grants or Subsidies to complete work and local heating and ventilation companies will certainly help with that. The current provincial government unfortunately cancelled The Green Energy Act, from the previous administration, creating challenges for us to move forward with this energy transition. (Their reasoning was that the extra electrical infrastructure is not needed). A list of projects cancelled by the current provincial government are linked below. The Federal government Canada Greener Homes Grant offers up to \$5,000, for home energy efficiency improvements, which includes heat pumps.
[Green Energy Act Executive Summary.pdf \(utoronto.ca\)](#)
[Canada Greener Homes Grant \(nrcan.gc.ca\)](#)
[Ontario Newsroom](#)
- OPG, IESO, and CNP will meet the challenges of our increase dependence on the electrical grid over this period of 28 years. The potential for electrical supply growth should not be an issue. OPG is now building SMR's (Small Modular Reactors) to help with that need for growth. There is also a request for recommendations of increased hydro opportunities in Northern Ontario.
[CER – Provincial and Territorial Energy Profiles - Ontario \(cer-rec.gc.ca\)](#)
[Innovating for tomorrow > Small modular reactors - OPG](#)
[OPG reviewing new hydro opportunities in Ontario - International Water Power \(waterpowermagazine.com\)](#)
[Our communities > Southern Ontario – Niagara Region - OPG](#)
- CNP initiated the complete suite of Save On Energy programs for residential and business customers under the Green Energy Act. In 2019, these programs were taken over by the Independent Electricity System Operator (IESO) and are now managed by them directly.
[Independent Electricity System Operator \(IESO\)](#)
- Renewable energy continues to become cheaper than fossil fuels.
[The cost of renewable energy is increasingly undercutting fossils | World Economic Forum \(weforum.org\)](#)
- Instability in the fossil fuel industry and supply will continue to be an issue going forward as well as increasing costs both with market pressures and carbon taxes. Michigan's Governor wants to shut down Line 5.

Line 5 pipeline a 'ticking time bomb,' must be shut down by next week, Michigan governor's office says - The Globe and Mail

- All homes will then have air cooling in the event of a heat wave/heat dome. Reduction in the risks associated with burning fossil fuels i.e., explosion, fire and carbon monoxide poisoning. Port Colborne's air quality will also improve.
- Conservation will always be a priority and homeowners and tenants need to do their part in residential upgrades and conservation practices.
- Opportunities for Port Colborne to establish renewable energy supplies such as hydro, solar and wind. It would only take 16 wind turbines to power all of Port Colborne's homes.
- The City of Toronto is currently establishing a policy like the above proposal, and we should create or adopt a similar strategy. They have established a goal of 2040 for net zero emissions.

TransformTO – City of Toronto

Currently Port Colborne is taking a Leadership strategy when it comes to greenhouse gas reductions, but really needs to take on a more progressive approach to enable its citizens to do their part.

The cost of establishing this proposal should be very low, it is only a matter of putting a phased stop to the use of fossil fuels to heat our residences and embracing electricity as our only source of home and water heating.

Goodbye, gas furnaces? Why electrification is the future of home heating | CBC News

Tim Lamb

tim.lamb58@outlook.com

Member of the Port Colborne Environmental Advisory Committee.



Proposal to Establish a Committee On Climate Change

Roderick Tennyson, PhD., P.Eng.

**Submitted to the Environmental Advisory Committee
City of Port Colborne**

December 2021

Purpose

Port Colborne is exposed to extreme weather events aggravated by climate change. We propose to create a Committee on Climate Change (CCC) to investigate the potential effects of climate change and recommend actions that need to be taken to offset the deleterious effects that could impact the city. One of the major concerns is the assessment of drainage risks arising from extreme weather events associated with wind, high Lake Erie levels and extreme rainfall occurrences. The Committee will recommend solutions to these issues through the Environmental Advisory Committee. (EAC). This information will also assist City Public Works officials organize their responses. The proposal is designed to involve stakeholders such as the Niagara Peninsula Conservation Authority; Brock University and Niagara College; the Regional Municipality of Niagara; the Seaway Authority and Provincial and Federal officials.

Rationale

The Great Lakes economy has been described as the "Growth Engine of North America" (visualcapitalist.com) and is recognized globally for its manufacturing sector. Many other industries contribute to the region's economic growth such as education and health, shipping and logistics, agriculture, mining and energy, tourism, and finance.

Annual bilateral trade in the Great Lakes between Canada and the US is about \$280 billion (The Great Lakes Economy: The Growth Engine of North America: visualcapitalist.com) , of which the maritime industry generates about \$30 billion, and employs about 250,000 jobs in Canada (Standard Review Tribune April 22, 2021). This economic engine must be protected and its long-term sustainability is predicated on ensuring the long-term health of these lakes, particularly in this era of climate change.

The effects of climate change are predicted to have a profound impact on cities bordering the great lakes such as Port Colborne. To mitigate these potential problems that can affect the economy and well being of the citizens in Port Colborne, it is strongly recommended that the EAC create a Committee on Climate Change to assess these issues and provide solutions that can be implemented well in advance of the current and future projections of the damage that will be created to the city and its environs.

The City of Port Colborne and its surrounding environs depend on tourism that is mainly attracted to its many beaches and clean water. Fishing and maritime trade also contribute to its economy. The issues that will need to be addressed that could impact the city resulting from climate changes include:

Tourism

- Loss of clean water
- Loss of beaches due to erosion
- Loss of destination center for tours

Business

- Clean water and beaches ensure tourist attraction
- Fishing industry; effects of algae growth on aquatic life

Health

- algae growth and air borne toxins
- water contaminants
- fish contaminants
- municipal and storm water drainage systems



Port Colborne Beaches

The long-term plan for the City of Port Colborne emphasises the need to increase tourism to the region. This of course will benefit the local service industries and the tax base for the city.

It is assumed that most tourists come to Port Colborne for its renown beaches, warm water and boating. Fishing has always been a major attractor due to the variety of fish in the lake, especially the perch. Local arts and community festivals play a role as well, and the opportunity to dive on the ship wrecks in Lake Erie is another activity of note since the lake is relatively shallow, being deeper at the eastern end of the lake around Port Colborne. Obviously, the Welland Canal is a very popular location to visit and see the large ships travelling down the canal with just a few feet of clearance to the canal walls. The current plan is to construct a welcome center for tourist boats on the west side of the canal. Courting cruise ships to dock in Port Colborne is an economic avenue the city plans to pursue aggressively in the coming years.

To protect the tourist base and the region's most precious assets, the beaches, any form of pollution emanating from climate generated storms that affect the nearby waters and beaches, could prove to be disastrous. Water pollution and algae growth could doom the beaches as well as Gravelly Bay. Clearly this will have adverse effects on the tourism industry and local business community. There will be little incentive for tourists coming to the Niagara region to make Port Colborne a destination spot. The trade-off is the cost of preventive measures now versus loss of tourism in later years.

There is another factor to consider and that is the increasing migration of city people to the Port city and its surrounds. Property values have increased and this region is growing for the reasons cited above. Any inaction at this time to protect this region from climate change impacts will mitigate this influx of new residents, the business they bring and of course the tax base. Again, this is a trade-off that needs to be considered.

The Economy and Tax Base

The current city tax base is predicated on many factors such as resident population, tourism, business growth and industry, to name a few.

If in fact tourism were to decline due to polluted water and loss of beach properties, it is predicted that many local businesses will close (not all of course) and there would be a decline in population growth. What effect would that have on the city tax base? The proposed Committee on Climate Change can address the anticipated impacts and recommend solutions. It is a study that needs to be undertaken soon. Preservation of water quality is critical to the survival of Port Colborne as a destination port.

The Impending Crisis: Effects of Climate Change

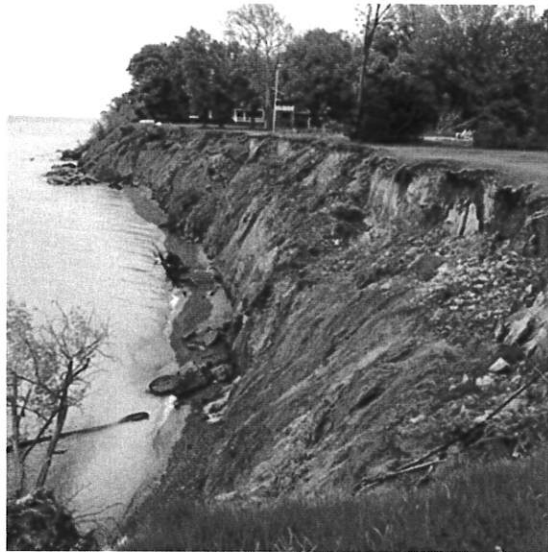
It is widely accepted that climate changes are here to stay and it is up to governments, national and local, to anticipate what impacts these changes will have on the environment and well being of the population they serve. Small cities are no exception, especially ones that border the Great Lakes.

Why is this so? Recent scientific studies have found that the Great Lakes are warming faster than the land mass which will lead to more extreme storms. These storms can erode beach areas and shoreline properties. They can also cause lake sediments to increase in the water, possibly increasing algae growth and water toxicity especially around Port Colborne.

Aquatic life in the lakes depend on a stable temperature of the water. Changes in water temperature can have adverse effects on fish life and their survival. The warmer surface area water leads to increased evaporation and lower lake levels. As a port city, this can cause problems in the canal for ships, which can affect dock infrastructure and shoreline ecosystems.



Ice storm on Lake Erie



Shore erosion along Lake Erie



Storm waves in Lake Erie

Port Colborne is exposed to extreme weather events in the form of winds from the south west which cause lake levels to rise; higher lake levels resulting from normal lake level cycles and extreme rainfall events. Recent events illustrate what may happen. The Eagle Marsh and Wignal municipal drains drain into Lake Erie. Both drains have outlet controls intended to limit

inland flooding when Lake levels rise. Further Port Colborne has storm water outlets into the Eagle Marsh drain, the Welland Canal and Gravelly Bay. The two drains and storm water outlets may be compromised and cause flooding within Port Colborne's residential uses.

Committee on Climate Change: Proposed Projects

Municipal and Storm Water Drainage Systems

This investigation will describe potential risks on the existing municipal and storm water drainage systems and low-lying areas immediately north of the Lake Erie shore; begin to define the extent of such risks; assess how various stakeholders may be involved in addressing these risks; and serve as an organizing effort to craft effective responses.

Port Colborne's Environmental Advisory Committee will hold a public information meeting to discuss the findings with members of the public. The results will be shared with representatives of adjoining municipalities.

Action Items:

- EAC and Public Works to draft a proposal
- Identify other parties who may wish some level of involvement e.g., the Niagara Peninsula Conservation Authority, the coalition
- Identify which stakeholders are to be interviewed
- Interview potential stakeholders to determine if, in addition to being interviewed, they wish to be involved in resourcing this effort
- Establish the work plan
- Identify critical Public Works staff to coordinate the project
- Identify volunteer EAC members with expertise to be involved
- Establish the required budget
- Draft the proposal for submission

Mitigate Beach Erosion

Beach grass grows in sandy beaches and has deep roots that intertwine with other grass roots to provide a stable network that traps the sand and mitigates erosion in the face of storms, wind and surf waves.

The CCC can establish working relationships with the experts who grow a specific grass that has been shown to work on Port Colborne beaches. The groups of interest include researchers at Niagara College and members of the Coastal Collaborative Group.

Action Items:

- establish a meeting with these groups and develop a protocol on how the EAC can participate in the growth of this grass and its massive planting along our prime beaches.
- make the grass clumps available for public purchase for their own property protection along the shore of Lake Erie
- the CCC can draft grant proposals in collaboration with the EAC and Council (need to have them back the grant application) to finance this beach erosion project using beach grass

- work with Public Works to establish a massive tree planting effort along the beach front area on both public and private property to create wind barriers and root systems to mitigate erosion of the shoreline. Initiate a massive public participation program among Port Colborne residents.

Monitoring Water Quality

Monitoring water quality along the beaches and extending along the shoreline of residential houses will be essential to determine if remedial action is required to decontaminate the water. Clean water is essential to a viable tourist industry.

Action Items

- determine if researchers at Niagara College can, or have developed a low-cost test kit to measure temperature and toxic chemicals (such as algae) in water samples taken from the beachfront areas.
- set up a network of civilian volunteers along the beachfront areas to provide monthly data on their measurements to a central monitoring site located within the CCC, assuming lake water is still accessible. Undertake this project with the Coastal Collaborative Group. The CCC will provide an annual report on data interpretation and recommendations to the EAC.
- assess effects of temperature changes and evidence of toxic elements in the water on the aquatic life. Undertake this review with researchers at Brock University and the University of Windsor. Propose remediation solutions to improve the vitality of the aquatic life in Lake Erie.

Recommendations

- The EAC review the proposal and establish the CCC with 5 members
- The VP of the EAC serve as chair of the CCC
- A council member of the EAC who serves on the committee and will act as an advocate for the recommendations emanating from the CCC and the EAC should be a member
- Council be asked to approve a full time paid position for an environment officer to head the CCC projects, with back up secretarial services included. These projects are essential to undertake now and cannot be done by volunteers alone. Pay now or suffer the consequences later!