



Municipality of Huron East

Council Agenda

Tuesday, November 1, 2022 at 7:00 P.M.

Council Chambers

2nd Floor, 72 Main Street South, Seaford, ON

1. Closed Session:

That a closed meeting of Council be held on Tuesday, November 1, 2022 at 5:00 p.m., electronically, in accordance with Section 239 of the Municipal Act, 2001 for the purposes of considering the following matters:

- 1.1** Report under Section 239(2)(b), personal information about identifiable individual (**Distributed Separately**)

2. Call to Order & Mayor's Remarks

3. Reconvene into Open Session and Reporting Out

4. Land Acknowledgement

We would like to acknowledge that the land we stand upon today is the traditional territory of the Anishinaabe, Haudenosaunee and Neutral Peoples.

5. Confirmation of the Agenda

6. Disclosure of Pecuniary Interest

7. Minutes of Previous Meeting

- 7.1** [Regular Meeting – October 18, 2022](#)

Page 5

- 7.2** [Public Meeting – October 18, 2022](#)

Page 18

8. Public Meetings/Hearings and Delegations

- 8.1** [Public Meeting](#) re: Official Plan and Zoning By-law Amendment for

43359 Sawmill Road, McKillop

Page 20

8.2 [Public Hearing](#) re: MV03-2022 for 67 Brantford Street, Seaforth

Page 25

8.3 [Delegation](#): Debbie Nassar and Joy Paquette, Vanastra Village
Alliance re: Outdoor Ice Rink for Vanastra

Page 31

9. Accounts Payable

10. Reports & Recommendations of Municipal Officers

10.1 [CAO-22-53](#), Christmas Schedule

Page 64

10.2 [CAO-22-55](#), Appeal – Refusal of Proposed Zoning By-law
Amendment – Part Lot 40, Plan 133, Tuckersmith Ward

Page 66

10.3 [CLK-22-23](#), 2022 Election Summary

Page 68

11. Correspondence

11.1 [Members of the Brussels Medical Dental Board](#) re: Request to
Reconsider the Decision regarding the Medical Dental Board

Page 74

12. Unfinished Business

13. Municipal Drains

14. Planning

14.1 Recommendation from Public Meeting re: Zoning By-law and Official
Plan Amendment for 43359 Sawmill Road, McKillop

15. Council Reports

15.1 Council Member Reports

15.1.1 County Council Report

15.1.2 Other Boards/Committees or Meetings/Seminars

15.2 Requests by Members

15.2.1 [Huron County Single-Use Reduction Strategy](#) (Requested by Councillor Fisher)

Page 76

15.2.2 Motion to be sent to Cannabis Act Legislative Review Secretariat

That The Council of the Municipality of Huron East support the motion sent by the County of Huron in regards to a request for consultation regarding implementation of legislation on cannabis regulations ;

And That the Council of the Municipality of Huron East send correspondence to Health Canada requesting consultation when implementing legislation on cannabis regulation as there is a direct impact on municipal operations and sometimes non compliancy to municipal by-laws;

And Further That the Council of the Municipality of Huron East recommends the inclusion of a system of Minimum Distance Separation to protect residential areas.

15.3 Notice of Motions

15.3.1 Motion from Councillor McLellan re: Councillor Donations to Green Fund

That the Council of the Municipality of Huron East allow Members of Council to voluntarily donate 10% of their unused mileage expenses to a green fund.

15.4 Announcements

16. Information Items16.1 [Ontario Honours and Awards Secretariat](#) re: 2023 Ontario Volunteer Service Awards

Page 88

16.2 [Ministry of Municipal Affairs and Housing](#) re: More Homes Built Faster: Ontario's Housing Supply Action Plan 2022-2023

Page 89

- 16.3** [Vanastra Recreation Centre/Day Care Management Committee](#) re:
Minutes from October 17, 2022

Page 90

17. Other Business

18. By-laws

- 18.1** [By-law 090-2022](#), A By-law to Authorize for Winter Maintenance with
Owen Sound Highway Maintenance Limited

Page 94

- 18.2** [By-law 091-2022](#), A By-law to Enter into a Minutes of Settlement
Agreement with 1025343 Ontario Inc.

Page 98

- 18.3** [By-law 092-2022](#), A By-law to Adopt Amendment 14 to Huron East
Official Plan

Page 108

- 18.4** [By-law 093-2022](#), A By-law to Amend the Zoning By-law 52-2006

Page 113

- 18.5** [By-law 094-2022](#), A By-law to Confirm Council Proceedings

Page 117

19. Confirmatory By-law

- 19.1** By-law 094-2022, Confirm Council

20. Adjournment



Municipality of Huron East Council Meeting Minutes
Council Chambers
2nd Floor, 72 Main Street South, Seaford
Tuesday, October 18, 2022

Members Present:

Mayor: Bernie MacLellan; Deputy Mayor: Robert Fisher; Councillors: Raymond Chartrand, Brenda Dalton, Dianne Diehl, Larry McGrath, Alvin McLellan, Justin Morrison, Zoey Onn, Joe Steffler, and Gloria Wilbee

Staff Present:

CAO Brad McRoberts; Clerk Jessica Rudy; Director of Finance – Treasurer Stacy Grenier; and Public Works Manager Barry Mills

Others Present:

Sana Malik, KPMG (Item 6.1)

Bruce Peever, KPMG (Item 6.1)

Huron County Planner Jenn Burns

1. Call to Order and Opening Remarks

Mayor MacLellan called the meeting to order at 7:00 p.m.

2. Land Acknowledgement

Mayor MacLellan provided the land acknowledgement.

3. Confirmation of the Agenda

Moved by Deputy Mayor Fisher and Seconded by Councillor Diehl:

That the Agenda for the Regular Meeting of Council dated October 18, 2022 be adopted as circulated.

Carried

4. Disclosure of Pecuniary Interest

None declared.

5. Minutes of Previous Meeting

Moved by Councillor Morrison and Seconded by Councillor Chartrand:

That Council of the Municipality of Huron East approve the following Council Meeting

Minutes as printed and circulated:

5.1 Regular Meeting – October 4, 2022

5.2 Public Meeting – October 4, 2022

Carried

6. Public Meetings/Hearings and Delegations

6.1 Delegation: Sana Malik and Bruce Peever, KPMG re: Service Delivery Review

S. Malik and B. Peever from KPMG appeared before Council to present the top ten opportunities as identified through the service delivery review process. A copy of the presentation is [appended](#) to the original minutes.

Council noted their appreciation of the report and the time and effort involved.

6.2 Public Meeting re: Zoning By-law Amendment for Concession 1, Part Lots 69 and 70, Grey Ward (Marcrest Holdings Inc.)

Moved by Deputy Mayor Fisher and Seconded by Councillor Wilbee:

That the Council of the Municipality of Huron East adjourn the regular meeting of Council at 7:28 p.m. to go into a Public Meeting to discuss the following:

- a) Zoning By-law Amendment for Concession 1, Part Lots 69 and 70, Grey Ward (Marcrest Holdings)

Carried

Council reconvened at 7:34 p.m.

7. Accounts Payable - \$4,279,109.60

Moved by Councillor Wilbee and Seconded by Councillor Morrison:

That the accounts payable in the amount of \$4,279,109.60 be approved for payment.

Carried

8. Reports & Recommendations of Municipal Officers

8.1 CAO-22-52, Municipal Service Delivery Review

CAO Brad McRoberts outlined how the opportunities presented in the report will be used in the strategic planning process for the new Term of Council.

Moved by Deputy Mayor Fisher and Seconded by Councillor Diehl:

That the Council of the Municipality of Huron East accept the Municipal Service Delivery Review completed by KPMG, as presented.

Carried

8.2 FIN-22-11, 3rd Quarter Variance Report - 2022 Budget

Director of Finance – Treasurer Stacy Grenier provided an overview of the 3rd quarter variance report noting that revenues and expenditures are on target for 2022.

Moved by Councillor Diehl and Seconded by Councillor Morrison:

That the Council of the Municipality of Huron East receive the report on 3rd Quarter Variance Report-2022 Budget for information.

Carried

8.3 CLK-22-21, Part Lot Control Exemption - Briarhill Road – Residential Development – Baker Planning Group (Pol Quality Homes)

Moved by Councillor Chartrand and Seconded by Councillor Wilbee:

That the Council of the Municipality of Huron East consider the By-law to provide exemption from Part Lot Control for Briarhill Road Residential Development in Seaforth, Municipality of Huron East, County of Huron.

Carried

8.4 CLK-22-22, Animal Control By-law – Kennel Licensing

Clerk Jessica Rudy provided an overview of the By-law noting the specific changes to the kennel licensing section which includes maximum number of dogs/puppies, sanitization requirements and a grandfather clause of five years for current kennels.

Moved by Councillor Morrison and Seconded by Councillor Diehl:

That the Council of the Municipality of Huron East consider the Animal Control By-law for approval.

Carried

8.5 PW-22-11, Brussels Subdivision – Bryans Street & Anderson Drive Project No. 319009-H GM BluePlan – Hydro Tender

Public Works Manager Barry Mills provided the results of the hydro tender for the Bryans Street and Anderson Drive project in relation to the Brussels subdivision, noting that Kurtis Smith Exacting Inc. was the only respondent.

In response to Council, it was reported that the tender package was provided to all pre-approved Festival Hydro contractors.

Moved by Councillor Morrison and Seconded by Councillor Wilbee:

That the Council of the Municipality of Huron East accept the tender of Kurtis Smith Excavating Inc. in the amount of \$274,364.00 including all provisional items,

contingency allowance and 13% HST, for Hydro Servicing and Street Light installation on Bryans Street and Anderson Drive in Brussels.

Carried

8.6 PW-22-12, 2007 Volvo G960 Replacement

Public Works Manager Barry Mills provided an overview of the maintenance and repairs that have been completed on the grader to date and the opportunity to trade in the 2007 Volvo for a 2016 John Deere.

Moved by Councillor Steffler and Seconded by Councillor McLellan:

That the Council of the Municipality of Huron East authorize the Public Works Manager to trade the Municipality's 2007 Volvo Grader to Jade Equipment Company LTD. for a 2016 John Deere 770G E005576 with a difference in value of \$198,300 plus Huron East portion of the HST being \$3,490.47;

And That the funds be taken from unrestricted reserves being the Equipment reserves \$100,000 and the Vibrancy funding reserves \$101,491 be used for the purchase.

Carried

Moved by Councillor Morrison and Seconded by Councillor Chartrand:

That Huron East Council receive the following Reports of Municipal Officers as presented:

- (1) CAO
- (2) Director of Finance -Treasurer
- (3) Clerk
- (4) Public Works Manager

Carried

9. Correspondence

9.1 Municipality of Morris-Turnberry re: Federal Electoral District Redistribution

Council discussed the motion from the Municipality of Morris-Turnberry and concluded that along with a letter of support a similar motion will be brought forward to Council.

Moved by Councillor Diehl and Seconded by Councillor Onn:

That the Council of the Municipality of Huron East support the resolution from the Municipality of Morris-Turnberry regarding the proposed plan for the redistribution of federal electoral districts in Ontario.

Carried

9.2 County of Huron re: Consultation Request for Implementation of Legislation on Cannabis Regulation

Council discussed the motion from the County of Huron and concluded that along with a letter of support a similar motion will be brought forward to Council.

Moved by Councillor Wilbee and Seconded by Deputy Mayor Fisher:

That the Council of the Municipality of Huron East support the resolution from the County of Huron regarding enhanced consultation with municipal governments when drafting and implementing legislation and regulations dealing with matters related to cannabis production.

Carried

9.3 Seaforth Lions Club re: Request for Road Closure for the Santa Claus Parade

Moved by Councillor Onn and Seconded by Councillor Morrison:

That the Council of the Municipality of Huron East approve the request from the Seaforth Lions Club to temporarily close Main Street in Seaforth on Friday, November 25, 2022 from 6:30 p.m. until 8:30 p.m. for the Santa Claus Parade.

Carried

10. Unfinished Business

11. Municipal Drains

11.1 Court of Revision re: Baker Municipal Drain

Councillor McLellan reported out from the Court of Revision meeting held on October 18, 2022 at 6:00 p.m. for the Baker Municipal Drain and stated the following motion was passed:

Moved by Councillor Diehl and Seconded by Councillor Chartrand

That the appeal of Dawn Yundt to the Court of Revision for the Baker Municipal Drain be acknowledged and that the Schedule of Assessment for the Baker Municipal Drain be amended as follows:

Decrease the benefit assessment by \$10,390 to D. Yundt property and;

Increase the benefit assessment by \$4,890 to R. Schlumpf; \$3,690 to H. Friesen and \$1,810 to Huron East (Frederick Street).

Carried

Councillor McLellan noted that the Court of Revision process was unclear to the appellant and the appeal was heard at the meeting, opposed to in writing, which is

allowed at the discretion of the Chair. It was suggested that Council, staff and engineers continue to work with landowners during municipal drain improvements as it is not a commonly know process.

12. Planning

12.1 Recommendation of Council re: Zoning By-law Amendment for Marcrest Holdings Inc., for the Lands Legally Known as Concession 1, Part Lots 69 and 70, Grey Ward

Moved by Councillor Diehl and Seconded by Councillor Onn:

Whereas the Council of the Municipality of Huron East has held a public meeting pursuant to Section 34(12) of the Planning Act, 1990 with respect to the proposed Zoning By-law 087-2022;

And Whereas no public comments were received on this application;

And Whereas no agency comments were received on this application;

Now Therefore, pursuant to Section 34(18) of the Planning Act, 1990, Council concurs with the October 14, 2022 Planning Report and recommends By-law 087-2022 for approval.

Carried

13. Council Reports

13.1 Council Member Reports

13.1.1 County Council Report

It was noted that the County of Huron is in a Lame Duck situation thus restricting the actions of Council.

13.1.2 Other Boards/Committees or Meetings/Seminars

Mayor MacLellan noted that the Rural Talks to Rural Conference is underway in Brussels, at the Four Winds Barn, and recognized that many of the Huron East Councillors are attending.

13.2 Requests by Members

13.3 Notice of Motion

Councillor McLellan provided notice for a motion for Members of Council to consider voluntarily donating a small portion of mileage expenses to a green fund such as planting trees.

Deputy Mayor Fisher requested the Huron County report on waste reduction be added to the next agenda as background for a future motion to accept and adopt the plan for Huron East.

13.4 Announcements

Councillor Chartrand announced that certificate of excellence received from the Seaforth Legion was presented to Tanner Glanville at the Town Hall.

Councillor McLellan announced that the Drive Thru Ethel Community supper will be held on October 30th, 2022 from 4p.m. to 6 p.m.

14. Information Items

14.1 Council Expenses for September 2022

Received for information

14.2 Ministry of Municipal Affairs and Housing re: Thank you for Contributions and Support Offered to the Ministry of Municipal Affairs and Housing

Received for information.

Moved by Councillor Morrison and Seconded by Councillor Diehl:

That Huron East Council receive the following Board and Committee meeting Committee minutes as submitted:

14.3 Seaforth & District Community Centre Management Committee – October 11, 2022

14.4 Water and Sewer Committee – October 11, 2022

Carried

15. Other Business

16. By-laws

Moved by Deputy Mayor Fisher and Seconded by Councillor Onn:

That Be It Hereby Resolved that leave be given to introduce By-laws 77, 86, 87, 88 and 89 for 2022.

By-law 077-2022 – A By-law to Regulate Animal Care and Control with the Municipality of Huron East and Repeal By-law 44-2015

By-law 086-2022 – A By-law to Exempt Certain Lands from Part Lot Control, - Briarhill Road, Seaforth

By-law 087-2022 - A By-law to Amend the Zoning on Concession 1 Part Lots 69 and 70, Grey Ward

By-law 088-2022 - A By-law for Temporary Road Closure in Seaforth for the Santa Claus Parade

By-law 089-2022 – Confirm Council Proceedings

Carried

Moved by Councillor Morrison and Seconded by Councillor Wilbee:

That Be it Hereby Resolved By-law 077-2022, A By-law to Regulate Animal Care and Control with the Municipality of Huron East and Repeal By-law 44-2015 be given first, second, third and final readings and signed by the Mayor and Clerk, and the Seal of the Corporation be affixed thereto.

Carried

Moved by Councillor Diehl and Seconded by Councillor Onn:

That Be it Hereby Resolved By-law 086-2022, A By-law to Exempt Certain Lands from Part Lot Control, - Briarhill Road, Seaforth be given first, second, third and final readings and signed by the Mayor and Clerk, and the Seal of the Corporation be affixed thereto.

Carried

Moved by Deputy Mayor Fisher and Seconded by Councillor Morrison:

That Be it Hereby Resolved By-law 087-2022, A By-law to Amend the Zoning on Concession 1 Part Lots 69 and 70, Grey Ward, be given first, second, third and final readings and signed by the Mayor and Clerk, and the Seal of the Corporation be affixed thereto.

Carried

Moved by Councillor Morrison and Seconded by Councillor Chartrand:

That Be it Hereby Resolved By-law 088-2022, A By-law for Temporary Road Closure in Seaforth for the Santa Claus Parade, be given first, second, third and final readings and signed by the Mayor and Clerk, and the Seal of the Corporation be affixed thereto.

Carried

17. Closed Session And Reporting Out (Section 239 Of The *Municipal Act*, 2001)

18. Confirmatory By-law

Moved by Councillor Diehl and Seconded by Councillor McLellan:

That Be It Hereby Resolved that By-law 089-2022, a By-law to confirm the proceedings of Council, be given first, second, third and final reading and signed by the Mayor and Clerk, and the Seal of the Corporation be affixed thereto.

Carried

19. Adjournment

Moved by Councillor Chartrand and Seconded by Councillor Steffler:

The time now being 8:28 p.m. That the regular meeting do adjourn until November 1, 2022 at 7:00 p.m.

Carried

Bernie MacLellan, Mayor

Jessica Rudy, Clerk

Municipality of Huron East

Service Delivery Review

Final Report

October 18, 2022

Disclaimer

This report has been prepared by KPMG LLP ("KPMG") for the Municipality of Huron East ("Client" or "Municipality") pursuant to the terms of our engagement agreement with Client dated April 28, 2022 (the "Engagement Agreement"). KPMG neither warrants nor represents that the information contained in this report is accurate, complete, sufficient or appropriate for use by any person or entity other than Client or for any purpose other than set out in the Engagement Agreement. This report may not be relied upon by any person or entity other than Client or for any purpose other than set out in the Engagement Agreement. This report may not be relied upon by any person or entity other than Client, and KPMG hereby expressly disclaims any and all responsibility or liability to any person or entity other than Client in connection with their use of this report.

The information provided to us by Client was determined to be sound to support the analysis. Notwithstanding that determination, it is possible that the findings contained could change based on new or more complete information. KPMG reserves the right (but will be under no obligation) to review all calculations or analysis included or referred to and, if we consider necessary, to review our conclusions in light of any information existing at the document date which becomes known to us after that date. Analysis contained in this document includes financial projections. The projections are based on assumptions and data provided by Client. Significant assumptions are included in the document and must be read to interpret the information presented. As with any future-oriented financial information, projections will differ from actual results and such differences may be material. KPMG accepts no responsibility for loss or damages to any party as a result of decisions based on the information presented. Parties using this information assume all responsibility for any decisions made based on the information.

No reliance should be placed by Client on additional oral remarks provided during the presentation, unless these are confirmed in writing by KPMG. KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

Project Overview

Municipality of Huron East
Service Delivery Review
Final Report

Project Overview



Project Objectives

The Municipality of Huron East was seeking to conduct a comprehensive evaluation of the services provided by the Municipality, how those programs and services are delivered, and the level at which they are delivered.

The objective of this review was to create a long-term sustainable framework to ensure the Municipality has a solution-based plan to meet the increasing complexities of municipal service delivery, such as limited resources, operational challenges, and community expectations.

The recommendations resulting from the review were intended to help the Municipality become more efficient and effective in its delivery of services to citizens and will also shine light on opportunities for customer service improvement and overall modernization.



Project Drivers

The Municipality was looking to evaluate opportunities to streamline operations in all departments, identify efficiencies, reduce costs and expand revenue streams, explore potential shared services with neighboring municipalities or private sector, review the organizational structure, current procedures and systems, and the resources allocated for service delivery; improve communications; and explore new possible services to meet the needs of the community.

Completing the review ensures that residents are being served by an efficient, cohesive, accessible and comprehensive service delivery model.

We understand that the Council is taking a foundational approach to developing a strategic plan and will want to use the information and recommendations from the Review to consider as part of their Corporate and Community Strategic Plans.



Project Timing

The project was broken down into phases to allow for input and collaboration with the Municipality's staff and management. The review commenced in May 2022 and will be completed when the final report is presented to Council in October 2022.

Work Plan and Progress

KPMG conducted the project according to the following work plan. The team performed key activities and deliverables using a 5-phased methodology. This report summarizes our activities from Phase 1-5, which include the following:

- 23 interviews with Council, management and key service delivery personnel
- 2 Committee Surveys, 1 Employee Survey, and 1 Community Survey
- Benchmarking analysis and interviews with comparator municipalities
- Development of service profiles
- Working sessions to develop recommended opportunities

Completed ✓

Completed ✓

Completed ✓

Completed ✓

Completed ✓



**Phase 1
Project Initiation**
Met with the Project Team to clarify expectations, refined lines of inquiry, and developed a work program and stakeholder engagement plan for the engagement.



**Phase 2
Environmental Scan**
Key activities included:
• Documentation review
• Stakeholder consultation
• Benchmarking and Leading Practice Review



**Phase 3
Review Current Service Delivery Model**
Summarize the different services provided by the Municipality in service profiles.



**Phase 4
Opportunity Identification and Recommendation**
Identify and prioritize opportunities for innovative service delivery.



**Phase 5
Final Report & Presentation**
Develop a Final Report and implementation plan that incorporates Project Team feedback. Present Final Report to Council to close out the project.

Top Opportunities

Municipality of Huron East
Service Delivery Review
Final Report

Top Opportunities Themes – Legend





Each top opportunity theme was assessed with four key impacts if the Municipality implements the change. The definition for each assessment criteria is outlined below.

Assessment Criteria	Definition
FINANCIAL IMPACT	<p>Opportunity's impact on the Municipality's operating and capital budgets.</p> <ul style="list-style-type: none"> Green: Positive impact or strongly aligned to operating and capital budget. Yellow: Neutral impact or somewhat aligned to operating and capital budget. Red: Negative impact or not aligned to operating and capital budget.
CITIZEN IMPACT	<p>Opportunity's impact on municipal service delivery or citizen experience.</p> <ul style="list-style-type: none"> Green: Positive impact or strongly aligned to municipal service delivery or citizen experience. Yellow: Neutral impact or somewhat aligned to municipal service delivery or citizen experience. Red: Negative impact or not aligned to municipal service delivery or citizen experience.
RISKS	<p>Assessment of the impact of potential barriers/risks to the implementation of the opportunity.</p> <ul style="list-style-type: none"> Green: No barriers/potential risks to the implementation of the opportunity. Yellow: Some barriers/potential risks to the implementation of the opportunity. Red: Multiple barriers/potential risks to the implementation of the opportunity.
STRATEGIC ALIGNMENT	<p>The opportunity's level of alignment to the Municipality's strategic priorities.</p> <ul style="list-style-type: none"> Green: Positive impact or strongly aligned to the Municipality's strategic priorities. Yellow: Neutral impact or somewhat aligned to the Municipality's strategic priorities. Red: Negative impact or not aligned to the Municipality's strategic priorities.

Disruption Gauge	<p>Disruption Gauge:</p> <p>Overall impact the opportunity would have on operations and services to the Municipality.</p> <ul style="list-style-type: none"> Green: Minimal disruption to the organization. Yellow: Neutral disruption to the organization. Red: Disruption to the organization.
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Develop Strategic Plan & Formalize a Corporate Performance Framework



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment		
Office of the CAO	CAO Administration	Essential						
Opportunity Description			Assessment Rationale					
<p>The Municipality is developing a Strategic Plan with the new term of Council to set Huron East's short-term and long-term strategic goals and objectives. The Strategic Plan will provide a streamlined direction for service delivery. The Plan will also serve as a "Plan of Action" tool for leadership and staff. The Municipality does not have defined and formalized key performance metrics or indicators. There is an opportunity to:</p> <ul style="list-style-type: none">• formalize a corporate performance management framework to measure success and progress towards goals, and• implement strategic corporate KPIs to assist decision making and focus on continuous improvement. <p>The data derived from implementing a Corporate Performance Management Framework can work to support Council decisions, set policy, inform reviews, evaluate programs, support budget recommendations, identify trends, and develop data dashboards. If implemented, the framework can reinforce big-picture strategic planning by encouraging goal-setting in multiple areas, such as financial performance, customer service, operational efficiencies, and can also promote innovation and learning. This allows the Municipality to quantify and assess areas for improvement against key strategic priorities and curate solutions to enhance performance.</p>			Financial Impact	Citizen Impact				
			This opportunity would have minor impact to the Municipality's operating budget to invest in establishing the Strategic Plan and Corporate Performance Framework.			The opportunity will have a positive impact on citizen experience in relation to higher quality of municipal service delivery.		
			Risks	Strategic Alignment				
There are minor risks/barriers associated with implementation of this opportunity. These include:				This opportunity is aligned with the Municipality and Council's strategic priorities of improving service delivery and customer service through streamlined performance management across the organization.				
<ul style="list-style-type: none">• Lack of stakeholder buy-in to move away from traditional ways of doing business.• Unsuccessful change management• Siloed risk and performance management approach• Over-complicating the use of KPIs• Exceeding the capacity of the organization to support the data requirements for KPIs								





Assess the Business Case of Repurposing or Divesting Under-utilized Buildings



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment
Office of the CAO	Corporate Building Maintenance	Essential				
Opportunity Description			Assessment Rationale			
There is an opportunity for the Municipality to assess its current real estate portfolio and either repurpose or dispose of its under-utilized, less functional facilities/properties. Consolidating the real estate portfolio allows the Municipality to maintain properties in a more sustainable manner.			Financial Impact		Citizen Impact	
The Municipality can concentrate the use of funding to municipal buildings/properties that support community and service needs instead of spreading resources across multiple idle/under-use properties. A consolidated and utilized real estate portfolio will reduce the Municipality's operating costs, improve operational efficiency, and further enhance asset management.			This opportunity would have minor impact to the Municipality's operating budget to invest in the assessment study by an external consultant.		The opportunity will have a positive/neutral impact on citizen experience in relation to higher quality of municipal service delivery.	
Repurposing and/or disposing under-utilized, less functional facilities/properties will also generate revenue that can be used to seed a Building Maintenance reserve to fund future capital expenditures for the remaining real estate portfolio.			There might be some citizens that are attached to certain facilities and may raise concerns to divest/repurpose a property.			
			Risks		Strategic Alignment	
			There are minor risks/barriers associated with implementation of this opportunity. These include: <ul style="list-style-type: none"> Lack of stakeholder buy-in to repurpose/divest from properties Insufficient information and data to assess utilization of a facility Not meeting AODA requirements 		This opportunity is aligned with the Municipality and Council's strategic priorities of improving service delivery and customer service through streamlined performance management across the organization.	





Develop a Workforce Plan to Address Service Demand and Succession Needs



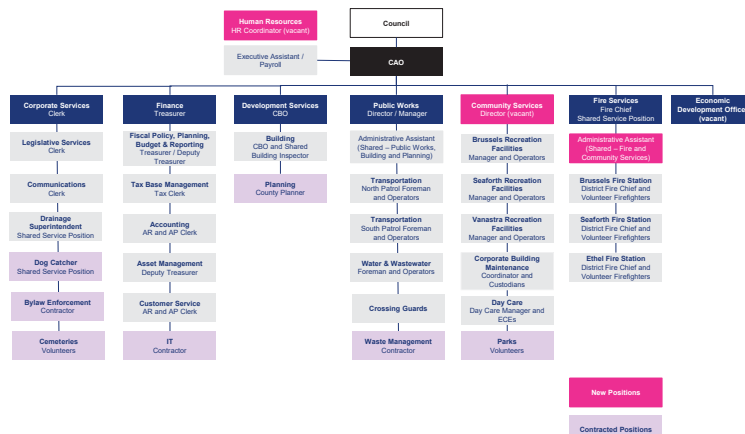
Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment		
Office of the CAO	Human Resources	Essential						
Opportunity Description			Assessment Rationale					
<p>The Municipality has experienced 7.5% population growth in the last 5 years. 58% of the Municipality's workforce is projected to retire by 2030. The Municipality needs to proactively develop a Workforce Plan to address future retirements, and to strategically manage recruiting and retention challenges.</p> <p>Key positions that the Municipality needs to strategically recruit and retain and develop succession plans for include:</p> <ul style="list-style-type: none">Economic Development Officer (underway)Fire Chief (underway)District Fire ChiefsChief Building OfficialDirector of Public WorksBuilding and Property CoordinatorVolunteers (cemetery and parks)Public Works and Planning AssistantRecreation Manager <p>Stakeholders identified the need of the following new positions to address service demand:</p> <ul style="list-style-type: none">Director of Community Services to lead recreation and parks services and to address aging volunteersFull-time administrative support staff for fire services, building, public works, community servicesHR coordinator to implement HRIS and Workforce PlanDevelop an internship program to attract young talent for succession planning			Financial Impact	Citizen Impact				
			This opportunity would have an offsetting impact to the Municipality's operating budget by recruiting and investing in the workforce. At the same time, it avoids cost stemming from personnel turnover, such as:			The opportunity will have an overall positive impact for residents and businesses. Citizens will experience better services delivered in a more efficient and seamless manner.		
			<ul style="list-style-type: none">Training / replacement of staff knowledgeLoss of productivity and accumulation of tasks that are in backlog					
			Risks					
			There are minor risks/barriers to the this opportunity:			This opportunity is strongly aligned with the Municipality's strategic priorities to modernize operations and to be resilient to change.		

Reassess the Current Organizational Structure



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment		
Office of the CAO	Human Resources	Essential						
Opportunity Description			Assessment Rationale					
<p>The CAO currently has 11 direct reports:</p> <ul style="list-style-type: none">Executive Assistant/Payroll AdministratorClerkTreasurerEconomic Development OfficerChief Building OfficialBuilding & Property CoordinatorFire Chief3 Recreation Facilities ManagersDaycare SupervisorVolunteer groups (cemeteries, parks and recreation) <p>There is an opportunity to re-evaluate the organizational structure to balance leadership's span of control while providing necessary oversight of operations and guidance to staff.</p> <ul style="list-style-type: none">Review the organizational design to better align with corporate strategic priorities.Consider each department's resourcing (budgeting) levels and complexity of service portfolios to be "future ready".Create synergies to further promote internal collaboration.Strategic approach to workforce management and collaboration with volunteer groups <p>The Municipality would also need to conduct a pay equity review as part of re-organization.</p>			Financial Impact	Citizen Impact				
			This opportunity may require a one-time study cost.			<p>An optimized, realigned staffing structure will have positive citizen impact as this opportunity will lead to more efficient and effective approach to service delivery and enhanced customer experience.</p>		
			Risks	Strategic Alignment				
			There are minor risks/barriers associated with implementation of this opportunity. These include:		<p>This opportunity is strongly aligned with the Municipality's strategic priorities to modernize operations.</p>			
			<ul style="list-style-type: none">Unsuccessful change managementLow employee engagement/satisfaction during and after the re-org					

Recommended Organization Structure



Review the Special Area-Rated Tax Model



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment
Finance	Financial Management	Mandatory				
Opportunity Description			Assessment Rationale			
Stakeholder consultations and benchmarking analysis indicated that there are opportunities to review Huron East's financial policies to support the strategic and long-term approach to managing municipal resources. Specifically, there is an opportunity to modernize the Municipality's special area-rated tax model by reducing the administration of different tax rates to deliver municipal services across wards and communities. Simplification of tax rates will improve administrative efficiencies and provide more equitable services across communities.			Financial Impact		Citizen Impact	
			Updating the special area-rated tax model would have a positive financial impact to the Municipality's budget. <ul style="list-style-type: none"> Simplifies municipal tax calculations and improves transparency of public understanding Efficiency and time savings for staff to administer tax rates 		The opportunity will have an overall positive impact on service delivery for the majority of Huron East residents and businesses. Some rate payers may have a negative experience in the short-term due to changing rates. This will be offset by long-term positive impacts where citizens receive more consistent and efficient service delivery.	
			Risks		Strategic Alignment	
			There are minor risks/barriers to this opportunity: <ul style="list-style-type: none"> Opposition by property owners and residents that perceive they will have to pay more for services, specifically in rural areas. 		This opportunity is moderately aligned with Council priorities by allowing the Municipality to be financially efficient and sustainable.	

Review Financial Processes



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment
Finance	Financial Management	Mandatory				
Opportunity Description			Assessment Rationale			
<p>During stakeholder interviews, several staff indicated that the current version of Great Plains (the Municipality's accounting and finance software) is no longer agile enough to support operational needs and manual processes were created to work around current system limitations.</p> <p>As service areas are looking to modernize their processes, there is an opportunity to implement the latest version of Great Plains to modernize financial workflows, including updating financial policies and procedures. Functionalities that staff would like to explore include:</p> <ul style="list-style-type: none">• Electronic billing capabilities• Digital property records and property tax customer portal• More efficient and stronger budgeting and financial reporting features• Stronger system integration capabilities (i.e., customer online payments, asset management data, building and planning approvals, etc.) <p>The Municipality can also benefit from a long-term corporate financial plan to support execution of strategic priorities.</p>			Financial Impact		Citizen Impact	
			Investment is required to conduct the study and to update the accounting and finance software.		The opportunity will have an overall positive impact for residents and businesses with more efficient processes to handle citizen-facing services.	
			Risks		Strategic Alignment	
			There are minor risks/barriers to this opportunity:		This opportunity is strongly aligned with Council strategic priorities by allowing the Municipality to improve workflows and promote more efficient and effective processes.	
		<ul style="list-style-type: none">• Failure of leadership or employee buy-in to move away from traditional ways of doing business• Unsuccessful change management• Technology integration and implementation challenges• Delays or lack of IT support from internal resources or external vendors				

Coordinate Asset Management Responsibilities between Departments



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment
Finance	Financial Management	Mandatory				
Opportunity Description			Assessment Rationale			
<p>Finance is responsible for asset management; however, Finance relies on individual departments responsible for maintaining the physical assets to update the asset registry and maintenance data.</p> <p>There is an opportunity to coordinate asset management responsibilities between various departments to improve the asset management program and maintenance of asset management data, specifically:</p> <ul style="list-style-type: none">• Improve the collection and use of CityWide data• Record building condition assessments in the asset management system (records are currently maintained manually)• Develop a strategic funding approach to address new development and aging infrastructure needs (roads, bridges, culverts, storm sewers, water, wastewater, facilities and parks, etc.) and to clarify how capital projects are prioritized• Improve cross-departmental collaboration and information sharing. Clarify who is responsible for timely updating asset data in the asset management system.			Financial Impact	Citizen Impact		
			<p>This opportunity would have no impact to the Municipality's operating and capital budget of achieving a more efficient asset management model.</p>	<p>The opportunity does not directly impact citizens or customers, but will have an overall positive indirect impact through improved asset management practices of maintaining infrastructure.</p>		
			Risks	Strategic Alignment		
			<p>There are minor risks/barriers to this opportunity:</p> <ul style="list-style-type: none">• Failure of leadership or employee buy-in to move away from traditional ways of doing business• Unsuccessful change management• Lack of staff capacity to timely update asset management data	<p>This opportunity is strongly aligned with the Municipality's strategic priorities to invest in infrastructure.</p>		

Update Building and Planning Services Processes



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment
Building and Planning	Building and Planning Services	Mandatory				
Opportunity Description			Assessment Rationale			
<p>Building and Planning Department is undertaking the initiative to digitize land management records. There is an opportunity to implement an e-permitting system to digitize the building permit process. Process modifications include:</p> <ul style="list-style-type: none">• Implement a cloud-based platform to review/markup drawings• Schedule online inspection requests• Document key procedures and checklists <p>Review of development applications is a highly manual process, including working with the County and commenting agencies to process applications timely. There is an opportunity to also digitize the planning application review and approval process to manage review timelines, track application status, streamline communication and documentation retention. In addition, public education of application procedures is needed to facilitate submission of complete applications and minimize re-submissions/revisions.</p> <p>The resourcing model for Building and Planning could also be re-evaluated to meet service demand and current/new legislative requirements.</p> <p>Finally, the Municipality could also review the application fee structure to determine the reasonableness of cost recovery.</p>			Financial Impact	Citizen Impact		
			<ul style="list-style-type: none">• Financial investment is needed to implement an e-permitting software and to digitize building and planning application procedures.• Investment may be needed to add more resources to Building and Planning Services to implement change and to align with service demand.• There will also be a one-time fee to conduct a fee structure review.	An end to end review of the application process will have a positive citizen impact because digitization and process improvement initiative will lead to a leaner, more efficient and effective approach to service delivery for building, planning and development applications.		
			Risks	Strategic Alignment		
There are minor risks/barriers to this opportunity:				This opportunity strongly aligns with the Municipality's strategic priorities of economic growth.		
<ul style="list-style-type: none">• Failure of leadership or employee buy-in to move away from traditional ways of doing business• Unsuccessful change management• Technology integration and implementation challenges• Delays or lack of IT support from internal resources or external vendors						

Implement an Online Booking and Registration System



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment		
Office of the CAO	Recreation and Parks Services, Daycare Operations	Traditional						
Opportunity Description			Assessment Rationale					
<p>Facility bookings and program registration are done manually by each recreation facility and at the daycare centre. There is an opportunity to implement an online booking and program registration system to allow customers to register recreation programs, and use of parks, community centres/recreation facilities and the daycare centre.</p> <p>Moving towards an online system allows the Municipality to improve customer service by allowing citizens the ability to access services 24/7. A central system also allows staff to organize resources more efficiently and to use data to make business decisions. Other benefits to using a digital platform include:</p> <ul style="list-style-type: none">• Simplify facility booking and program registration administration• Track sales and registration data to better understand community interests and needs• Automate billing and payments			Financial Impact	Citizen Impact				
			There is a one-time cost to implement a booking system and annual fees to maintain the system. The investment will help generate service efficiency.			Implementing an online booking and registration system will have a positive impact on Huron East residents with more convenient services.		
			Risks	Strategic Alignment				
			There are minor risks/barriers to this opportunity:			This opportunity strongly aligns with the Municipality's strategic priorities of improving customer service.		
			<ul style="list-style-type: none">• Failure of leadership or employee buy-in to move away from traditional ways of doing business• Unsuccessful change management• Technology integration and implementation challenges					

Assess the Provision & Delivery Model of Child Care Services to Address Service Demand



Department	Services	Service Type	Financial Impact	Citizen Impact	Risks	Strategic Alignment
Office of the CAO	Daycare Operations	Discretionary				
Opportunity Description			Assessment Rationale			
<p>Daycare operations is a discretionary service provided by the Municipality due to a lack of child care providers within the community.</p> <p>The Municipality provides direct delivery of daycare services at the Vanastara Early Learning Centre. Other Child Care and Early Years Services are managed and delivered by Huron County. The Vanastara Early Learning Centre provides licensed child care for up to 40 children, ages 0 – 4, and also provides before and after school care to children. The Centre is responsible for maintenance of daycare facilities, including compliance with ministry requirements of health and safety measures.</p> <p>The Centre has a long waiting list; with population and development growth the list is expected to grow. There is an opportunity for the Municipality to assess the provision and delivery model for providing child care services to address service demand.</p>			Financial Impact	Citizen Impact		
			<p>Investment is required to conduct the study to assess a revised service delivery model for child care services (for example how many registered spaces are required to meet community demand).</p>	<p>The opportunity will have an overall positive impact for residents with more options for childcare within the community.</p>		
			Risks	Strategic Alignment		
			<p>There are minor risks/barriers to this opportunity:</p> <ul style="list-style-type: none">• Opposition by citizens that increase in service delivery may potentially result in increase in tax levy• Inability to attract child care staff to provide the services• Perception within community that child care will be utilized by non-residents	<p>This opportunity is strongly aligned with the Municipality's strategic priorities to provide improved customer experience and attracting talent for economic growth.</p>		

We identified additional opportunities that would require further analysis by the Municipality for Council consideration

Additional Opportunities

We identified additional opportunities that would require further analysis by the Municipality for Council consideration

Opportunities Underway or Recently Completed

These opportunities are underway or recently completed



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The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

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Document Classification: KPMG Public



Municipality of Huron East Public Meeting Minutes
Council Chambers
2nd Floor, 72 Main Street, South, Seaforth
Tuesday, October 18, 2022

Members Present:

Mayor: Bernie MacLellan; Deputy Mayor: Robert Fisher; Councillors: Raymond Chartrand, Brenda Dalton, Dianne Diehl, Larry McGrath, Alvin McLellan, Justin Morrison, Zoey Onn, Joe Steffler, and Gloria Wilbee

Staff Present:

CAO Brad McRoberts; Clerk Jessica Rudy; Director of Finance – Treasurer Stacy Grenier; and Public Works Manager Barry Mills

Others Present:

Jenn Burns, Planner, Huron County

1. Call to Order

Mayor MacLellan called the meeting to order at 7:28 p.m.

2. Confirmation of the Agenda

Moved by Councillor McLellan and Seconded by Councillor Onn:

That the Agenda for the Public Meeting for Zoning Amendments be adopted as circulated.

Carried

3. Disclosure of Pecuniary Interest

None declared

4. Provisions in Ontario Regulation 545/06, Section 5(11)5 of the Planning Act

Clerk Jessica Rudy advised the following provisions are contained in Ontario Regulation 545/06, Section 5(11)5:

- i. If a person or public body would otherwise have an ability to appeal the decision of the Council of the Municipality of Huron East to the Local Planning Appeal Tribunal but the person or public body does not make oral submissions at the public meeting or make written submissions to the Municipality of Huron East before the by-law is passed, the person or

public body is not entitled to appeal the decision.

- ii. If a person or public body does not make oral submissions at a public meeting, or make written submissions to the Municipality of Huron East before the by-laws are passed, the person or public body may not be added as a party to the hearing of an appeal to the Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to do so.

5. Zoning By-law Amendment Application

- a) Marcrest Holdings Inc. for Lands Legally known as Concession 1, Part Lots 69 and 70, Grey Ward, Municipality of Huron East

Clerk Jessica Rudy explained that the purpose for the proposed amendment is to change the zoning on the property AG-41 (General Agriculture – Special Provisions) to AG3-11 (Agricultural Commercial/Industrial – Special Provisions) to allow for the future expansion of Marcrest Holdings Inc.; and amend the text of the Ag1-41 General Agriculture – specials Provisions) zone provisions to recognize the deficient lot size. The application is a condition of Consent Application C60-2021 approved by Huron County in September 2021.

Huron County Planner Jenn Burns provided an overview to Council highlighting the details of the application, and the proposed re-zoning while noting that the application be recommended for approval.

The Mayor called for comments from the public and no comments were received.

6. Adjournment

Moved by Councillor Diehl and Seconded by Councillor Steffler:

That the Public Meeting for Zoning By-law Amendments be closed at 7:34 p.m.

Carried

Bernie MacLellan, Mayor

Jessica Rudy, Clerk



Municipality of Huron East

Public Meeting Agenda

Tuesday, November 1, 2022 at 7:00 P.M.

Council Chambers

2nd Floor, 72 Main Street South, Seaforth, ON

The purpose of the public meeting is to consider an amendment to the Huron East Zoning By-law and Official Plan.

- 1. Call to Order**
- 2. Confirmation of the Agenda**
- 3. Disclosure of Pecuniary Interest**
- 4. Provisions in Ontario Regulation 545/06, Section 5(11)5 of the Planning Act**
 - i. If a person or public body does not make oral submissions at a public meeting or make written submissions to the Municipality of Huron East before the by-laws are passed, the person or public body is not entitled to appeal the decision of the Municipality of Huron East to the Local Planning Appeal Tribunal.
 - ii. If a person or public body does not make oral submissions at a public meeting, or make written submissions to the Municipality of Huron East before the by-laws are passed, the person or public body may not be added as a party to the hearing of an appeal to the Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to do so.
- 5. Proposed Amendments to the Official Plan and Zoning By-law**
 - a) [Planner's Report](#) re: Official Plan Amendment 14 and Zoning By-law Amendment 09-2022 for Concession 10, PT Lot 18 & 19, McKillop Ward

Page 3

The proposed amendment to the Huron East Official Plan changes the designation of the subject lands from 'Extractive Resource' to Agriculture'.

The amendment to the Huron East Zoning By-law proposes to amend the zoning of the subject lands from 'Extractive Resource (ER1)' to 'General Agriculture (AG1)'

6. Adjournment



PLANNING & DEVELOPMENT

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To: Mayor MacLellan and Huron East Council

From: Jenn Burns, Planner

Date: October 27, 2022

Re: OPA 14 & ZBA 09-2022

Concession 10, PT Lot 18 & 19, McKillop Ward in the Municipality of Huron East

Address: 43359 Sawmill Road

Owner/Applicant: John McKercher for Ronald & Rebecca Janmaat

RECOMMENDATION

It is recommended that Zoning By-law Amendment Z09-2022 be approved, & Official Plan Amendment 14 be adopted by Huron East Council and forwarded to the County for approval.

PURPOSE

The lands subject to both the Official Plan Amendment and Zoning By-law Amendment are described as Concession 10, PT Lot 18 & 19, McKillop Ward in the Municipality of Huron East. The subject property is municipally known as 43359 Sawmill Road.

This application proposes change the designation from Extractive Resources to Agriculture to recognize that the former gravel pit is closed and the aggregate license is surrendered. This application will recognize the parcel for its current and future General Agricultural use.

The proposed amendment to the Huron East Official Plan changes the designation of the subject lands from to "Extractive Resources" to "Agriculture".

The amendment to the Huron East Zoning By-law proposes to amend the zoning of the subject lands from 'Extractive Resource (ER1)' to 'General Agriculture (AG1)'.

Maps showing the general location of the lands to which this Official Plan amendment and Zoning By-law amendment apply are shown on Schedule A attached. Schedule B identifies the location of the Official Plan designation amendment while Schedule C identifies the properties subject to the proposed zoning amendment.

REVIEW

The subject lands are designated Extractive Resources in the Huron East Official Plan. The lands subject to the zoning application are zoned ER1. Figure 2 depicts the lands to be rezoned and redesignated.

The Huron East Official Plan (HEOP) recognizes that the permitted uses in existing extractive resources designations include agricultural uses once the extractive resource on the subject lands is eliminated. The subject property contained a former extractive site, which has been/is in the process of being rehabilitated to Agricultural land. The property owners surrendered their extractive license, as there is no aggregate left on the property. They are now seeking to recognize the property as a farm parcel and plan to build a house accessory to the agricultural operation. As such, this application conforms with the HEOP.

The 2020 Provincial Policy Statement (PPS) includes policies to allow for properties utilized for mineral aggregate extraction to be rehabilitated to their previous use. In this case, the property will be utilized for Agriculture.

This application is consistent with the PPS and meets all policy criteria.

Figure 1. 2020 Air photo of the subject property

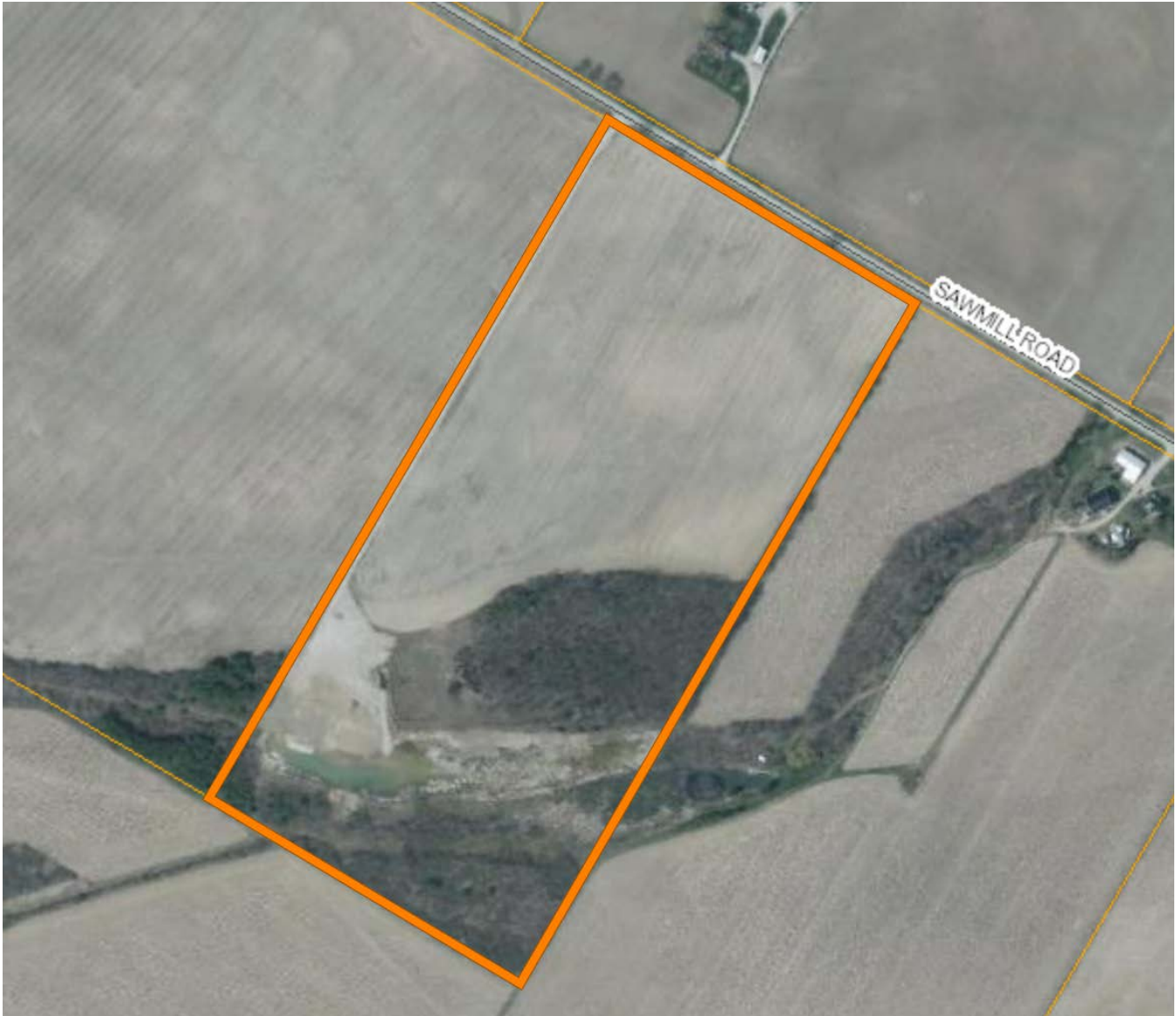
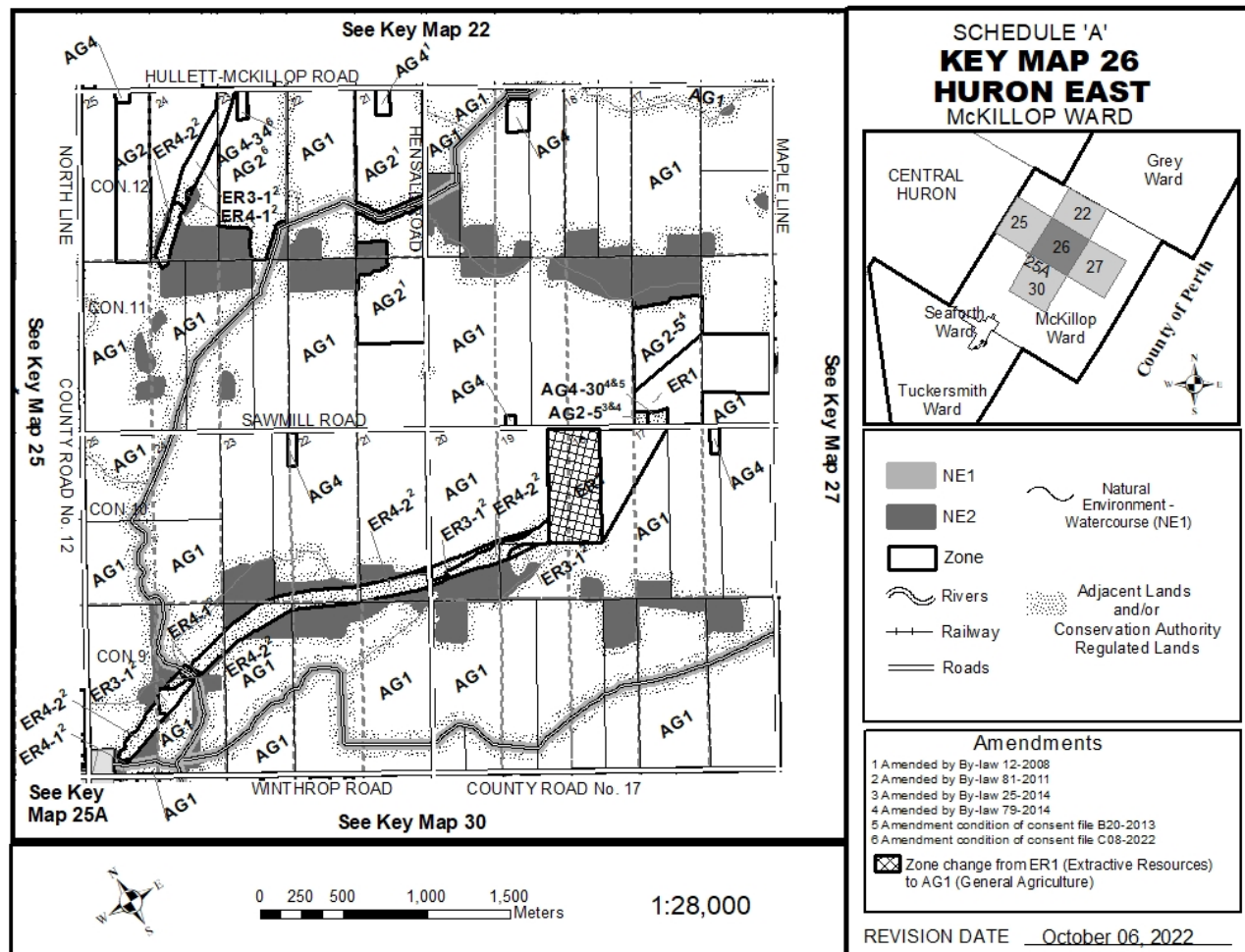


Figure 2. Location of proposed Zoning & Official Plan Change**COMMENTS RECEIVED**

No concerns were received from staff, agencies or neighbours at the time of writing this report.

CONCLUSION

This application is consistent with the applicable policies and is recommended for approval. As such, it is recommended that Zoning By-law Amendment Z09-2022 be approved, & Official Plan Amendment 14 be adopted by Huron East Council and forwarded to the County for approval.

Sincerely,

“original signed by”

Jenn Burns, Planner



Municipality of Huron East

Public Hearing Agenda

Tuesday, November 1, 2022 at 7:00 P.M.

Council Chamber

2nd Floor, 72 Main Street South, Seaforth, ON

The purpose of the public hearing of the Committee of Adjustment is to consider an application and decision for proposed minor variance to the Huron East Zoning By-law 52-2006.

- 1. Call to Order**
- 2. Confirmation of the Agenda**
- 3. Disclosure of Pecuniary Interest**
- 4. Minor Variance Applications**
 - a) [Planner's Report](#) re: MV03-2022 by Norma Jean Ciglar for 67 Brantford Street, Seaforth

Page 2

The proposed Minor Variance will provide relief from the Huron East Zoning By-law 52-2006 to allow for an accessory shed to be located in the exterior side yard setback. The shed is to be setback a minimum of 1m from the exterior side yard lot line.

- 5. Adjournment**

**PLANNING & DEVELOPMENT**

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To: The Municipality of Huron East
From: Jenn Burns, Planner & Shae Stoll, Student Planner
Date: October 24, 2022

Re: MV03-22 Minor Variance

67 Brantford Street, Seaforth (Legally Described as Lot 21 in BLK G, Plan 390), Municipality of Huron East

Owner/Applicant: Norma Jean Ciglar

RECOMMENDATION

It is recommended that minor variance amendment application MV03-22 be approved with the following condition:

1. The variance approval is valid for a period of 18 months from the date of the Committee's decision.

PURPOSE

The purpose of this application is to seek relief from Zoning By-law 52-2006 for the Municipality of Huron East. The property subject to this variance is zoned Residential Low Density Zone (R1) on Key Map 67 of the Huron East Zoning By-law, and designated Residential in the Huron East Official Plan.

The purpose of the Minor Variance is to request relief from the Huron East Zoning By-law to allow for an accessory shed to be located in the exterior side yard setback. The shed is to be setback a minimum of 1m from the exterior side yard lot line. The shed will be used for personal storage and no further relief from the by-law is being requested.

Figure 1. 2020 Air photo of the subject lands outlined in blue.



Figure 2. Minor Variance concept sketch (as provided by applicant). Sketch shows a 0.25 acre lot with a 315 m² dwelling, garage and proposed shed.

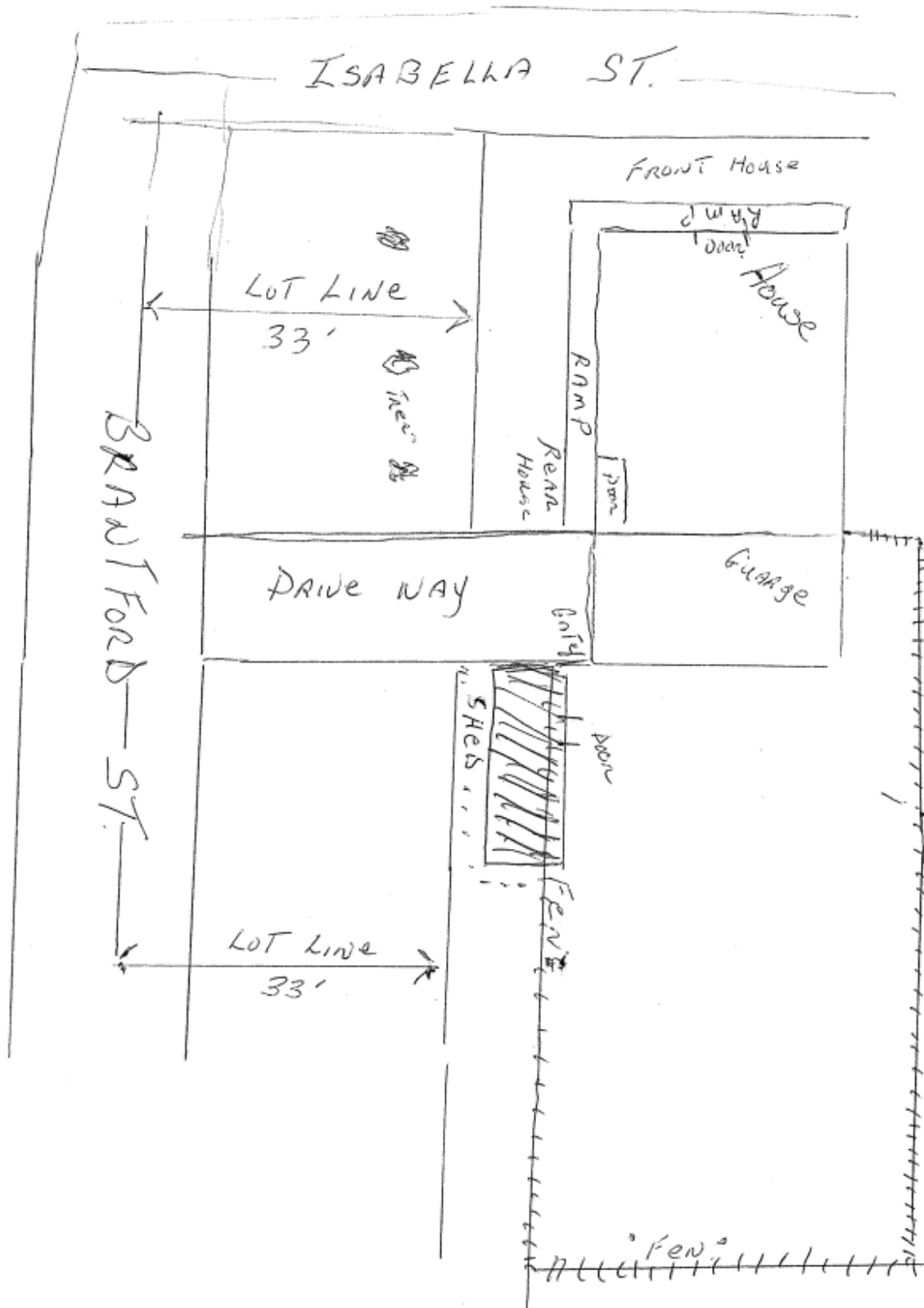


Figure 3. Photo of subject property with the shed subject to this application.



COMMENTS RECEIVED

At the time of report submission, no comments were received during the circulation of this variance application from members of the public. No concerns were received from Municipal staff, neighbours or other agencies at the time of writing this report.

This report was prepared in advance of the Public Meeting. Additional comments may be presented at the Public Hearing for consideration by the Committee.

REVIEW

Each minor variance application must satisfy four tests set out under Section 45 of the Planning Act (1990), as amended. This minor variance application:

Meets the intent of the Huron East Official Plan

The subject lands are designated Residential in the Huron East Official Plan (HEOP) and within the Primary Settlement Area of Seaforth. Residential development, including uses accessory to a residence, are directed to Primary Settlement Areas. The HEOP Section 6.5.3.1.2 outlines a number of goals for Primary Settlement Areas such as Seaforth, including the integration of new residential development into established neighborhoods. A detached accessory building such as a shed is considered a normal, permitted accessory use to a residence and continues to maintain the residential use of the property and surrounding neighborhood character. The proposed use of the shed is for personal use in conjunction with the residential use of the subject lands and meets the intent of the Huron East Official Plan.

Meets the intent of the Huron East Zoning By-law

The subject property is zoned R1 in the Huron East Zoning By-law, which allows for accessory structures. Section 3.2.2 of the Zoning By-Law includes provisions for the location of an accessory building wherein an accessory structure in a Residential zone is permitted in the rear or interior side yard and no closer to the lot line than 1 metre. This application seeks relief to locate an accessory structure in the exterior side yard as this location is the most accessible to the resident's needs. The proposal, as shown in Figure 2 above, otherwise meets the applicable Zoning By-law provisions. The accessory structure proposed by this application does not exceed the maximum lot coverage for the subject property. The proposal meets the rest of the requirements in the Huron East Zoning By-law and will continue to be utilized for personal residential use. As such, the proposal meets the intent of the Huron East Zoning By-law.

Is desirable for the appropriate development of the lands in question & is minor in nature

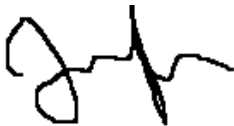
The subject property is within the Settlement Area of Seaforth and part of an established residential neighbourhood, a corner lot abutting Brantford Street and Isabella Street. The accessory structure is located along the northeast edge of the property, to the west of the driveway, which is the exterior side yard fronting on Brantford Street. Due to the limited space of the interior side yard and nature of the fenced in rear yard, the most appropriate location for an accessible accessory structure is in the exterior side yard. The proposed accessory structure is relatively small in size, approximately 13 square metres and does not obstruct the view of the residence. As such, the visual impact of the shed is not anticipated to cause an issue with the surrounding neighbours or character of the established neighbourhood. The minor variance to locate an accessory structure in the exterior side yard is considered to be an appropriate development of the lands. The requested variance is considered minor in nature and is appropriate given the limitation for the accessory structure to be located elsewhere on the property.

CONCLUSION

The variance requested is minor and appropriate and maintains the intent of both the Official Plan and Zoning By-law. It is recommended that the variance be approved with the included standard conditions.

Please note this report is prepared without the benefit of input from the public as may be obtained through the public meeting. Council should carefully consider any comments and/or concerns expressed at the public meeting prior to making their decision on this application.

Sincerely,



Jenn Burns
Planner

& Shae Stoll, Student Planner

- **Date of Council Meeting**
11/1/2022
- **Name of Person(s) Making Presentation (Please include Title/Position, if applicable)**
Debbie Nassar and Joy Paquette
- **Group/Organization Delegation Represents**
Vanastra Village Alliance
- **Full Mailing Address of Delegation(s)**
37 Victoria blvd Vanastra Ontario NOM 1LO
- **Phone Number**
519-440-3793
- **Email Address**
lotsoftime@hotmail.com
- **General Nature of Delegation**
Outdoor ice rink for Vanastra.
- **Please indicate the action/decision being requested of Council.**
Agreement for use of land. Possible funds?
- **I acknowledge that all presentation material must be submitted to the Clerk's office by Noon (12 pm) on the Thursday before the Council meeting date.**
I agree
- **Council Meeting Date**
11/1/2022


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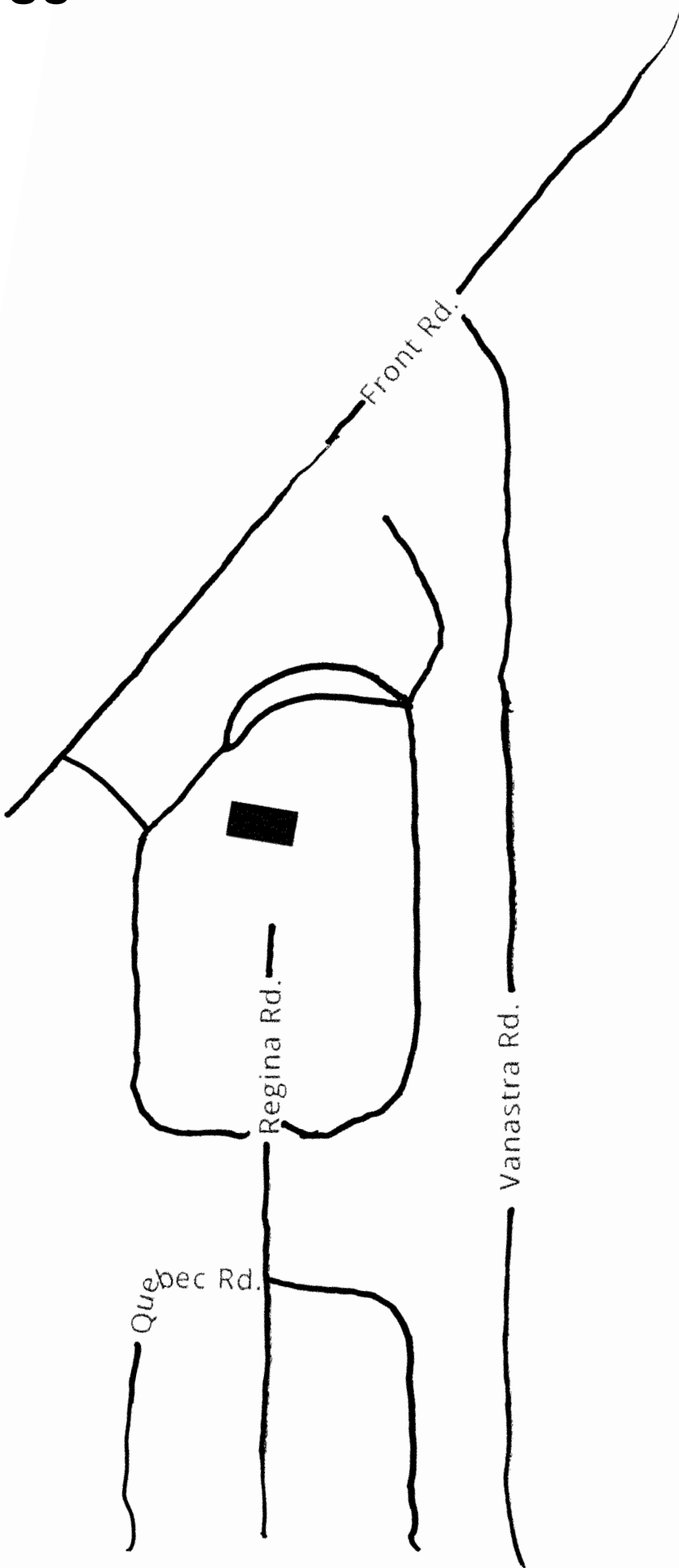
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Regular physical activity can improve your overall sense of well being by improving fitness levels and self esteem, reducing the effects of stress, increasing energy and contributing to positive mental health.

What is moderate aerobic activity?

Moderate-intensity aerobic activity makes you breathe harder and your heart beat faster. You should be able to talk, but not sing.

Examples of moderate activity include walking quickly, skating and bike riding.

What is vigorous aerobic activity?

Vigorous-intensity aerobic activity makes your heart rate increase quite a bit and you won't be able to say more than a few words without needing to catch your breath.

Examples of vigorous activity include running, basketball, soccer and cross-country skiing.

What are strengthening activities?

Muscle-strengthening activities build up your muscles.
With bone-strengthening activities, your muscles push and pull against your bones, helping make your bones stronger.

Examples of muscle-strengthening activities include push-ups and sit-ups, lifting weights, climbing stairs and digging in the garden.
Examples of bone-strengthening activities include running, walking and yoga.

Is physical activity safe for everyone?

The recommended level of physical activity applies to all adults aged 18-64 years who do not have a suspected or diagnosed medical condition. These guidelines may be appropriate if you are pregnant. Consult a health professional if you are unsure about the types and amounts of physical activity most appropriate for you.



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Exercise Holds Immediate Benefits for Affect and Cognition in Younger and Older Adults

Candice L. Hogan,
Department of Psychology, Stanford University

Jutta Mata, and
Department of Psychology, Stanford University; Center for Adaptive Rationality, Max Planck
Institute for Human Development, Berlin, Germany

Laura L. Carstensen
Department of Psychology, Stanford University

Abstract

Physical activity is associated with improved affective experience and enhanced cognitive processing. Potential age differences in the degree of benefit, however, are poorly understood because most studies examine either younger or older adults. The present study examined age differences in cognitive performance and affective experience immediately following a single bout of moderate exercise. Participants (144 community members aged 19 to 93) were randomly assigned to one of two experimental conditions: (a) exercise (15 min of moderate intensity stationary cycling) or (b) control (15 min completing ratings of neutral IAPS images). Before and after the manipulation, participants completed tests of working memory and momentary affect experience was measured. Results suggest that exercise is associated with increased levels of high-arousal positive affect (HAP) and decreased levels of low-arousal positive affect (LAP) relative to control condition. Age moderated the effects of exercise on LAP, such that younger age was associated with a drop in reported LAP postexercise, whereas the effects of exercise on HAP were consistent across age. Exercise also led to faster RTs on a working memory task than the control condition across age. Self-reported negative affect was unchanged. Overall, findings suggest that exercise may hold important benefits for both affective experience and cognitive performance regardless of age.

Keywords

physical activity; emotion; working memory; aging; *n*-back task

Health experts often remark that if exercise came in pill form it would be the most sought-after drug on the market. For decades, research has frequently identified exercise as an important tool for enhancing a range of physical indices from balance, bone density, strength, and endurance to lipid profiles, blood pressure, and cardiovascular health (Atha, 1981; Bassey & Ramsdale, 1994; Hickson, Bomze, & Holloszy, 1977; Judge, Lindsey, Underwood, & Winsemius, 1993; Thompson et al., 2003). More recent studies have associated exercise with improved brain health (e.g., increased secretion of neuroprotective factors, such as brain-derived neurotrophic factor; Zoladz et al., 2009); and improved

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Correspondence concerning this article should be addressed to Candice L. Hogan, Department of Psychology, Stanford University, 450 Serra Mall, Bldg 420 Jordan Hall, Stanford, CA 94306. cdlowder@stanford.edu.

profiles for markers of cellular aging (e.g., telomere length and autophagy; He et al., 2012; Ludlow et al., 2008).

Though most research focuses on potential benefits to physical health, there is mounting evidence that exercise benefits affective experience and cognitive performance. Researchers report reliable associations in younger adults between exercise and increased positive affect (see Reed & Ones, 2006 for a meta-analysis) and reductions in negative affect and other depressive symptoms (e.g., Mead et al., 2009 for a meta-analysis). Moderate and vigorous exercise bouts ranging from 5 to 30 min are associated with improved psychological well-being and positive affective responses relative to controls (Barton & Petty, 2010; Cox, Thomas, Hinton, & Donahue, 2006; Daley & Welch, 2004; Hansen, Stevens, & Coast, 2001). In a review of 25 studies employing the Profile of Mood States in laboratory exercise studies, results indicated that exercise is typically associated with reductions in tension, anger, depression, and confusion (Berger & Motl, 2000). Mata, Hogan, Joorman, Waugh, and Gotlib (2013) tested whether exercise mitigates consequences of exposure to emotional stressors in individuals recovered from major depressive disorder and healthy control participants. Participants were randomly assigned to an exercise or rest condition before exposure to two sad mood inductions. Recovered depressed participants who had exercised and healthy controls showed no increase in negative affect in response to repeated sad mood inductions, whereas recovered depressed participants who had not exercised reported higher negative affect following the second sad mood induction, suggesting that exercise may serve as a protective factor against exposure to emotional stressors. In addition, studies have found that increased levels of exercise in everyday life produce increased positive affect in healthy college students (Giacobbi, Hausenblas, & Frye, 2005) and in young adults with major depressive disorder (Mata et al., 2012).

Exercise is also associated with improvements in cognitive performance in younger and older adults. Over the last several decades, numerous studies have tested both the effects of single, acute bouts of exercise and longer term (e.g., 3- or 6-month) interventions. In a review of 43 studies assessing performance on various cognitive tasks following single, acute bouts of exercise, exercise has been linked to improvements in cognitive performance in young adults for tasks ranging from simple reaction time (RT) to response inhibition to creative thinking (Tomporski, 2003). Hillman, Snook, and Jerome (2003) examined college students' event-related brain potentials and performance on an Eriksen flanker task following 30 min of treadmill exercise. They found that exercise was related to greater P3 amplitude (an indicator of allocation of cognitive resources), suggesting that acute bouts of cardiovascular exercise may facilitate the allocation of attentional and memory resources and thereby benefit executive functioning (Hillman et al., 2003). A limitation of research testing benefits to cognitive performance following exercise has been the focus on younger adult samples. For example, Chang and colleagues' (2012) meta-analysis identified 79 studies that assessed cognitive performance in association with acute exercise, and of these, only six studies included participants aged 60 years or older, while 42 studies sampled participants aged 20 to 30 years. In contrast, longer-term interventions have focused mainly on older adults. Colcombe and colleagues (2006) randomly assigned sedentary older adults to participate in either vigorous, aerobic exercise training or a stretching control group three times per week for six months. Participants underwent MRI both before and after exercise training. Following the intervention, participants in the aerobic training group showed significant increases in both gray- and white-matter brain regions compared with control participants. More recent evidence suggests that volumetric differences in brain regions may mediate cognitive performance differences, such as task switching (Verstynen et al., 2012). In a review of 18 interventions examining the effects of aerobic training on cognitive function in older adults, Colcombe and Kramer (2003) found a moderate effect size (.48) for

training benefits to a variety of cognitive processes, especially executive control processes (e.g., working memory, inhibitory processes, multitasking).

All told, evidence for the benefits of exercise on both affective experience and cognitive performance points to exercise as an effective, low-cost intervention for improving both affective and cognitive health. However, there has been some suggestion in the literature that the effects of exercise may be weaker for older than for younger adults. The influence of exercise on affective experience appears somewhat mixed in studies focusing on older adults, with some studies reporting affective benefits from exercise and others reporting reductions in positive affective states following exercise (Arent, Landers, & Etnier, 2000; Blumenthal et al., 1989; Focht, Knapp, Gavin, Raedeke, & Hickner, 2007; Focht, Gauvin, & Rejeski, 2004). In addition, Ruuskanen and Ruoppila (1995) observed that the impact of exercise on well-being was weaker for participants aged 76 and older than for participants aged 65 to 75 years of age. A recent meta-analysis of studies on the effects of physical activity on well-being at advanced ages also concluded that the benefits of exercise are weakened with age, with a gradual decrease in the degree of benefits at older ages (Netz, Wu, Becker, & Tenenbaum, 2005). However, findings suggesting a diminishing effect of exercise in older adults are difficult to interpret due to a paucity of studies directly comparing effects of the same type and duration of exercise on affective experience and cognitive performance across age groups.

Among studies that have directly compared age groups, results have been mixed. One 4-week daily diary study, which assessed emotion and physical activity in younger and older adults, concluded that younger adults reap more emotional benefits from light leisure-time physical activities than older adults (Ready, Marquez, & Akerstedt, 2009). A study of British citizens aged 18 to 94 tested associations among self-reported walking, age, and cognitive function, and observed a significant interaction of walking and age on simple and choice RT tasks, suggesting that walking may help to attenuate the association between older age and slowed RT (Emery, Huppert, & Schein, 1995). More recently, Whitbourne, Neupert, and Lachman (2008) observed a relatively stronger reduction in daily perceived memory failures associated with leisure-time physical activity in older versus younger adults. However, though diary studies offer many advantages, the reliance on self-reports about activities in day to day life lack precision, especially regarding dose (i.e., observed differences may derive from different amounts and intensities of exercise). Kamiyo and colleagues (2009) compared the effects of light and moderate exercise in 12 older and 12 younger adults on RTs on a test of interference control (i.e., flanker task) and observed marginal differences such that both older and younger adults demonstrated faster RTs following moderate exercise compared with baseline. However, because this study was conducted over three separate sessions at 12-day intervals, it is unclear whether changes in flanker performance were solely attributable to exercise. Thus, conclusions about the effectiveness of exercise-based interventions remain highly tentative. Research utilizing objective measurements of exercise, as well as proximal measures of affective experience and cognitive performance in association with exercise across different age groups, is needed to reconcile mixed evidence.

To recapitulate, the body of research comparing the effects of exercise in younger and older adults is sparse, and existing age-comparative studies have been largely observational, mostly relying on self-report, as well as delayed measurement of affect and cognition, such as single, end-of-day rating of affect, regardless of timing of physical activity. The purpose of the present study is to systematically compare the effects of a single, acute bout of exercise compared with a nonexercise control condition, on both affect and cognitive performance across a broad age range to determine whether and how age may moderate these effects.

Method

Participants

Residents from the community were recruited via advertisements on Internet bulletin boards and university kiosks to participate in a lab-based study on exercise. Once participants contacted research staff to indicate their interest, they were screened for eligibility using the Physical Activity Readiness Questionnaire (PAR-Q) to assess presence of conditions that might make physical activity too risky to participate, such as heart or joint problems (Thomas, Reading, & Shephard, 1992). Only participants who answered "no" to all questions or received verbal permission from his or her doctor were included in the study. The telephone version of the Mini-Mental State Examination (MMSE) was administered to screen for potential cognitive impairment (Newkirk et al., 2004). Only participants scoring greater than or equal to 23 points on the 26-point scale were enrolled in the study. Participants aged 19 to 93 years ($N = 144$) completed the study. Participants received \$20 as compensation. Means (M) and standard deviations (SD) for demographic characteristics and descriptive measures are presented in Table 1.

Measures

Affect assessment—Ekkekakis and Petruzzello (2002) have recommended the use of measures that capture the affective circumplex, including both high- and low-arousal positive and negative states for studies testing the affective effects of exercise; therefore a modified version of the emotion sampler used by Carstensen and colleagues (2011) and Carstensen, Pasupathi, Mayr, & Nesselroade (2000) was selected for this study. Thirteen emotion words (angry, anxious/worried, sad, fatigued, bored, quiet, activated, enthusiastic, excited, calm, content, relaxed, happy) representative of the affective circumplex described by Barrett and Russell (1999) were selected for affect assessment. At each assessment, these words appeared sequentially on a computer screen, and participants were asked to indicate the degree to which they were feeling each emotion in that moment on a scale ranging from 1 (*Very little or not at all*) to 5 (*Extremely*). Word order was randomized at each assessment for each participant.

This measure was administered twice during the study: (a) At baseline (immediately after completing informed consent and before completing the 2-back task (described in the next section), approximately 5 min before completing the exercise or control condition) and (b) immediately following the experimental or control condition. Composite affect scores were created by averaging across low-arousal positive (LAP) words (calm, content, relaxed; .72) and high-arousal positive (HAP) words (activated, excited, enthusiastic; .74). Negative affective states showed very low variability at both measurement points (all medians = 1, with the exception of fatigue after experimental manipulation, for which median = 2), and were therefore not considered further in the analyses.

Cognitive performance—Working memory was assessed using an n -back task. During this task, numbers (0–9) are presented one at a time on a computer screen, and participants are asked to indicate whether each new number appearing on the screen matches the one seen n items previously. In our study, participants completed two blocks of a 1-back version of the task as practice in the baseline assessment before completing four blocks of the 2-back version.

After participating in the exercise or control condition, participants completed four additional blocks of the 2-back task. Each block was comprised of 22 trials, and stimuli were presented for 500 ms, followed by presentation of a blank screen for 2,500 ms. Items (numbers 0–9) for all trials were randomly generated, such that 33% of the items in each

block were targets and the remaining 67% were nontargets (Gray, 2001; Huxhold, Li, Schmiedek, & Lindenberger, 2006; Scheibe & Blanchard-Fields, 2009). Accuracy and RTs were recorded for each trial.

The first two trials of each 2-back block were, by definition, nontargets and were therefore excluded from analyses. Average accuracy was calculated across the four blocks at baseline and again following experimental condition. Average RTs for correct responses were calculated as the average RT across the four blocks for baseline and following experimental condition. Trials with RTs of less than 100 ms were treated as inaccurate responses.

Perceived exertion—Perceived physical exertion was assessed during exercise and control conditions using Borg's Rating of Perceived Exertion (RPE) scale, a 15-point scale ranging from 6 to 20 (6 = *no exertion at all*, 20 = *maximal exertion*, Borg, 1970).

Questionnaires—Participants also completed items assessing demographic characteristics and reported typical weekly physical activity with the Paffenbarger Physical Activity Inventory (PPAI; Paffenbarger, Wing, & Hyde, 1978).

Procedures

Participants were assigned by stratified randomization within gender (male or female) and age group (young: 19–39 years, middle age: 40–64 years, older age: 65 years or older) to either the exercise or control condition. Participants were asked not to eat or smoke for two hours prior to their study session, to refrain from exercise on the day of study, and to wear comfortable clothing and shoes to the session.

At the start of the session, participants provided informed consent and were outfitted with a Polar heart rate monitor (Polar Electro, Inc., Oula, Finland). Resting heart rate was recorded after three min of seated rest. Next, participants completed a baseline affect assessment, followed by the 2-back task. After completing these tasks, participants immediately completed either the control or exercise condition.

Experimental condition—Stationary bicycling was used as the mode of exercise because it is suitable for participants of all ages. Participants were asked to pedal at a pace of 50 rpm (visible on the display screen of the bike). A warm-up phase ($M = 4.21$ min, $SD = 1.42$ min) was used to gradually increase workload to raise each participant's heart rate to a moderate-intensity exercise level of approximately 50% of heart rate reserve (HRR; Karvonen, Kentala, & Mustala, 1957). HRR is preferable to the simpler age-predicted percent heart rate because it takes into account the possible range of an individual's heart rate. Participants exercised at this level for 15 min before completing a 3-min cool-down during which the workload was removed. Every 5 min, participants' heart rate was recorded from the heart rate monitor and they were asked to rate their perceived physical exertion using Borg's RPE scale. Moderate exercise intensity is defined as 40% to 60% HRR (American College of Sports Medicine, 2009); average exercise intensity of participants in our study was 47% HRR ($SD = 14.7\%$). RPE scale ratings between 11 and 13 represent moderate subjective exercise intensity; exercise participants' average rating in our study was 12.74 ($SD = 1.35$), indicating that they indeed perceived the bout of exercise as moderate.¹

Control condition—Participants in the control condition were asked to provide subjective picture quality ratings for 90 neutral International Affective Picture System images (IAPS; Lang, Bradley, & Cuthbert, 1997). Each image was presented for 10 s, after which participants were given 5 s to provide quality ratings on a 1 (*very poor*) to 7 (*very high*) scale, such that the minimum amount of time to complete this task was 15 min and the

maximum was 22.5 min ($M = 17.77$ min, $SD = .67$ min), which roughly matched the duration of the exercise condition. As in the exercise condition, participants' heart rate and perceived physical exertion were recorded every 5 min. Average rating of perceived exertion for control participants was 7.62 ($SD = 1.81$), indicating that this task was not perceived as physically effortful.

After completing either the exercise or control condition, participants immediately completed the affect assessment, followed by the 2-back task. Participants completed the PPAI (Paffenbarger, Wing, & Hyde, 1978) and demographic questions and were thanked and debriefed before leaving the session.

Data Analysis

Independent samples *t*-tests and chi-square tests of contingency were used to test whether baseline differences existed between exercise and control participants' demographic characteristics, including age, body mass index (BMI), physical activity levels, gender, education, or ethnicity. Independent samples *t*-tests were also used to test for baseline differences between exercise and control participants in all dependent measures (HAP affect, LAP affect, 2-back accuracy, and 2-back RT). Both accuracy and RT data from the 2-back task were skewed and therefore log-transformed to approximate normal distribution prior to analyses. Data from two participants (one from the exercise condition and one from the control condition) were excluded from 2-back analyses because their initial scores were 3 *SDs* lower than those of other participants. Change scores for HAP affect, LAP affect, 2-back accuracy, and 2-back RT were computed as the standardized residuals obtained by regressing postmanipulation scores on baseline scores. To test whether age moderated the effects of exercise on HAP affect, we regressed change in HAP affect on condition, age, and the interaction of condition and age. We repeated these procedures for change in LAP affect, change in 2-back accuracy, and change in 2-back RT. Age was centered prior to analyses to facilitate interpretation of interaction terms and to reduce the possibility of multicollinearity in regression equations as recommended by Cohen, Cohen, West, and Aiken (2003). When significant interactions were observed, we tested the simple slopes for the association between condition and age (Aiken & West, 1991). Effect sizes are presented for independent samples *t*-tests, Cohen's *d*, calculated as $(M_1 - M_2) / SD_{\text{pooled}}$, and chi-square tests, phi (ϕ), calculated as $(\chi^2 / N)^{1/2}$.

Results

Demographic Characteristics of Participants

There were no baseline differences between exercise and control participants in age, $t(142) = 0.16$, $p = .876$, $d = 0.03$, BMI, $t(142) = 0.36$, $p = .722$, $d = 0.06$, physical activity levels, $t(142) = 1.03$, $p = .304$, $d = 0.17$; gender, $\chi^2(1) = .11$, $p = .737$, $\phi = -.03$; education, $\chi^2(6) = 5.50$, $p = .481$, $\phi = .20$; or ethnicity, $\chi^2(5) = 8.52$, $p = .130$, $\phi = .24$.

Effects of Experimental Condition and Age on Affective Experience

Means and standard deviations for baseline and follow-up measures of affect and cognitive performance are presented in Table 2. There were no significant differences between

¹To test whether exercise intensity influenced affect in the current study, we regressed change in HAP affect and LAP affect on HRR percentage and RPE for exercise participants. There was no association between HRR % and change in HAP affect ($b^* = .08$, $p = .480$) or LAP affect ($b^* = .08$, $p = .533$). There was also no relation between RPE and change in HAP affect ($b^* = -.07$, $p = .569$). We observed an effect of RPE on change in LAP affect such that higher perceived exertion was associated with less LAP affect following exercise ($b^* = -.31$, $p = .009$). We next included RPE as a covariate in our model predicting change in LAP by condition, age, and the interaction of condition and age; however, RPE was not a significant predictor of change in LAP within this model ($b^* = -.20$, $p = .207$) and inclusion of RPE did not significantly improve the fit of the model, $F(1, 139) = 1.61$, $p = .207$.

conditions for baseline HAP states, $t(142) = -0.21, p = .834, d = -0.04$, or LAP states, $t(142) = 0.07, p = .944, d = 0.01$. We regressed baseline affect composite scores on age to test for initial differences of age in affect ratings. Results indicated that age did not significantly predict baseline HAP ($b^* = 0.03, p = .750$) or LAP ($b^* = -0.05, p = .546$).

In terms of HAP, we observed an effect of condition such that exercise participants reported a greater increase in HAP than did controls ($b^* = 0.34, p < .001$). We did not observe an effect of age on change in HAP ($b^* = -0.26, p = .278$). We observed an Age \times Condition interaction ($b^* = 0.45, p = .046$); $R^2 = .02$. To understand this interaction, we tested the statistical significance of the slopes of the simple regression lines representing relations between age and HAP using dummy coding for condition. There was a significant positive slope for control condition ($b^* = 0.36, p = .002$) but not for exercise ($b^* = 0.05, p = .632$), indicating that the effect of the control condition on HAP was moderated by age, but the effect of exercise on HAP was relatively equal across the age range sampled (see Figure 1).

Testing the effect on LAP, we observed a marginal effect of condition such that participants who exercised reported greater decrease in LAP than those in the control condition ($b^* = -.14, p = .075$). Interestingly, we also observed a significant interaction of age and condition ($b^* = 0.55, p = .028$); R^2 associated with the interaction term = .03. Age predicted greater increase in LAP ($b^* = 0.74, p = .004$). To understand the interaction, we tested the statistical significance of the slopes of the simple regression lines representing relations between age and LAP using dummy coding for condition. There was a significant positive slope for exercise ($b^* = 0.38, p = .001$) but not for control ($b^* = 0.02, p = .863$), indicating that the effect of the exercise condition on LAP was moderated by age, but the change in LAP associated with the control condition was relatively equal across the age range sampled (see Figure 1).

Effects of Experimental Condition and Age on Cognitive Performance

There was no baseline difference between conditions for 2-back accuracy, $t(140) = -0.28, p = .783, d = -0.05$, but there was a trend for a difference in RT such that participants in the exercise condition were initially slower than participants in the control condition, $t(140) = 1.74, p = .083, d = 0.29$. To test for initial differences of age in cognitive performance, we regressed baseline 2-back accuracy and RT on age. As expected, age was significantly related to accuracy on the n -back task ($b^* = -0.28, p < .001$) and RT ($b^* = .38, p < .001$), such that older age compared with younger age predicted lower accuracy and slower responding, respectively. We did not observe a significant effect of age on change in accuracy ($b^* = -0.39, p = .135$), of condition on change in accuracy ($b^* = -0.09, p = .274$), or a significant interaction of age and condition on 2-back accuracy ($b^* = 0.23, p = .377$; see Figure 2). Regarding change in 2-back RT, we observed an effect of condition such that exercise was associated with a greater reduction in RT relative to the control condition ($b^* = 0.20, p = .014$). Age was not associated with change in 2-back RT ($b^* = 0.10, p = .692$) independent of condition, and we did not observe a significant interaction of condition and age on 2-back RT ($b^* = 0.22, p = .379$), indicating that the effect of exercise on reduction in RT was relatively consistent across the age range sampled (see Figure 2).

Relations Between Experimental Condition, Affect, and Cognitive Performance

Using a series of linear regression models, we tested whether the magnitude of change in HAP or LAP affect was associated with change in 2-back accuracy or RT as a function of experimental condition. We did not observe any significant associations (all p s $> .442$) for change in HAP affect on change in 2-back accuracy or RT, or any interactions of condition and change in HAP affect on change in these measures of cognitive performance. We also did not observe any significant associations (all p s $> .493$) for change in LAP affect on

change in 2-back accuracy or RT, or any interactions of condition and change in LAP affect on change in these measures of cognitive performance. Thus, data from the present study suggest that magnitude of change in HAP or LAP affect is not related to change in cognitive performance as a function of condition.²

Discussion

A growing literature demonstrates that exercise benefits both affective experience and cognitive performance. The purpose of this study was to test whether age may moderate these effects. Our results suggest that a single bout of exercise appears to have comparable and positive effects on both affective experience and cognitive performance, independent of participants' age. We observed that a single bout of moderate exercise was associated with increased levels of HAP affect and that the effect was consistent across the age range sampled. Results were slightly different for LAP affect. Younger age was associated with a drop in reported LAP affect, whereas older age was associated with the maintenance, and even slight increase in LAP, postexercise. Regarding effects of acute exercise on cognitive performance, we found that, independent of age, exercise resulted in significant improvement in 2-back RT compared with control participants.

In the current study, age was found to moderate the experience of calm states following exercise, such that younger adults reported decreased LAP affect, but older adults appeared to maintain LAP even after exercise. This finding highlights the importance of measuring the impact of exercise on both valence and arousal components of affect. Although many studies in younger adults observe shifts in HAP states (e.g., feelings of energy), the relationship between exercise and LAP states is less clear. To promote more precise understanding of the relation between affect and exercise, the current study followed recommendations from Ekkekakis and Petruzzello (2002) by using an affective measure aimed at capturing the full affective circumplex. These methods allowed us to assess the influence of exercise on both high- and low-arousal affective states. In addition, recent findings suggest that, as people age, they may come to experience, value, and seek out low-arousal positive states, such as feeling calm, to a greater degree than younger adults (Scheibe, English, Tsai, & Carstensen, 2013). Therefore, as demonstrated by the present findings, it may be particularly important to consider both low- and high-arousal affective changes in response to exercise to best characterize affective effects of exercise across the life span.

In the present study, we observed that the effects of exercise compared with a control condition on cognitive performance appeared relatively stable across the age range sampled. Specifically, we found that, independent of age, exercise resulted in significant improvement in 2-back RT compared with control condition, and we did not observe an effect of exercise or control condition on change in 2-back accuracy. Although results from the present study suggest that changes in affect and cognitive performance observed in the exercise condition occur independently, future research should replicate these results and further investigate potential underlying mechanisms to better understand how exercise confers psychological benefits.

²At the suggestion of an anonymous reviewer, we also examined a potential speed-accuracy trade-off that may have differed between the age groups. We regressed change in 2-back RT, age, and the interaction of 2-back RT and age on change in 2-back accuracy for participants randomly assigned to the exercise condition. We did not observe a significant association between change in 2-back RT or change in 2-back accuracy ($b^* = 0.16, p = .235$) or an interaction between change in 2-back RT and age on 2-back accuracy ($b^* = 0.005, p = .452$); however, we agree with the reviewer that future research should assess the presence of speed-accuracy trade-offs in studies examining the effects of exercise on cognitive performance.

It is important to acknowledge three limitations of the current research. First, this study tested effects of one acute bout of exercise. It remains to be shown whether and how repeated exercise participation may differentially benefit people of different ages. Although age may not moderate the effects of a single bout of exercise on cognitive performance, further research is needed to test whether longer term effects are comparable across the adult age range. Second, all study participants were in relatively good health (e.g., did not report conditions that would make exercising potentially dangerous, such as a heart condition); thus, it remains unclear whether these results might generalize to those in poorer health. A third limitation concerns the temporal separation between baseline and follow-up measures of affect and cognitive performance for the exercise participants compared with control participants. Despite the same overall session duration, the timing of the affect and cognitive performance measures postexercise/postfiller task were not exactly aligned between the exercise and no-exercise conditions: Due to need for a warm-up phase in the exercise condition, participants in the exercise condition started these measurements about 4 min and 24 s later than in the control condition, which—albeit unlikely—could have potentially affected our findings.

Findings from the current study help to characterize the nature of the effects of exercise on affective experience and cognitive performance across the adult age range. Under controlled, experimental conditions, individuals across the adult age range experienced comparable benefits. The relatively large sample of individuals drawn from the community and ranging in age from 19 to 93 represents an additional strength of this study and may enhance the generalizability of our findings. Future research is needed to further clarify how these findings may map on to exercise, affect, and cognition in daily life. The findings add to a growing body of research pointing to the importance of exercise for both physical and psychological health by suggesting that, even as individuals age, exercise remains an important contributor to psychological health, including affective experience and cognitive performance.

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References

- Aiken, L.S.; West, S.G. Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage; 1991.
- American College of Sports Medicine. General principles of exercise prescription. In: Thompson, W.R.; Gordon, N.F.; Pescatello, L.S., editors. ACSM's guidelines for exercise testing and prescription. 8. New York, NY: Lippincott Williams & Wilkins; 2009. p. 152-182.
- Arent SM, Landers DM, Etner JL. The effects of exercise on mood in older adults: A meta-analytic review. *Journal of Aging and Physical Activity*. 2000; 8:407-430.
- Atha J. Strengthening muscle. *Exercise Sport Science Review*. 1981; 9:1-78.
- Barrett LF, Russell JA. Structure of current affect. *Current Directions in Psychological Science*. 1999; 8:10-14.
- Barton J, Petty J. What is the best dose of nature and green exercise for improving mental health? A multi-study analysis. *Environmental Science & Technology*. 2010; 44:3947-3955.10.1021/es903183r [PubMed: 20337470]
- Bassey EJ, Ramsdale SJ. Increase in femoral bone density in young women following high-impact exercise. *Osteoporosis International*. 1994; 4:72-75. [PubMed: 8003843]

- Berger BG, Motl RW. Exercise and mood: A selective review and synthesis of research employing the profile of mood states. *Journal of Applied Sport Psychology*. 2000; 12:69–92.10.1080/10413200008404214
- Blumenthal JA, Emery CF, Madden DJ, George LK, Coleman RE, Riddle MW, Williams RS. Cardiovascular and behavioral effects of aerobic exercise training in healthy older men and women. *Journal of Gerontology*. 1989; 44:M147–M157. [PubMed: 2768768]
- Borg G. Perceived exertion as an indicator of somatic stress. *Scandinavian Journal of Rehabilitation Medicine*. 1970; 2:92–98. [PubMed: 5523831]
- Carstensen LL, Pasupathi M, Mayr U, Nesselroade J. Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*. 2000; 79:644–655. doi:10.1037//0022-3514.79.4.64. [PubMed: 11045744]
- Carstensen LL, Turan B, Scheibe S, Ram N, Ersner-Hershfield H, Samanez-Larkin GR, Nesselroade JR. Emotional experience improves with age: Evidence based on over 10 years of experience sampling. *Psychology and Aging*. 2011; 26:21–33.10.1037/a0021285 [PubMed: 20973600]
- Chang YK, Labban JD, Gapin JI, Etnier JL. The effects of acute exercise on cognitive performance: A meta-analysis. *Brain Research*. 2012; 1453:87–101.10.1016/j.brainres.2012.02.068 [PubMed: 22480735]
- Cohen, J.; Cohen, P.; West, SG.; Aiken, LS. *Applied multiple regression/correlation analysis for the behavioral sciences*. 3. Mahwah, NJ: Erlbaum; 2003.
- Colcombe SJ, Erickson KI, Scalf PE, Kim JS, Prakash R, McAuley E, Kramer AF. Aerobic exercise training increases brain volume in aging humans. *The Journals of Gerontology: Series A Biological Sciences and Medical Sciences*. 2006; 61:1166–1170.10.1093/gerona/58.2.M176
- Colcombe SJ, Kramer AF. Fitness effects on the cognitive function of older adults: A meta-analytic study. *Psychological Science*. 2003; 14:125–130.10.1111/1467-9280.t01-1-01430 [PubMed: 12661673]
- Cox RH, Thomas TR, Hinton PS, Donahue OM. Effects of acute 60% and 80% VO2max bouts of aerobic exercise on state anxiety of women of different age groups across time. *Research Quarterly for Exercise and Sport*. 2004; 75:165–175. [PubMed: 15209335]
- Daley AJ, Welch A. The effects of 15 min and 30 min of exercise on affective responses both during and after exercise. *Journal of Sports Sciences*. 2004; 22:621–628.10.1080/02640410310001655778 [PubMed: 15370492]
- Ekkekakis P, Petruzzello SJ. Analysis of the affect measurement conundrum in exercise psychology: IV. A conceptual case for the affect circumplex. *Psychology of Sport and Exercise*. 2002; 3:35–63.10.1016/S1469-0292(01)00028-0
- Emery CF, Huppert FA, Schein RL. Relationships among age, exercise, health, and cognitive function in a British sample. *The Gerontologist*. 1995; 35:378–385.10.1093/geront/35.3.378 [PubMed: 7622090]
- Focht BC, Gauvin L, Rejeski WJ. The contribution of daily experiences and acute exercise to fluctuations in daily feeling states among older, obese adults with knee osteoarthritis. *Journal of Behavioral Medicine*. 2004; 27:101–121.10.1023/B:JOBM.0000019847.80315.4d [PubMed: 15171102]
- Focht BC, Knapp DJ, Gavin TP, Raedeke TD, Hickner RC. Affective and self-efficacy responses to acute aerobic exercise in sedentary older and younger adults. *Journal of Aging and Physical Activity*. 2007; 15:123–138. [PubMed: 17556780]
- Giacobbi PR, Hausenblas HA, Frye N. A naturalistic assessment of the relationship between personality, daily life events, leisure-time exercise, and mood. *Psychology of Sport and Exercise*. 2005; 6:67–81.10.1016/J.Psychsport.2004.10.009
- Gray JR. Emotional modulation of cognitive control: Approach-withdrawal states double dissociate spatial from verbal two-back task performance. *Journal of Experimental Psychology: General*. 2001; 130:436–452.10.1037/0096-3445.130.3.436 [PubMed: 11561919]
- Hansen CJ, Stevens LC, Coast JR. Exercise duration and mood state: How much is enough to feel better? *Health Psychology*. 2001; 20:267–275.10.1037/0278-6133.20.4.267 [PubMed: 11515738]

- He C, Bassik MC, Moresi V, Sun K, Wei Y, Zou Z, Levine B. Exercise-induced BCL2-regulated autophagy is required for muscle glucose homeostasis. *Nature*. 2012; 481:511–515.10.1038/nature10758 [PubMed: 22258505]
- Hickson RC, Bomze HA, Holloszy JO. Linear increase in aerobic power induced by strenuous program of endurance exercise. *Journal of Applied Physiology*. 1977; 42:372–376. [PubMed: 838658]
- Hillman CH, Snook EM, Jerome GJ. Acute cardiovascular exercise and executive control function. *International Journal of Psychophysiology*. 2003; 48:307–314.10.1016/S0167-8760(03)00080-1 [PubMed: 12798990]
- Huxhold O, Li SC, Schmiedek F, Lindenberger U. Dual-tasking postural control: Aging and the effects of cognitive demand in conjunction with focus of attention. *Brain Research Bulletin*. 2006; 69:294–305.10.1016/j.brainresbull.2006.01.002 [PubMed: 16564425]
- Judge JO, Lindsey C, Underwood M, Winsemius D. Balance improvement in older women: Effects of exercise training. *Physical Therapy*. 1993; 73:254–262. [PubMed: 8456144]
- Kamijo K, Hayashi Y, Sakai T, Yahiro T, Tanaka K, Nishihira Y. Acute effects of aerobic exercise on cognitive function in older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*. 2009; 64:356–363.10.1093/geronb/gbp030
- Karvonen MJ, Kentala E, Mustala O. The effects of training on the heart rate: A longitudinal study. *Annales Medicinæ Experimentalis et Biologiæ Fenniae*. 1957; 35:307–315. [PubMed: 13470504]
- Lang, PJ.; Bradley, MM.; Cuthbert, BN. International affective picture system (IAPS): Technical manual and affective ratings. Gainesville, FL: The Center for Research in Psychophysiology, University of Florida; 1999.
- Ludlow AT, Zimmerman JB, Witkowski S, Hearn JW, Hatfield BD, Roth SM. Relationship between physical activity level, telomere length, and telomerase activity. *Medicine and Science in Sports and Exercise*. 2008; 40:1764–1771. doi:10.1249/MSS.0b013e 31817c92aa. [PubMed: 18799986]
- Mata J, Hogan CL, Joorman J, Waugh CE, Gotlib IH. Acute exercise attenuates negative affect following repeated sad mood inductions in persons who have recovered from depression. *Journal of Abnormal Psychology*. 2013; 122:45–50.10.1037/a0029881 [PubMed: 22985013]
- Mata J, Thompson RJ, Jaeggi S, Buschkuhl M, Jonides J, Gotlib IH. Walk on the bright side: Physical activity and affect in major depressive disorder. *Journal of Abnormal Psychology*. 2012; 121:297–308.10.1037/a0023533 [PubMed: 21553939]
- Mead GE, Morley W, Campbell P, Greig CA, McMurdo M, Lawlor DA. Exercise for depression. *Cochrane Database of Systematic Reviews*. 2009;3.10.1002/14651858
- Netz Y, Wu MJ, Becker BJ, Tenenbaum G. Physical activity and psychological well-being in advanced age: A meta-analysis of intervention studies. *Psychology and Aging*. 2005; 20:272–284.10.1037/0882-7974.20.2.272 [PubMed: 16029091]
- Newkirk LA, Kim JM, Thompson JM, Tinklenberg JR, Yesavage JA, Taylor JL. Validation of a 26-point telephone version of the Mini-Mental State Examination. *Journal of Geriatric Psychiatry and Neurology*. 2004; 17:81–87.10.1177/0891988704264534 [PubMed: 15157348]
- Paffenbarger RS, Wing AL, Hyde RT. Physical activity as an index of heart attack risk in college alumni. *American Journal of Epidemiology*. 1978; 108:161–175. [PubMed: 707484]
- Ready RE, Marquez DX, Akerstedt A. Emotion in younger and older adults: Retrospective and prospective associations with sleep and physical activity. *Experimental Aging Research*. 2009; 35:348–368.10.1080/03610730902922184 [PubMed: 19449246]
- Reed J, Ones DS. The effect of acute aerobic exercise on positive activated affect: A meta-analysis. *Psychology of Sport and Exercise*. 2006; 7:477–514.10.1016/j.psychsport.2005.11.003
- Ruuskanen JM, Ruoppila I. Physical activity and psychological well-being among people aged 65 to 84 years. *Age and Ageing*. 1995; 24:292–296.10.1093/ageing/24.4.292 [PubMed: 7484485]
- Scheibe S, Blanchard-Fields F. Effects of regulating emotions on cognitive performance: What is costly for young adults is not so costly for older adults. *Psychology and Aging*. 2009; 24:217–223.10.1037/a0013807 [PubMed: 19290754]
- Scheibe S, English T, Tsai JL, Carstensen LL. Striving to feel good: Ideal affect, actual affect, and their correspondence across adulthood. *Psychology and Aging*. 2013; 28:160–171.10.1037/a0030561 [PubMed: 23106153]

- Thomas S, Reading J, Shephard RJ. Revision of the physical activity readiness questionnaire (PAR-Q). *Canadian Journal of Sport Sciences*. 1992; 17:338–345. [PubMed: 1330274]
- Thompson PD, Buchner D, Pina IL, Balady GJ, Williams MA, Marcus BH, Wenger NK. Exercise and physical activity in the prevention and treatment of atherosclerotic cardiovascular disease: A statement from the Council on Clinical Cardiology (Subcommittee on Exercise, Rehabilitation, and Prevention) and the Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity). *Circulation*. 2003; 107:3109–3116. doi:10.1161/01.CIR.0000075572.40158.77. [PubMed: 12821592]
- Tomprowski PD. Effects of acute bouts of exercise on cognition. *Acta Psychologica*. 2003; 112:297–324. doi:10.1016/S0001-6918(02)00134-8 [PubMed: 12595152]
- Verstynen TD, Lynch B, Miller DL, Voss MW, Prakash RS, Chaddock L, Erickson KI. Caudate nucleus volume mediates the link between cardiorespiratory fitness and cognitive flexibility in older adults. *Journal of Aging Research*. 2012; 2012:1–11. doi:10.1155/2012/939285
- Whitbourne SB, Neupert SD, Lachman ME. Daily physical activity: Relation to everyday memory in adulthood. *Journal of Applied Gerontology*. 2008; 27:331–349. doi:10.1177/0733464807312175
- Zoladz JA, Pilc A, Majerczak J, Grandys M, Zapart-Bukowska J, Duda K. Endurance training increases plasma brain-derived neurotrophic factor concentration in young healthy men. *Journal of Physiology and Pharmacology*. 2008; 59:119–132. [PubMed: 19258661]

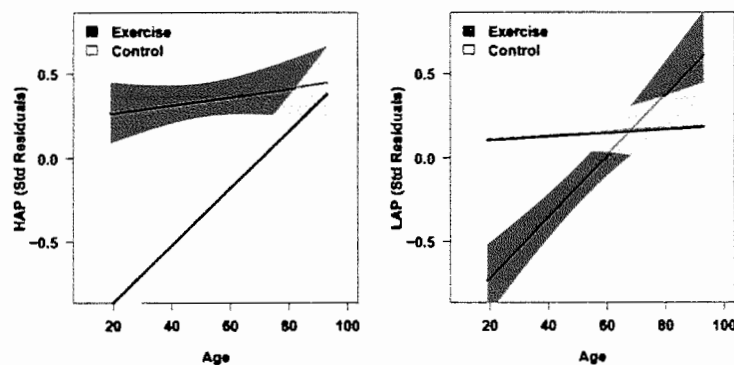


Figure 1.

Effects of experimental condition and age on HAP and LAP affect. *Note.* Shading represents ± 1 SEM. High-arousal positive (HAP) affect and low-arousal positive (LAP) affect change scores are presented as standardized residuals obtained by regressing postmanipulation scores on baseline scores.

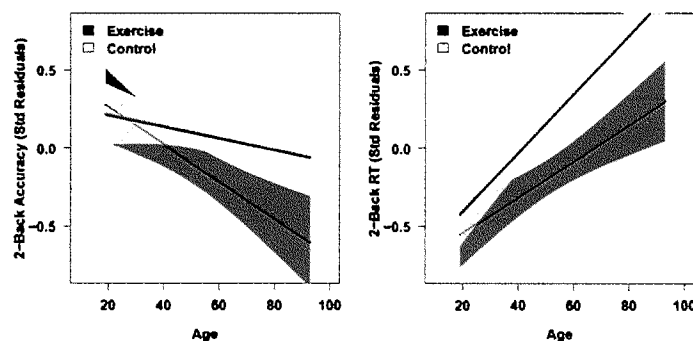


Figure 2.

Effects of condition and age on 2-back accuracy and reaction time. *Note.* Shading represents ± 1 SEM. 2-back accuracy and RT change scores are presented as standardized residuals obtained by regressing postmanipulation scores on baseline scores. Negative scores represent faster RT.

Table 1

Demographic Characteristics of Participants, Separated by Exercise and Control Condition

Variable	Exercise; <i>n</i> = 71	Control; <i>n</i> = 73
Age (years); <i>M</i> (<i>SD</i>)	51.34 (21.74)	50.79 (19.96)
Q ₁	21–29	19–28
Q ₂	30–49	29–53
Q ₃	50–72	54–69
Q ₄	73–93	70–87
Gender (% male)	47.9	50.7
Ethnicity (% European American)	76.1	69.9
Education (% college graduates)	62	67.1
BMI; <i>M</i> (<i>SD</i>)	27.06 (6.19)	26.71 (5.41)
Physical activity (total kcal/wk); <i>M</i> (<i>SD</i>)	2857.44 (2804.96)	2441.88 (1968.28)

Note. Q₁ = first quartile; Q₂ = second quartile; Q₃ = third quartile; Q₄ = fourth quartile; BMI = body mass index; physical activity = Paffenbarger Physical Activity Questionnaire.

Table 2

Descriptive Statistics for Baseline and Follow-Up Affect and Cognitive Performance Variables

Variable	Exercise; <i>n</i> = 71	Control; <i>n</i> = 73	Full Sample; <i>n</i> = 144
Baseline HAP: <i>M</i> (<i>SD</i>)	2.67 (.91)	2.70 (.92)	2.68 (.91)
Follow-up HAP: <i>M</i> (<i>SD</i>)	3.19 (.85)	2.70 (.97)	2.94 (.94)
Baseline LAP: <i>M</i> (<i>SD</i>)	3.54 (.85)	3.53 (.92)	3.53 (.88)
Follow-up LAP: <i>M</i> (<i>SD</i>)	3.32 (.88)	3.52 (.76)	3.42 (.82)
Baseline 2-back accuracy: <i>M</i> (<i>SD</i>)	.88 (.08)	.88 (.08)	.88 (.08)
Follow-up 2-back accuracy: <i>M</i> (<i>SD</i>)	.90 (.09)	.91 (.08)	.90 (.08)
Baseline 2-back RT (ms): <i>M</i> (<i>SD</i>)	1029.54 (281.15)	947.93 (304.56)	988 (295.09)
Follow-up 2-back RT (ms): <i>M</i> (<i>SD</i>)	949.11 (279)	944.27 (333.62)	946 (306.88)

Note. HAP = high-arousal positive affect; LAP = low-arousal positive affect. Scores were transformed prior to analyses (see Data Analysis section); RT = reaction time.

from scientific evidence or theories; the other may be a systematic examination using exploratory attempts by varying the length of the time windows. Given the lack of empirical evidence regarding the former (especially bidirectionally), we chose the latter in this study to test the relatively transient, medium, and relatively long association between affect and physical activity with 5–120-min time intervals [34].

We hypothesize that bidirectional associations exist between affect and physical activity. Specifically, both higher arousal and higher (more positive) valence will be significant predictors of (greater) physical activity and (less) sedentary behaviors. We expect symmetrical associations in the other direction; that is, that (greater) physical activity and (less) sedentary behaviors will be related to higher arousal and more positive valence. Given the dearth of an empirical basis upon which to make specific predictions, we do not have a priori predictions regarding the time frame over which these associations will be stronger or weaker; accordingly, we address this research question in an exploratory manner.

Methods

Participants

We used a dataset from the Work and Daily Life (WDL) study examining how workplace daily experiences were associated with health and well-being among full-time employed adults (see ref. [35] for additional details). A community sample of full-time employed working adults ($n = 122$) from the greater metropolitan area of a mid-sized city in the Northeast was recruited via random calls from a local telephone directory and from public listings on a university e-mail news alert and local event websites. Exclusion criteria consisted of the following: younger than 18 years of age; not currently employed Monday through Friday with regular working hours between 6:00 AM and 7:00 PM; employed on weekends; unable to come to the research laboratory on a Wednesday evening and the following Monday; not fluent in English; pregnant; and having a psychiatric therapy or drug treatment change within the prior three months. Of the 122 participants, 7 participants who did not complete EMA data collection were excluded from the analysis. Of the remaining 115 participants, physical activity data for 4 participants were unavailable. Thus, 111 participants were analyzed in this study. Participants had a mean age of 41.3 ($SD = 11.6$, range: 19–63) and were predominantly Caucasian (69.1%; Non-Hispanic Black 8.2%; Asian 4.6%; Others and N/A 18.2%) and female (76.4%). The average body mass index (BMI) of participants was 27.6 ($SD = 7.4$, range: 17.8–53.7).

Procedures

The initial session was completed in a laboratory setting. After being screened for eligibility, participants were trained on how to use a provided palmtop device to complete the EMAs. For the ensuing three consecutive days (Thursday to Saturday, thus two work days and one nonwork day), participants completed six measurements a day with measurements occurring randomly via a beep signal within roughly two and a half hour intervals (excluding the first and last 15 min of each interval to ensure assessment spacing) during waking periods. A maximum of 18 assessments per person was possible; participants averaged 16.1 ($SD = 2.3$, range: 8–18) assessments. Also, all participants were trained to wear an ActiHeart device (CamNtech Ltd., Cambridge, UK) on the left side of their chest (attached to the skin using two ECG electrodes) throughout the study period, except while bathing, showering, or any other activity likely to damage the device. At the end of the three days, participants returned the EMA and ActiHeart devices and data from both devices were downloaded by study staff.

Measures

As part of the larger study, assessments of affective states and physical activity were concurrently obtained during the study period (Fig. 1). Current affect was measured with four items (sad, happy, tired, and interested) rated on a Likert-type response scale ranging from 0 (Not at all) to 6 (Very much). These affect items were chosen to efficiently capture affect (i.e., a small number of items to keep respondent burden low) and reflect affective experiences thought to be important in the workplace context. Following approaches used in previous work, these ratings were used to generate momentary circumplex dimensions, arousal and valence [36]. To estimate affective arousal, we combined responses to the interested and tired (reversed) items ($Arousal = [Interested + (6 - Tired)]/2$). To estimate affective valence, responses to the happy and sad (reversed) items were averaged ($Valence = [Happy + (6 - Sad)]/2$). The correlation between “interested” and reverse-coded “tired” was .36 ($p < .01$), and that between “happy” and reverse-coded “sad” was .48 ($p < .01$).

The ActiHeart device has been validated in prior studies [11, 37, 38] and combines a heart rate monitor with a piezo-electronic accelerometer capable of detecting small changes in bodily acceleration, allowing it to register even slight movements in daily life. Also, activity and heart rate parameters are used to generate activity energy expenditure, with the equivalent of 3.5 mL $O_2/kg/min$ used to define one MET on the device [39]. In this study, activity counts and energy expenditure accumulated in 1-min epochs were used. This device does

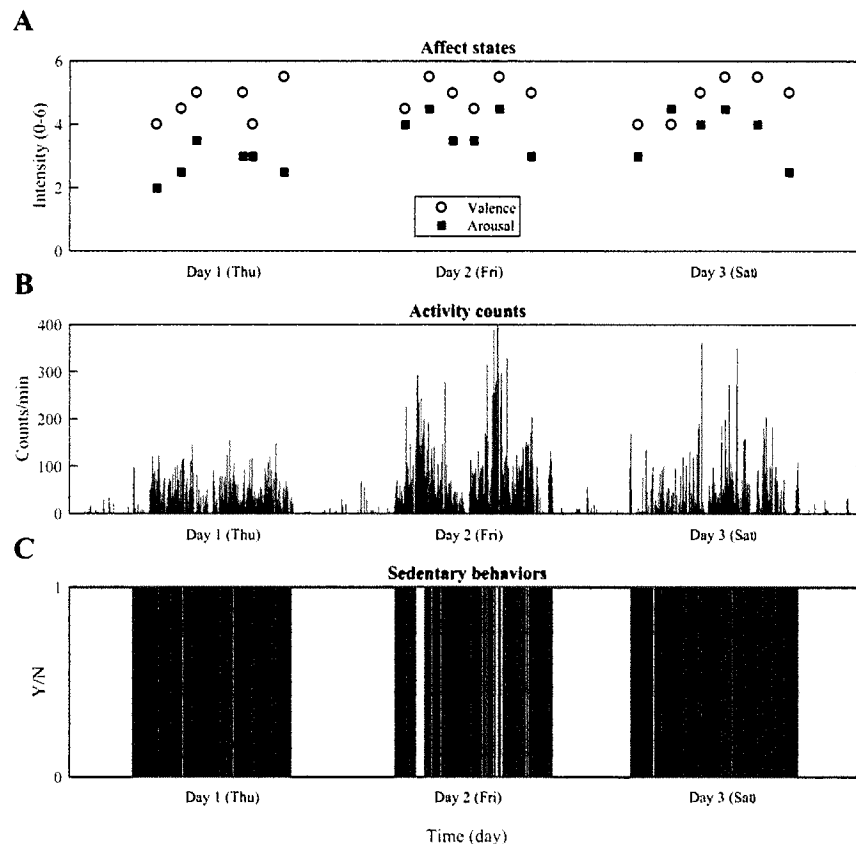


Fig. 1. Example of simultaneous assessments of affect states and physical activity. (A) Circles and filled squares indicate valence and arousal scores respectively assessed by ecological momentary assessment for three consecutive days. (B) Activity counts per minute are also obtained by an objective measure accelerometer during the study period. (C) Sedentary behaviors are defined at every minute (Yes = 1/No = 0) based on the prespecified cut-off value (<1.5 metabolic equivalents) which derived from combined heart rate and movement. The accelerometer data for (B) and (C) were excluded from the analysis when sleeping and not wearing the activity monitor.

not display any data (e.g., activity levels) to participants during use.

Analytic Plan

Days when participants wore the ActiHeart device less than 10 hr were excluded from the analysis (5 days from four participants). To examine how distinct indicators of arousal and valence predict subsequent movement-based behaviors and vice versa, we used activity counts and sedentary duration for various time windows before or after the EMA beep. As a measure of physical activity, mean activity counts per minute were calculated for each time window. Sedentary behavior was estimated as the proportion of minutes within each time window when the device indicated energy expenditure below 1.5 METs based on heart rate and movement data (Fig. 1).

For the primary analysis, mean activity counts and time spent in sedentary behaviors were calculated using

transient (5 min), medium (1 hr), and relatively long (2 hr) time windows before/after each EMA to reflect transient to enduring effects. Further, we used 24 different lengths of time windows, 5 min up to 120 min with a 5-min interval before/after each EMA and the results using these various time windows are briefly provided (Figs. 2 and 3). For example, when the epoch size of activity counts obtained by accelerometer is 1-min, 60-min local mean of activity counts is computed from 60 data points, whereas 5-min local statistics are computed from five data points. Accelerometer data were excluded from the analysis when the heart rate was missing (i.e., presumably not wearing the device) as well as sleep which was defined by EMA reports (i.e., data between evening and morning survey was considered as sleep).

We estimated multilevel models using SAS PROC MIXED (SAS 9.4, SAS Institute Inc., Cary, NC) because the present study produced a hierarchically structured data set in which the EMA for affective states and

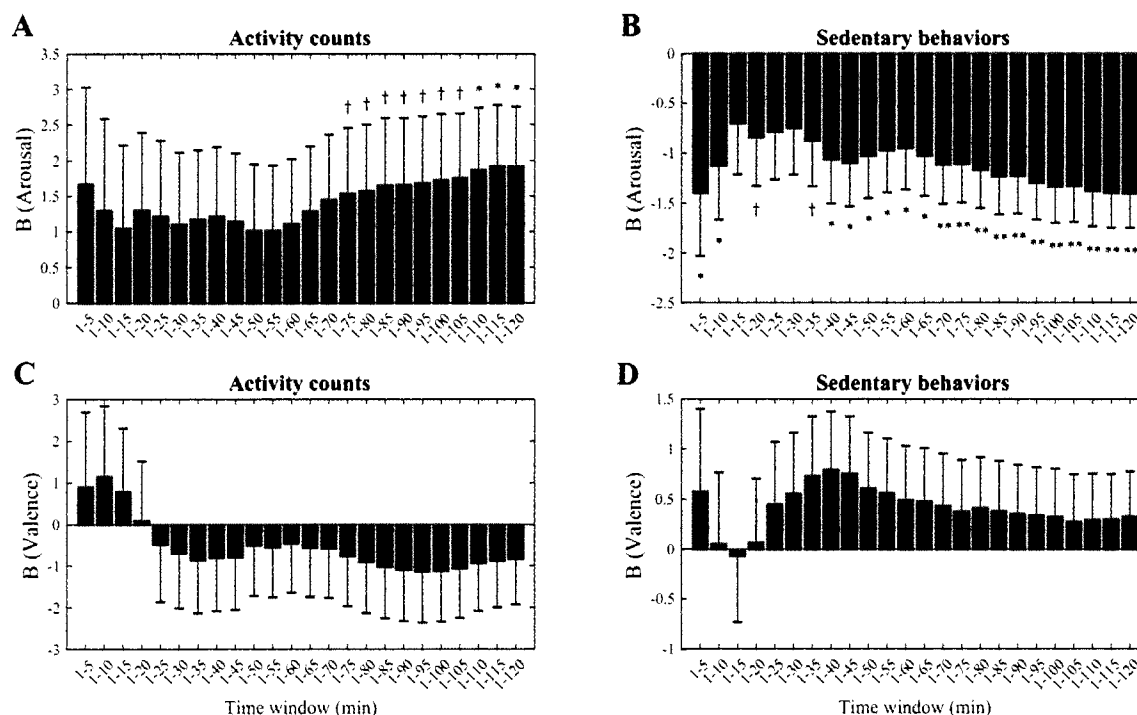


Fig. 2. Within-person B coefficient of affect states for the dependent variable *subsequent* movement-based behaviors as a function of the different length of time windows: (A) Coefficient of Arousal for Activity counts, (B) Coefficient of Arousal for Sedentary behaviors, (C) Coefficient of Valence for Activity counts, and (D) Coefficient of Valence for Sedentary behaviors. The length of the time windows was from 5 to 120 min with a 5-min interval (e.g., 1–20 means physical activity was calculated from the time window 1 min to 20 min *after* ecological momentary assessment [EMA] beep). Activity counts and Sedentary behaviors were calculated from 24 different time windows after EMA. Error bars indicate standard error of the B coefficients. The double asterisk, asterisk, and dagger indicate significant cases at the 0.01, 0.05, and 0.10, respectively.

the corresponding local statistics of movement-based behaviors were nested within persons. All models were estimated with three levels including day level (i.e., beep, day, and person) with the full-information maximum likelihood method, the between-within method for the denominator degrees of freedom option, and the unstructured variance-covariance matrix for the random effects and residuals. We used the deviance test to compare the goodness-of-fit of the models including a random or fixed effect for slope [40]. After this comparison, the multilevel model, in which intercept addressed as a random effect and predictors as a fixed effect, was used in this study. A $p < .05$ was considered significant. A false discovery rate (FDR) procedure [41] was performed to test the probability that the significance at $p < .05$ is a reliable effect for the multiple comparisons.

Predictors were centered at their person-mean to focus on the within-person variability in each of four models. The person-mean of predictors were also included in the models to adjust for between person differences in mean values. General demographic variables (i.e., age, gender, race-ethnicity, and BMI) were included as covariates

in each of four models to control for individual mean differences in predicting dependent variables. Age and BMI were treated as continuous variables, whereas race-ethnicity (Non-Hispanic White vs. Others) and gender (Male vs. Female) was addressed as categorical.

Results

The person-level mean, standard deviation (*SD*), and range of affective states and physical activity used for the primary analyses are summarized in Table 1. The mean of arousal was 3.8 ($SD = 0.9$, range = 1.5–5.8), whereas the mean of valence was 4.8 ($SD = 0.7$, range = 2.0–6.0), each on 0–6 scale. Averaged activity counts aggregated from 1 to 5, 1 to 60, or 1 to 120 min prior to EMA ranged from 28.1 to 30.7. Those aggregated following EMA ranged from 25.2 to 29.9 across the same interval lengths. As for time spent in sedentary behaviors, the range in the time windows before/after EMA was from 83.0 to 84.9%. Physical activity in the transient time window (i.e., 1–5 min) showed a lower level of activity counts or

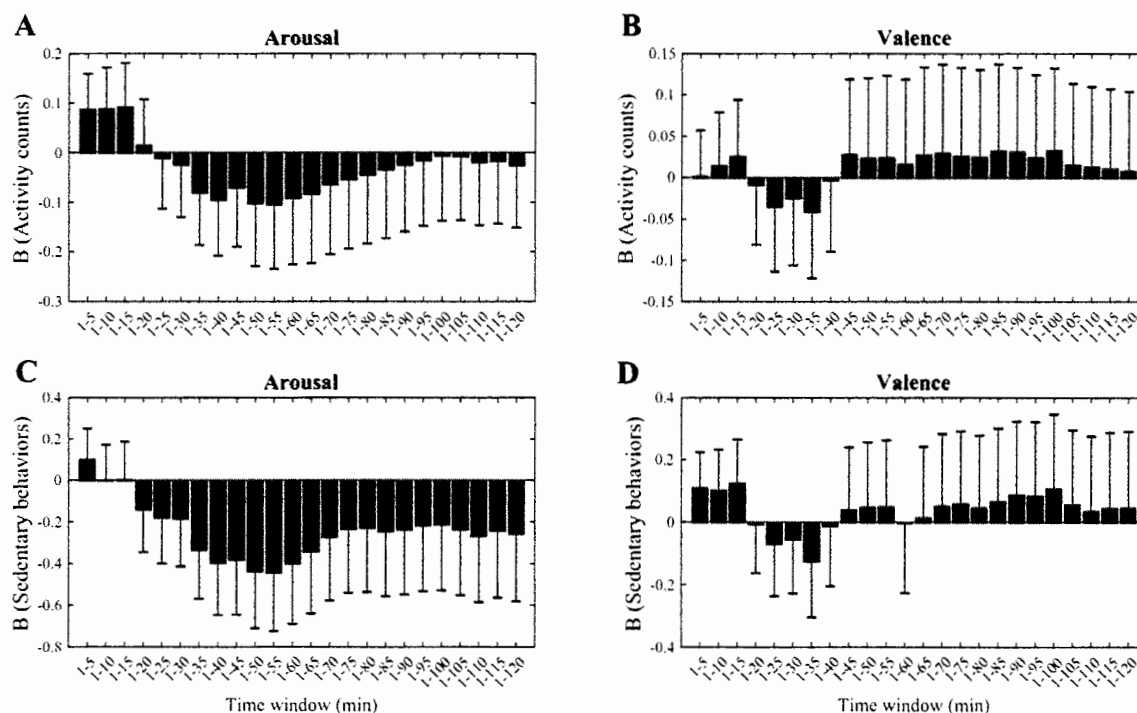


Fig. 3. Within-person *B* coefficient of antecedent physical activity for the dependent variable current affect states as a function of the different length of time windows: (A) Coefficient of Activity counts for Arousal, (B) Coefficient of Activity counts for Valence, (C) Coefficient of Sedentary behaviors for Arousal, and (D) Coefficient of Sedentary behaviors for Valence. The length of the time windows was from 5 to 120 min with a 5-min interval (e.g., 1–20 means physical activity was calculated from the time window 1 min to 20 min before ecological momentary assessment [EMA] beep). Activity count and Sedentary behaviors were calculated from 24 different time windows before EMA. Error bars indicate standard error of the *B* coefficients. *B* coefficient and standard error values are multiplied by 100 for convenience.

a higher proportion of time spent in sedentary behaviors. As expected, due to the smaller number of data points, the shorter time window had a higher *SD* with a wider range of activity counts and sedentary behaviors.

Current Affect Predicting Subsequent Movement-Based Behaviors

Estimates from Model 1, affect predicting subsequent mean activity counts in 5, 60, and 120 min time windows, are shown in Table 2. As hypothesized, at moments when participants reported greater affective arousal than their person-mean (i.e., higher relative to their usual affect states), they subsequently exhibited higher activity counts for the next 120 min ($B = 1.92$, $SE = 0.83$, $p = .02$), but not the next 5 min and 60 min. Contrary to expectations, affective valence was unrelated to subsequent activity counts over the 5-, 60-, or 120-min time windows.

Additional analyses were conducted with a range of time windows (5–120 min with a 5-min bin) for physical activity, and the *B* coefficients representing within-person associations between current affect and subsequent movement-based behaviors of those models were shown in Fig. 2. The

B coefficients of arousal on activity counts were consistently positive values (between 1.02 and 1.93) across a wide range of time windows lasting from 5 to 120 min but showed significance only in longer time windows from 110 to 120 min (Fig. 2A). The FDR procedure indicated that the significant results in Fig. 2 are likely to be valid at a *q* value 0.2 (i.e., valid four out of five times). Affective valence was consistently unrelated to activity counts across any time window lasting from 5 to 120 min (Fig. 2C).

Estimates for Model 2, affect predicting subsequent sedentary behaviors, are shown in Table 3. As hypothesized, higher-than-usual arousal predicted less sedentary behaviors in the next 5-min ($B = -1.40$, $SE = 0.62$, $p = .02$), next 60-min ($B = -0.95$, $SE = 0.41$, $p = .02$), and next 120-min time windows ($B = -1.41$, $SE = 0.34$, $p < .01$). Inconsistent with our prediction, affective valence was unrelated to subsequent sedentary behaviors over the 5-, 60-, or 120-min time windows.

Additional analyses were conducted with a range of time windows (5–120 min with a 5-min bin) for sedentary behavior. The *B* coefficients for arousal on sedentary behaviors were consistently negative values (between -1.41 and -0.70) and were also significant across a wide range of

Table 1 Descriptive Statistics of Affect States and Physical Activity

Variables	Mean	SD	Min	Max
Arousal (0–6)	3.8	0.9	1.5	5.8
Interested	3.9	0.9	1.4	6.0
Tired	2.2	1.1	0.0	5.0
Valence (0–6)	4.8	0.7	2.0	6.0
Happy	4.3	0.8	2.2	6.0
Sad	0.8	0.8	0.0	4.3
Activity counts (per min)				
Previous 120 min	30.7	16.3	9.7	83.8
Previous 60 min	29.9	17.0	8.1	89.8
Previous 5 min	28.1	19.5	5.8	93.0
Next 5 min	25.2	20.4	1.4	116.3
Next 60 min	29.9	16.8	7.2	90.9
Next 120 min	29.9	17.1	8.3	88.9
Sedentary behaviors (% of time spent)				
Previous 120 min	83.0	9.7	39.6	97.3
Previous 60 min	83.1	10.2	38.9	98.1
Previous 5 min	84.9	11.2	31.3	100.0
Next 5 min	86.0	12.6	48.2	100.0
Next 60 min	83.3	9.9	45.4	98.0
Next 120 min	83.4	9.8	47.1	97.1

Note. Affect states were assessed with the scale ranged from 0 (not at all) to 6 (very much). Activity counts represent counts per minute averaged during each time duration.

Table 2 Multilevel Model Predicting Subsequent Activity Counts from Current Arousal and Valence

	Activity counts		
	Next 5 min	Next 60 min	Next 120 min
Intercept	41.76 (22.42)	37.61 (16.97)*	39.91 (17.15)*
Arousal centered at person-mean arousal	1.67 (1.35)	1.12 (0.91)	1.92 (0.83)*
Valence centered at person-mean valence	0.91 (1.79)	−0.45 (1.19)	−0.83 (1.08)
Person-mean arousal	−7.84 (3.65)*	−0.43 (2.76)	−0.81 (2.79)
Person-mean valence	5.75 (5.05)	3.27 (3.81)	2.31 (3.85)
Age	−0.11 (0.21)	−0.07 (0.16)	−0.02 (0.16)
BMI	−0.29 (0.34)	−0.71 (0.26)**	−0.70 (0.26)**
Gender	−2.65 (5.39)	−0.96 (4.08)	1.14 (4.13)
Race-ethnicity (Non-Hispanic White vs. Others)	0.17 (6.27)	0.46 (4.75)	−0.03 (4.80)

Note. B coefficients and standard errors of the multilevel model (Model 1) are shown. Arousal/Valence centered at person-mean shows within-person association. Mean activity counts per minute of physical activity and percentage of time spent in sedentary behaviors are calculated from each time window: 1–5, 1–60, or 1–120 min after EMA. Asterisks indicate whether the coefficients significantly differ from zero (* $p < .05$, ** $p < .01$).

time windows (5–10 and 40–120 min; Fig. 2B). Affective valence did not predict subsequent sedentary behaviors across any time window lasting from 5 to 120 min.

Prior Behavior Predicting Current Affect

No hypotheses for this direction of associations were supported. Estimates for Model 3, arousal regressed on

prior movement-based behaviors in 5-, 60-, and 120-min time windows, are shown in Table 4. Arousal was not associated with movement-based behaviors in any preceding time windows (see also Fig. 3A and C).

Estimates for Model 4, valence regressed on prior movement-based behaviors in 5-, 60-, and 120-min time windows, are shown in Table 5 (Model 4). We did not find any significant associations between affective

Table 3 Multilevel Model Predicting Subsequent Sedentary Behaviors from Current Arousal and Valence

	Sedentary behaviors		
	Next 5 min	Next 60 min	Next 120 min
Intercept	76.60 (13.07)**	75.78 (9.7)**	74.54 (9.56)**
Arousal centered at person-mean arousal	−1.40 (0.62)*	−0.95 (0.41)*	−1.41 (0.34)**
Valence centered at person-mean valence	0.58 (0.82)	0.50 (0.54)	0.33 (0.45)
Person-mean arousal	3.95 (2.13)	0.68 (1.58)	0.96 (1.55)
Person-mean valence	−3.83 (2.94)	−1.46 (2.18)	−1.31 (2.15)
Age	0.16 (0.12)	0.08 (0.09)	0.08 (0.09)
BMI	0.19 (0.20)	0.31 (0.15)*	0.32 (0.15)*
Gender	2.77 (3.15)	1.98 (2.34)	1.02 (2.31)
Race-ethnicity (Non-Hispanic White vs. Others)	−1.05 (3.65)	−1.17 (2.71)	−0.64 (2.67)

Note. B coefficients and standard errors of the multilevel model (Model 2) are shown. Arousal/Valence centered at person-mean shows within-person association. Mean activity counts per minute of physical activity and percentage of time spent in sedentary behaviors are calculated from each time window: 1–5, 1–60, or 1–120 min after EMA. Asterisks indicate whether the coefficients significantly differ from zero (* $p < .05$, ** $p < .01$).

Table 4 Multilevel Model Predicting Current Arousal from Antecedent Activity Counts and Sedentary Behaviors

	Arousal		
	Previous 5 min	Previous 60 min	Previous 120 min
Intercept	3.79 (1.60)*	2.22 (2.18)	2.66 (1.79)
AC centered at person-mean AC [†]	0.09 (0.07)	−0.09 (0.13)	−0.03 (0.13)
SB centered at person-mean SB [†]	0.10 (0.15)	−0.40 (0.29)	−0.26 (0.32)
Person-mean AC	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)
Person-mean SB	0.00 (0.02)	0.02 (0.02)	0.01 (0.02)
Age	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
BMI	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Gender	−0.27 (0.20)	−0.28 (0.20)	−0.28 (0.20)
Race-ethnicity (Non-Hispanic White vs. Others)	−0.66 (0.23)**	−0.63 (0.23)**	−0.64 (0.23)**

Note. AC activity counts; SB sedentary behaviors. B coefficients and standard errors of the multilevel model (Model 3) are shown. AC/SB centered at person-mean shows within-person association. Mean activity counts per minute of physical activity and percentage of time spent in sedentary behaviors are calculated from each time window: 1–5, 1–60, or 1–120 min before EMA.

[†]B coefficient and standard error values on the within-person level are multiplied by 100 to rescale the estimates for presentation. Asterisks indicate whether the coefficients significantly differ from zero (* $p < .05$, ** $p < .01$).

valence and either movement-based behavior at any preceding time intervals (see also Fig. 3B and D). B coefficient and standard error values on the within-person level in Model 3 and 4 are multiplied by 100 to rescale the estimates for presentation.

Discussion

The nature and timing of bidirectional relations, especially within-person associations, between momentary affect and movement and nonmovement behaviors in everyday life are not well understood. We systematically examined how within-person changes in affective reports were associated with those in movement and

nonmovement behaviors preceding or following the affective assessments. Importantly, this approach uses each individual as their own control, thus removing any effects due to between-person differences and increasing confidence in interpreting the observed effects [42]. Using sensors to measure these behaviors with high granularity enabled us to investigate associations when behavior was aggregated across time windows ranging from 5 to 120 min. Momentary affective arousal levels predicted subsequent active movement-based behaviors for at least 120 min after the affect assessment, but momentary affective valence ratings did not predict subsequent movement-based behaviors. For the reversed sequence, within-person movement-based behaviors (i.e.,

Table 5 Multilevel Model Predicting Current Valence from Antecedent Activity Counts and Sedentary Behaviors

	Valence		
	Previous 5 min	Previous 60 min	Previous 120 min
Intercept	4.29 (1.15)**	5.13 (1.57)**	4.27 (1.29)**
AC centered at person-mean AC [‡]	0.00 (0.06)	0.02 (0.10)	0.01 (0.10)
SB centered at person-mean SB [‡]	0.11 (0.12)	0.00 (0.22)	0.04 (0.25)
Person-mean AC	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Person-mean SB	0.00 (0.01)	0.00 (0.02)	0.00 (0.01)
Age	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
BMI	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Gender	−0.20 (0.15)	−0.19 (0.15)	−0.21 (0.15)
Race-ethnicity (Non-Hispanic White vs. Others)	−0.27 (0.17)	−0.31 (0.16)	−0.29 (0.16)

Note. AC activity counts; SB sedentary behaviors. B coefficients and standard errors of the multilevel model (Model 4) are shown. AC/SB centered at person-mean shows within-person association. Mean activity counts per minute of physical activity and percentage of time spent in sedentary behaviors are calculated from each time window: 1–5, 1–60, or 1–120 min before EMA.

[‡]B coefficient and standard error values on the within-person level are multiplied by 100 to rescale the estimates for presentation.

Asterisks indicate whether the coefficients significantly differ from zero (* $p < .05$, ** $p < .01$).

being more or less active than typical for each individual) did not predict subsequent affective states across these time intervals.

As we hypothesized, momentary affective arousal preceded periods of physical activity and sedentary behavior. This finding was consistent with prior studies which showed that energetic arousal predicts subsequent physical activity [26, 30, 43]. We extended prior work by finding that affective arousal also predicted sedentary behavior. Multilevel models suggested that a one-point increase in arousal (0–6) over each participant's typical (average) level was associated with a 6.4% higher level of average activity counts over the next 120 or 1.7 min less sedentary behaviors during the next 120 min based on the results with a 2-hr window. These magnitudes seem modest in isolation, especially for sedentary behaviors, but the cumulative duration is more substantive. For example, the cumulative impact of a steady one-unit increase in affective arousal across one week would be estimated to reduce sedentary time by as much as 95.2 min (e.g., 1.7 min every 2 hr \times 16 awake hours a day \times 7 days a week). Also, prior studies suggest that merely interrupting extended periods of sedentary behaviors more frequently can improve physical and mental health outcomes [44, 45]. Thus, affective changes that alter the patterning of sedentary time may be valuable even if they do not greatly reduce the overall duration of sedentary time.

In contrast, we did not identify significant associations between current affect and previous movement-based behaviors. These findings suggest that momentary affective experiences (i.e., arousal) might precede physical activity and sedentary behavior rather than following those

behaviors. Prior studies, however, have reported inconsistent results regarding whether or not affective arousal follows physical activity. Higher light and moderate-to-vigorous physical activity (MVPA) over shorter time windows (e.g., previous 10, 15, or 30 min) predicted higher reports of feeling energetic in inactive samples [26, 33]. A study in university students showed that higher physical activity 10 min prior to affect assessment predicts energetic arousal [31]. Higher MVPA in the previous 30 min predicted increased feeling energetic in children [32]. These discrepant results between prior studies and the present study might be due to different selections of affect items for arousal, measures of physical activity (e.g., intensity, duration, and frequency), or sample characteristics (e.g., age, fitness, etc.). It will be important to conduct further research using reliable affect measures and validated measures of movement-based behaviors in diverse samples. Given our methodology (stratified random sampling of EMA assessments), relatively infrequent events, such as MVPA, may be unlikely to temporally align with an EMA prompt. As such, any associations are difficult to estimate, and further so when such effects (e.g., MVPA effects on affect) are short-lived (e.g., dissipate within ~30 min). Further research will need to carefully tailor the timing/frequency of EMA prompts to align with various indicators of physical activity in accordance with the specific research question(s).

Another important finding was that associations between arousal and subsequent physical activity or sedentary behavior may be time-varying (Fig. 2A and B). Affective arousal was consistently associated with subsequent sedentary behaviors across a broad range of time windows, whereas affective arousal predicted subsequent

activity counts only in longer time intervals. These results are broadly consistent with a prior study that feeling more energetic may not predict higher physical activity but predict less time spent in sedentary activity, although that study used shorter time windows up to 30 min [26]. We tested the relations with longer time windows up to 120 min and found that more affective arousal may predict both subsequent physical activity and sedentary behaviors. These findings suggest the need to characterize temporal characteristics when trying to identify affective determinants of activity patterns. Higher arousal may very quickly lead to a decrease of sedentary behaviors but it might not lead to acute physical activity in that same time interval. Future work may want to focus on developing strategies for reducing inactivity according to the temporal characteristics of different types of movement-based behaviors.

Contrary to our expectations, affective valence was unrelated to movement-based behaviors. Prior studies have demonstrated positive bidirectional associations between valence and physical activity over shorter time windows (e.g., 10 or 45 min) in university students [30, 31]. However, a study in inactive (i.e., exercising once a week or less) university students reported valence was not related to physical activity over a 15-min time window [33]. This suggests that differences in results might be due to different levels of physical activity across samples. Another explanation for these results is that the specific adjectives used to measure valence can influence findings [46]. In particular, we recognize that “happy” and “sad” are not comprehensive indicators of valence. If the present finding is replicated with other (and more diverse) measures of affective valence, researchers interested in movement-based behaviors might examine accounts of affect regulation or congruency that explain how people process their affective experiences to improve understanding of how those affective experiences influence physical activity and sedentary behavior in everyday life [2].

This study had several strengths that added rigor. First, both physical activity and sedentary behavior were monitored with wearable sensors instead of self-reports to remove the threat of recall and other reporting biases. The combination of repeated measures of affective experiences using EMA and the continuous stream of sensor data permitted a detailed investigation of bidirectional, sequential relations across varying time windows for both preceding and subsequent behavior. Second, we thoroughly examined the affect–behavior–affect sequence in this study using transient, medium, and relatively long time windows. To the best of our knowledge, this study is the first to compare different time windows for affect–behavior–affect relations.

Yet, there are also limitations to this study. First, we used only 4 items (i.e., interested, tired, happy, and sad) to derive dimensional measures of affective valence and

arousal in this study and it is potentially insufficient to fully represent the whole circumplex. Specifically, there is no item that represents activated negative valence or deactivated positive valence because the terms “happy” and “sad” in Russell’s circumplex [29] are neutrally activated (neither activated nor deactivated). Second, participants were all employed and mostly Caucasian females so the generalizability of these associations to other populations is unclear. Third, this study has a short study period (3 days) with a fixed order of study days (Thursday to Saturday). It is difficult to generalize our conclusions to nonsampled days as well as difficult to examine the day of week effects because affect and physical activity might vary from day to day in this employed sample, we do not sample all days, and the days of the week (the subset that was consistently sampled) are in a fixed order for all participants. Fourth, although we carefully established the affect–behavior–affect temporal ordering (i.e., 5 min up to 120 min with a 5-min interval before/after each EMA), findings on the relations between affect and subsequent behaviors were observational so strong causal inferences cannot be drawn from the present study. Also, multiple tests on the relations with a variety of time windows causes the potential increase in Type I error, although we tested the probability of the error using FDR procedure. Fifth, there is a possibility that the EMA study procedures may have impacted participants’ behaviors. However, we believe this possibility is unlikely because the wearable sensor used for movement-based behaviors does not provide feedback to participants, and affect measures were collected on a random schedule and not collected in response to (i.e., triggered by) the behaviors. Lastly, we defined sedentary behaviors with time spent under 1.5 METs which derived from combined heart rate and movement obtained by a torso-worn monitor; although this allows us to characterize sedentary behaviors, this method has not been fully examined [39]. Future research should evaluate whether the present findings replicate when using more sophisticated devices—for example, those that are more sensitive to postural changes involved in sedentary behavior.

Conclusion

In this study, we showed that affective arousal preceded higher levels of physical activity and lower sedentary behavior. In contrast, affective valence was unrelated to either physical activity or sedentary behavior. As such, perhaps separating arousal and valence components out of affect measures when predicting physical activity or sedentary behaviors should be de rigueur in future research. This study extends our understanding of the dynamic interplay of affective experiences and movement-based behaviors in both “directions” (i.e.,

behaviors to affect, affect to behaviors) in everyday life. In addition, this study may be informative for the design and implementation of interventions targeting affective arousal to promote physical activity and help working adults to avoid inactivity in everyday life.

Acknowledgments Data collection for this study was funded in part by a grant from the Gallup Organization.

Compliance with Ethical Standards

Conflict of Interest The authors declare no conflict of interest.

Authors' Contributions: J.M.S. designed the study and collected the data. All authors formulated the research questions and outlined the article. J.K. cleaned and analyzed the data. J.K. wrote the first draft of the manuscript. D.E.C. and J.M.S. revised the draft of the manuscript. All authors approved the final version of the manuscript.

Ethical Approval and Informed Consent All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee. Participants provided written informed consent.

References

1. 2018 Physical Activity Guidelines Advisory Committee. *2018 Physical Activity Guidelines Advisory Committee Scientific Report*. Washington, DC: U.S. Department of Health and Human Services; 2018.
2. Williams DM, Evans DR. Current emotion research in health behavior science. *Emot Rev*. 2014;6:277–287.
3. Hyde AL, Conroy DE, Pincus AL, Ram N. Unpacking the feel-good effect of free-time physical activity: Between- and within-person associations with pleasant-activated feeling states. *J Sport Exerc Psychol*. 2011;33:884–902.
4. Dunton GF. Ecological momentary assessment in physical activity research. *Exerc Sport Sci Rev*. 2017;45:48–54.
5. Dunton GF. Sustaining health-protective behaviors such as physical activity and healthy eating. *JAMA*. 2018;320:639–640.
6. Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Rep*. 1985;100:126–131.
7. Stults-Kolehmainen MA, Sinha R. The effects of stress on physical activity and exercise. *Sports Med*. 2014;44:81–121.
8. American Heart Association. Physical activity improves quality of life. 2015; http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/StartWalking/Physical-activity-improves-quality-of-life_UCM_307977_Article.jsp#.WssLhojwZ3g. Accessibility verified April 9, 2018.
9. Troiano RP, McClain JJ, Brychta RJ, Chen KY. Evolution of accelerometer methods for physical activity research. *Br J Sports Med*. 2014;48:1019–1023.
10. Silfee VJ, Haughton CF, Jake-Schoffman DE, et al. Objective measurement of physical activity outcomes in lifestyle interventions among adults: A systematic review. *Prev Med Rep*. 2018;11:74–80.
11. Crouter SE, Churilla JR, Bassett DR Jr. Accuracy of the Actiheart for the assessment of energy expenditure in adults. *Eur J Clin Nutr*. 2008;62:704–711.
12. Tremblay MS, Aubert S, Barnes JD, et al. Sedentary Behavior Research Network (SBRN) - Terminology Consensus Project process and outcome. *Int J Behav Nutr Phys Act*. 2017;14:75.
13. Owen N, Healy GN, Matthews CE, Dunstan DW. Too much sitting: the population health science of sedentary behavior. *Exerc Sport Sci Rev*. 2010;38:105–113.
14. Wilmot EG, Edwardson CL, Achana FA, et al. Sedentary time in adults and the association with diabetes, cardiovascular disease and death: Systematic review and meta-analysis. *Diabetologia*. 2012;55:2895–2905.
15. Thorp AA, Owen N, Neuhaus M, Dunstan DW. Sedentary behaviors and subsequent health outcomes in adults: a systematic review of longitudinal studies, 1996–2011. *Am J Prev Med*. 2011;41:207–215.
16. Hamer M. Psychosocial stress and cardiovascular disease risk: The role of physical activity. *Psychosom Med*. 2012;74:896–903.
17. Lewis BA, Napolitano MA, Buman MP, Williams DM, Nigg CR. Future directions in physical activity intervention research: Expanding our focus to sedentary behaviors, technology, and dissemination. *J Behav Med*. 2017;40:112–126.
18. Asztalos M, Cardon G, De Bourdeaudhuij I, De Cocker K. Cross-sectional associations between sitting time and several aspects of mental health in Belgian adults. *J Phys Act Health*. 2015;12:1112–1118.
19. Hamer M, Coombs N, Stamatakis E. Associations between objectively assessed and self-reported sedentary time with mental health in adults: An analysis of data from the Health Survey for England. *BMJ Open*. 2014;4:e004580.
20. Ekkekakis P, Petruzzello SJ. Acute aerobic exercise and affect: Current status, problems and prospects regarding dose-response. *Sports Med*. 1999;28:337–374.
21. Liao Y, Shonkoff ET, Dunton GF. The acute relationships between affect, physical feeling states, and physical activity in daily life: A review of current evidence. *Front Psychol*. 2015;6:1975.
22. Schwerdtfeger A, Eberhardt R, Chmitorz A, Schaller E. Momentary affect predicts bodily movement in daily life: An ambulatory monitoring study. *J Sport Exerc Psychol*. 2010;32:674–693.
23. Mata J, Thompson RJ, Jaeggi SM, Buschkuhl M, Jonides J, Gotlib IH. Walk on the bright side: Physical activity and affect in major depressive disorder. *J Abnorm Psychol*. 2012;121:297–308.
24. Dunton GF, Atienza AA, Castro CM, King AC. Using ecological momentary assessment to examine antecedents and correlates of physical activity bouts in adults age 50+ years: A pilot study. *Ann Behav Med*. 2009;38:249–255.
25. Emerson JA, Dunsiger S, Williams DM. Reciprocal within-day associations between incidental affect and exercise: An EMA study. *Psychol Health*. 2018;33:130–143.
26. Liao Y, Chou CP, Huh J, Leventhal A, Dunton G. Examining acute bi-directional relationships between affect, physical feeling states, and physical activity in free-living situations using electronic ecological momentary assessment. *J Behav Med*. 2017;40:445–457.
27. Lepage ML, Crowther JH. The effects of exercise on body satisfaction and affect. *Body Image*. 2010;7:124–130.
28. Wichers M, Peeters F, Rutten BP, et al. A time-lagged momentary assessment study on daily life physical activity and affect. *Health Psychol*. 2012;31:135–144.
29. Russell JA. A circumplex model of affect. *J Pers Soc Psychol*. 1980;39:1161–1178.
30. Kanning MK, Schoebi D. Momentary affective states are associated with momentary volume, prospective trends, and fluctuation of daily physical activity. *Front Psychol*. 2016;7:744.

31. Bossmann T, Kanning M, Koudela-Hamila S, Hey S, Ebner-Priemer U. The association between short periods of everyday life activities and affective states: A replication study using ambulatory assessment. *Front Psychol*. 2013;4:102.
32. Dunton GF, Huh J, Leventhal AM, et al. Momentary assessment of affect, physical feeling states, and physical activity in children. *Health Psychol*. 2014;33:255–263.
33. von Haaren B, Loeffler SN, Haertel S, et al. Characteristics of the activity-affect association in inactive people: An ambulatory assessment study in daily life. *Front Psychol*. 2013;4:163.
34. Kim J, Nakamura T, Kikuchi H, Sasaki T, Yamamoto Y. Co-variation of depressive mood and locomotor dynamics evaluated by ecological momentary assessment in healthy humans. *Plos One*. 2013;8:e74979.
35. Damaske S, Smyth JM, Zawadzki MJ. Has work replaced home as a haven? Re-examining Arlie hochschild's time bind proposition with objective stress data. *Soc Sci Med*. 2014;115:130–138.
36. Smyth JM, Zawadzki MJ, Juth V, Sciamanna CN. Global life satisfaction predicts ambulatory affect, stress, and cortisol in daily life in working adults. *J Behav Med*. 2017;40:320–331.
37. Brage S, Brage N, Franks PW, Ekelund U, Wareham NJ. Reliability and validity of the combined heart rate and movement sensor Actiheart. *Eur J Clin Nutr*. 2005;59:561–570.
38. Villars C, Bergouignan A, Dugas J, et al. Validity of combining heart rate and uniaxial acceleration to measure free-living physical activity energy expenditure in young men. *J Appl Physiol (1985)*. 2012;113:1763–1771.
39. Atkin AJ, Gorely T, Clemes SA, et al. Methods of measurement in epidemiology: Sedentary behaviour. *Int J Epidemiol*. 2012;41:1460–1471.
40. Singer JD, Willett JB. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. Oxford, UK: Oxford University Press; 2003.
41. Benjamini Y, Yekutieli D. The control of the false discovery rate in multiple testing under dependency. *Ann Stat*. 2001;29:1165–1188.
42. Hoffman L, Stawski RS. Persons as contexts: Evaluating between-person and within-person effects in longitudinal analysis. *Res Hum Dev*. 2009;6:97–120.
43. Schöndube A, Kanning M, Fuchs R. The bidirectional effect between momentary affective states and exercise duration on a day level. *Front Psychol*. 2016;7:1414.
44. Hamilton MT, Hamilton DG, Zderic TW. Role of low energy expenditure and sitting in obesity, metabolic syndrome, type 2 diabetes, and cardiovascular disease. *Diabetes*. 2007;56:2655–2667.
45. Ekkekakis P, Hall EE, VanLanduyt LM, Petruzzello SJ. Walking in (affective) circles: Can short walks enhance affect? *J Behav Med*. 2000;23:245–275.
46. Niermann CY, Herrmann C, von Haaren B, van Kann D, Woll A. Affect and subsequent physical activity: An ambulatory assessment study examining the affect-activity association in a real-life context. *Front Psychol*. 2016;7:677.

Huron East Administration

To: Mayor MacLellan and Members of Council
From: Brad McRoberts, MPA, P. Eng.
Date: November 1, 2022
Subject: Christmas Schedule

Recommendation:

That the Municipality of Huron East Council recognize Christmas and Boxing Day statutory holidays on December 26th and December 27th, 2022, respectively;

And that the New Years Day statutory holiday be recognized on December 30, 2022;

And further that the municipal office be closed December 28th and December 29th, 2021 with affected staff using vacation or banked time for these two days.

Background:

While it may seem too early to be discussing Christmas, it is important to provide sufficient advance notice to employees to ensure that they can schedule their personal and professional time over the Christmas season.

Christmas Day and Boxing Day for 2022 are on a Sunday and Monday. In accordance with the Municipality of Huron East Employee Manual, Section F.9, when a statutory holiday lands on a Saturday or Sunday the subsequent Monday and Tuesday are to be observed as the holiday. While New Years Day 2023 also lands on a Sunday it is being recommended that the Friday preceding the holiday be observed and noted as a deviation from the Employee Manual for municipal office staff.

This will result in a very short week during the week of December 26, 2022 and it is being recommended that the municipal office be closed on December 28th and 29th, 2022 providing an extended break to office employees. Employees will be required to use vacation time or banked lieu time to cover these additional days. Should any employee not have sufficient vacation or banked lieu time they will need to make arrangements with their supervisor.

Based upon conversations with staff the number of “in-person” public inquiries during this period is very limited. The phones system will be programmed to note that the municipal office is closed and as per current set up have emergency contact numbers available.

All other staff will recognize the statutory holidays in accordance with municipal policies.

Others Consulted: Department Heads and Staff.

Financial Impacts: None.

Signatures:

Brad McRoberts (Original Signed)

Brad McRoberts, MPA, P. Eng.
CAO

Huron East Administration

To: Mayor MacLellan and Members of Council
From: Brad McRoberts, MPA, P. Eng.
Date: November 1, 2022
Subject: Appeal – Refusal of Proposed Zoning By-Law Amendment – Part Lot 40, Plan 133, Tuckersmith Ward

Recommendation:

That Council consider a bylaw to allow the Mayor and Clerk to enter into an agreement on Minutes of Settlement between 1025343 Ontario Inc. and the Municipality of Huron East in regards to an application for a Zoning By-law Amendment to change the existing Industrial (IND) zone to Industrial – Special (IND-11) zone to permit a cannabis production facility subject to the agreed upon conditions of within the required 150 metre setback to a Community Facility Zone and dwelling unit.

Background:

On June 15, 2021, Council defeated a motion to give third and final reading to a by-law to amend the zoning on Part Lot 40, Plan 133, 40 1st Avenue, Vanastra, Tuckersmith Ward (Oud) to change the existing Industrial (IND) zone to Industrial – Special (IND-11) zone to permit a cannabis production facility subject to the agreed upon conditions of within the required 150 metre setback to a Community Facility Zone and dwelling unit.

On June 28, 2022 the decision by Council at the June 15, 2021 meeting was appealed to the Ontario Land Tribunal by 1025343 Ontario Inc.

Based upon consideration from our municipal solicitor, professional planner and technical expert, direction was given to staff to proceed with discussions with the appellant on possible settlement discussions.

Based upon these discussions terms and conditions for settlement were drafted, vetted and are now being presented for formal consideration by Council. The appellant is in agreement with the settlement terms and conditions.

The conditions of the settlement are outlined in Article 6 (i) through (ix) of the Minutes of Settlement outlined in the by-law under consideration.

Others Consulted: Baker Planning Group, PG Compliance Management Inc., Municipal Solicitor.

Financial Impacts: None.

Signatures:

Brad McRoberts (Original Signed)

Brad McRoberts, MPA, P. Eng.
CAO

Huron East Administration

To: Mayor MacLellan and Members of Council
From: Jessica Rudy, Clerk
Date: November 1, 2022
Subject: 2022 Municipal Elections Summary

Recommendation:

For Information.

Background:

The 2022 Municipal Elections were held on October 24, 2022.

Huron East hosted voting by internet and telephone voting, and utilized the services of Simply Voting. This was done along with the surrounding Huron County municipalities. Staff set up and attended voting assistance centres at Seaforth Manor and Huronview Long Term Care and Retirement homes.

The Clerk participated in an Elections Working Group, which consisted of Clerks and other Election Officials within Huron County. The Working Group established consistency across the County with voting platform, early voting, Clerks procedures, and formed joint information session for candidates wishing to run as well as created the Terms of Reference and formation of the Joint Municipal Elections Compliance Audit Committee (MECAC).

Early voting started on October 11, 2022 at 9:00 a.m. and ran until 8:00 p.m. on October 24, 2022 (Election Day). Huron East had a total of 7562 eligible electors and 2304 of those voted, which is 30.5% of the eligible voters; 10 of those electors declined their ballot. Electors were voting for a Mayor, two Grey Ward candidates and an English Public School Board Trustee.

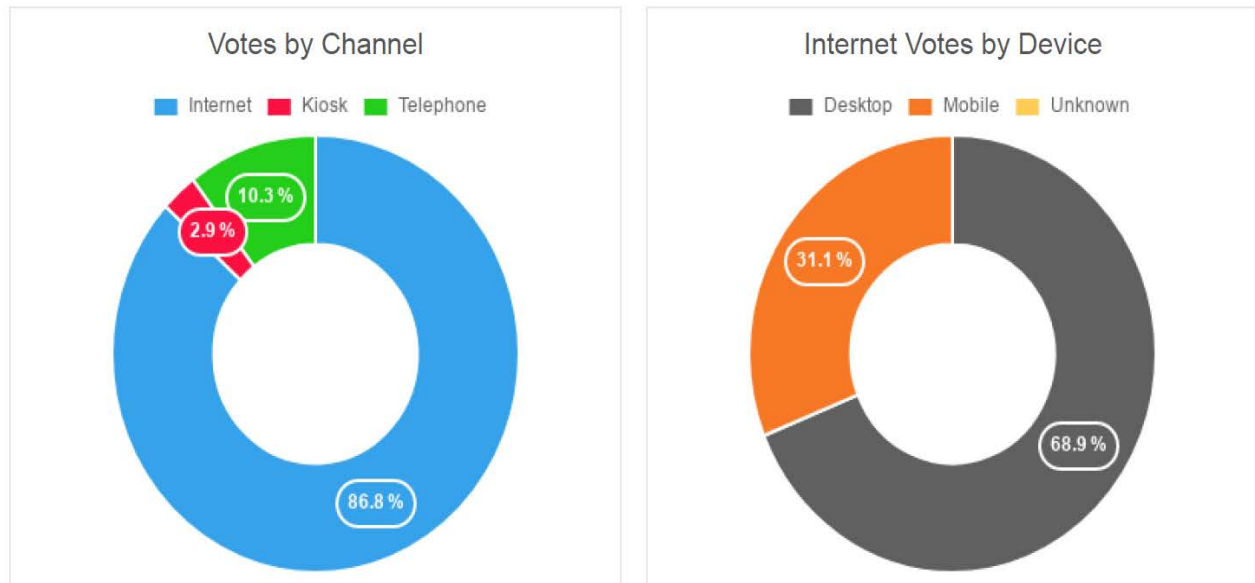
Advertisements were placed on the Municipality's website and the newspaper, similar to the last election, however, this year we also placed ads, on a regular basis, to our social media sites and jointly purchased radio ads between the Elections Working Group. Advertisements included information on how to vote, where to vote and which positions to vote for.

The turnout rate for voters is 7% lower than the previous election. Several reasons could account for the lower turnout, some of which being, lack of awareness/interest, a mostly acclaimed election or lack of a hot topic that draws electors. Staff will be looking at ways to increase voter turnout during the next four years, some ways to

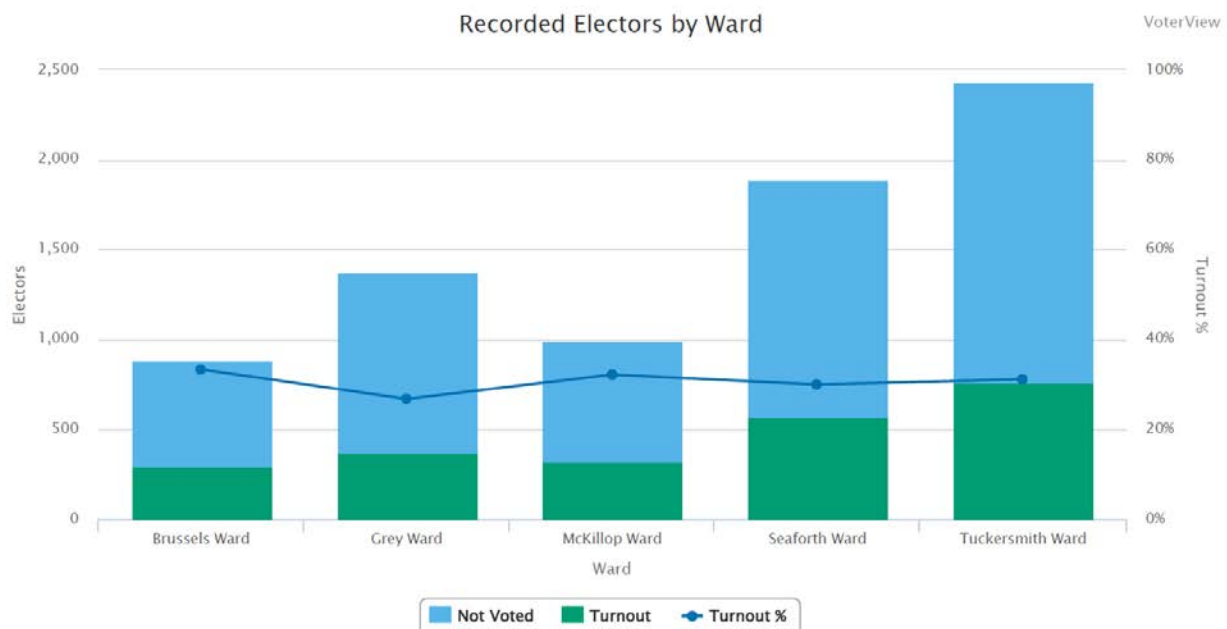
increase awareness could be to post information in the retirement and nursing homes and consider other opportunities to improve communication.

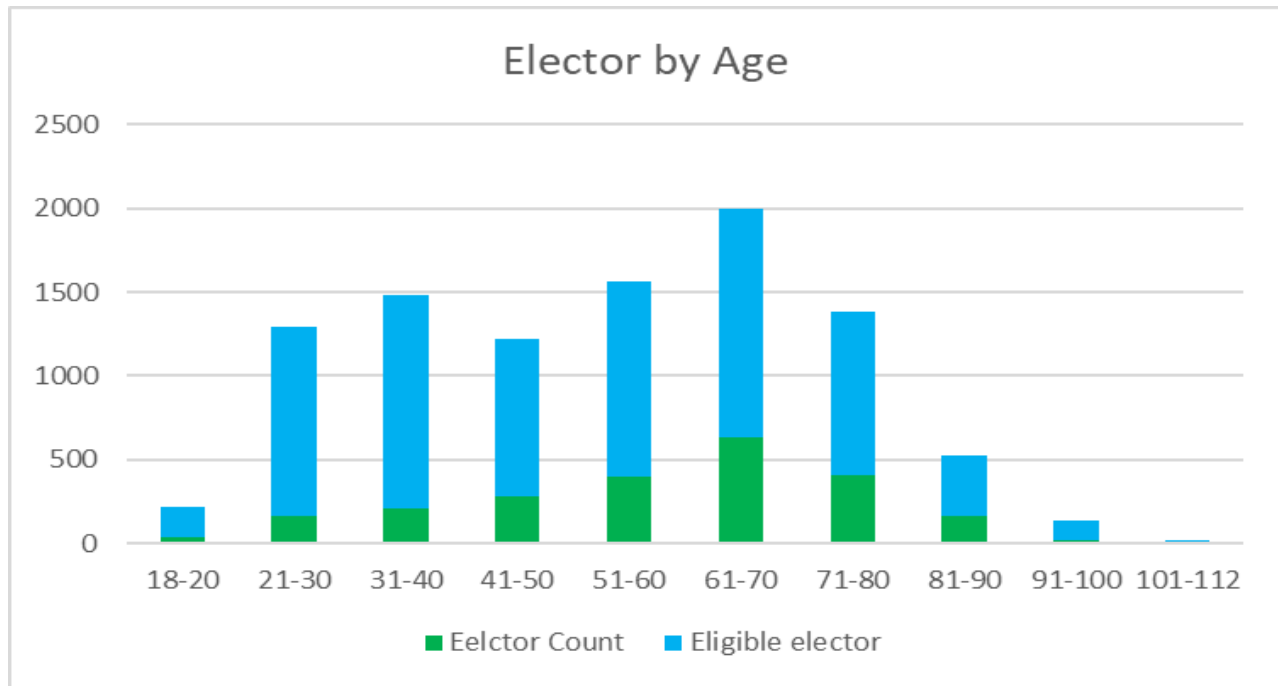
The below charts represent the various elector turnouts by channel, ward and age.

Electors by Channel/Device:



Electors by Ward:



Electors by Age:**Others Consulted:**

CAO Brad McRoberts

Financial Impacts:

Approximately \$12,000 has been spent on the 2022 Municipal Elections to date. This includes vendor fees, advertising, and postage for voter information letters.

Attachments:

[Attachment 1](#): Official Results

Signatures:

Jessica Rudy, AMP, Clerk

Brad McRoberts, MPA, P. Eng., CAO

Oct 25, 2022

The Municipality of Huron East
72 Main St, Box 610
Seaforth, ON
N0K1W0 Canada

To Whom It May Concern:

The following election results are certified by Simply Voting to have been securely processed and accurately tabulated by our independently managed service.

Respectfully yours,



Brian Lack
President
Simply Voting Inc.

Results - 2022 Municipal and School Board Elections

Start: 2022-10-11 09:00:00 America/Toronto

End: 2022-10-24 20:00:00 America/Toronto

Turnout: 2304 (30.5%) of 7562 electors voted in this ballot.

Note: 10 electors declined their ballot; they are included in the turnout.

Mayor

Option	Votes
Bernie MacLellan	1595 (70.1%)
Nancy Craig	679 (29.9%)

VOTER SUMMARY

Total	2294
Abstain	20 (0.9%)

Councillor - Grey WardRestricted to **42**

Option	Votes
Alvin McLellan	305 (44.7%)
Dianne Diehl	272 (39.9%)
Curtis McKinnon	105 (15.4%)

VOTER SUMMARY

Total	367
Abstain	6 (1.6%)

Trustee - English Public District School BoardRestricted to **EP**

Option	Votes
Deborah Logue	1429 (77.6%)
Dennis Valenta	412 (22.4%)

VOTER SUMMARY

Total	1948
Abstain	107 (5.5%)

Trustee - French Public District School BoardRestricted to **FP**

Option	Votes
Joseph Vandermeer	1 (100.0%)
David O'Hara	0 (0.0%)

VOTER SUMMARY

Total	1
Abstain	0 (0.0%)

Trustee - French Separate District School BoardRestricted to **FS**

Option	Votes
Sylvie C. Barbeau-Chmielewski	4 (80.0%)
Meghan Reale	1 (20.0%)

VOTER SUMMARY

Total	5
Abstain	0 (0.0%)



Dear Members of Huron East Council,

October 17, 2022

The Brussels Medical Dental board met at our last meeting on Wednesday, June 29, 2022 and it was determined at that meeting that the Board felt it necessary to write this letter to Council.

The members of the board were disheartened to receive the letter from Council stating that our board will be dissolved after November 2022.

A resolution made by Debbie Seili, seconded by Morris-Turnberry Councillor Sharen Zinn, to write a letter to Council asking them to reconsider their decision about the Brussels Medical Dental and to let our committee stand as is.

We are a small board, and meet only a few times a year. We are able to effectively communicate if necessary by email. Our building is fully operational and we were able to install an accessible lift for the staff and visitors of the building. We have updated the air conditioning, furnace, electrical, installed a new steel roof, and renovated the entire second floor. We are proud of the fact that our building is fully rented out and is paying for itself. We have monthly revenue coming in and still have savings for future renovations or repairs from a bestowed estate trust fund from a Brussels family. Financially we are in great shape.

One major concern of ours, is the amount of time that our current board Chair Mary Stretton does on a weekly and often daily basis for our building. She fields calls from our tenants with issues or concerns, and ensures that they're needs are taken care of in a timely manner. Mary does so much for the building and its tenants, and it's this care and customer service aspect that we don't want to see "slip" if the building isn't maintained by our board. We are so fortunate to have the Medical Dental building for the residents of Brussels and surrounding communities. Our board is a wonderful group of people who are dedicated to ensuring this building is successful and operational for years to come.

We are kindly asking Council to reconsider this decision. We are more than happy to attend Council to answer any questions you may have.

Members of the Brussels Medical Dental Board



The Corporation of the County of Huron

Single-Use Item Reduction Strategy

Prepared by the Conservation Committee
September 2020

77 Table of Contents

77

1. Background	3
1.1 Purpose	3
1.2 Single-Use Items	3
1.3 Environmental Impact	3
1.4 Guiding Principle	4
1.5 Objectives	4
2. Recommendations	4
2.1 Cutlery & Dishware	5
2.2 Water Bottles, Tap Water & Drinking Fountains	6
2.3 Plastic Bags	6
2.4 Coffee Makers and Keurig's	7
2.5 Hosting Meetings & Catering	8
2.6 Single Use Items for Accessibility	9
2.7 Disposal of Unavoidable Items	10
3. Compliance & Communication	11
4. References	11

1. Background

1.1 Purpose

The purpose of this strategy is to encourage a reduction in the purchase, use, and disposal of single-use items across the corporation. By reducing single-use items, employees across all departments will help to minimize the County's environmental impact and improve the sustainability of the corporation.

With the support of County Council, this strategy will be used as a guideline to help reduce single-use items at the corporate level. This strategy is not a policy or a ban, but rather it is to be used as a resource guide to suggest alternatives to the items that are currently being used.

1.2 Single-Use Items

Single-use or disposable items are products and materials that are designed to be used once and then thrown away. These items are most commonly made of plastic or foam, however they can also include paper materials. Some common single-use items include:

- Plastic straws and cutlery,
- Disposable beverage cups, including plastic, polystyrene foam, and lined paper cups,
- Drinking cup lids,
- Plastic shopping bags, and
- Takeout containers.

1.3 Environmental Impact

Single-use items are used daily. Due to the affordability, convenience, and durability of these materials, (particularly those made of plastic), their use has increased. Unfortunately, this has resulted in the generation of more waste, which has a negative impact on the environment.

This is particularly concerning with single-use plastics, which are difficult to recycle and take years to breakdown. As a result, plastics are one of the main sources of litter in Canada (Government of Canada, 2019). Every year in Canada approximately 3.2 million metric tonnes of plastic is discarded. Of this amount, only 9% is recycled. The remaining 91% ends up in landfills (86%), incinerators (4%), and as unmanaged waste (ie. litter) in the environment (1%) (ECCC, 2019).

Although only 1% of plastics end up as litter, a 2018 shoreline clean-up found and removed over 116,000 kg of plastic material from coastal regions across Canada. Some of the most commonly found items included single-use plastics, including food and beverage containers, plastic bottles, bags, and straws, as well as smaller plastic particles that had begun to break down (Ocean Wise & WWF, 2018).

Despite the convenience of single-use items, it is important to take action to eliminate or reduce the use of these materials before they are disposed of.

It is important that the County of Huron takes action to reduce single-use items, especially when it may be unnecessary or avoidable. The benefits of doing this include:

- Showing our leadership and commitment to improving the sustainability of the corporation,
- Lowering the amount of waste generated across County facilities, thereby reducing management and disposal fees,
- Potentially reducing the amount of money spent on single-use items, if replaced with long-lasting reusable alternatives, and
- Being proactive in preparing for future policies imposed at the federal and provincial level.

With this in mind, the overarching principle guiding this strategy is: *When there exists a feasible alternative, the Corporation of the County of Huron will do its part to eliminate the unnecessary use of single-use items by purchasing and using more environmentally sustainable options.*

1.5 Objectives

The objectives of the Single-Use Item Reduction Strategy include:

- Being a leader and showing our corporate commitment to environmental sustainability,
- Raising awareness among County staff about the need to take action to reduce single-use items,
- Eliminating the unnecessary use of single-use items from corporate operations and services, as well as meetings and events,
- Replacing single-use items with reusable or recyclable alternatives when feasible, and
- When unavoidable, doing our best to minimize the use of single-use items and ensure proper disposal.

2. Recommendations

The following recommendations are intended to encourage County staff across all departments, to eliminate and/or reduce the use of single-use items. Staff are encouraged to apply these recommendations whether they are at the workplace or working from home. The priority should always be on eliminating these items when it is feasible to do so.

This is not a comprehensive list for the corporation, however it is intended to reflect common areas of concern where there is an opportunity to improve.

2.1 Cutlery & Dishware

Cutlery and dishware are items that are used on a daily basis by County staff for meetings and events, as well as in offices and lunchrooms. While some departments have already made the switch to reusable items, others still rely on disposable options. There are several recommendations outlined below that may be useful in eliminating and/or reducing the use of these items across the corporation.

	Recommendation	Tips for Implementation
1	Eliminate the use of disposable cutlery and dishware, especially in offices and lunchrooms, where reusable options can be brought to work by employees or purchased for use by the department.	<ul style="list-style-type: none"> Consider purchasing kitchen items for the department from secondhand stores, such as Goodwill. Often times these stores have good quality and affordable items. When employees clean out their kitchens at home, have them bring in any cutlery and dishware that are still in usable condition for the department to use
2	For meetings and events ask employees to bring their own cutlery and dishware, reducing the need to purchase and use disposable items.	<ul style="list-style-type: none"> Request that staff bring their own items when the meeting invitation is sent out. You may also send a reminder a few days before, to ensure they remember to bring their items from home. If your department frequently has staff meetings or potlucks, suggest that employees bring a set of dishware from home to leave at the office. This will reduce the likelihood of staff forgetting their items on the day of the event.
3	When hosting a meeting/event at another facility, try to make use of any reusable cutlery and dishware that may be available at the location. Alternatively, before considering disposable options, it would be recommended to bring any reusable items from your own department.	<ul style="list-style-type: none"> Consider hosting meetings/events at locations that have reusable cutlery and dishware, as well as the facilities to clean these items after use. See section 2.5 Hosting Meetings & Catering for more information. If your department has a set of reusable dishware, consider purchasing totes to transport the items to and from the meeting. If you are responsible to wash the items, consider taking turns to share the workload. Alternatively, try to make this a fun, team-building exercise that allows you to work together. Remember that "many hands make light work". When hosting public meetings, there may be additional health and safety considerations. In this situation, you may consider hosting meetings at locations that have commercial kitchens, including the Courthouse and Jacob Memorial Building. If disposable items are the only option, <i>refer to section 2.7 Disposal of Unavoidable Items for further recommendations</i>.

2.2 Water Bottles, Tap Water, & Drinking Fountains

Water is consumed in a variety of ways every day in County facilities. Some of the ways that water is consumed by both staff and the public, are more environmentally sustainable than others. The recommendations below suggest ways that County departments can make changes to avoid using single-use items for drinking water.

	Recommendation	Tips for Implementation
1	Tap water should be the first choice for County employees, when there is access to it. Unless there is an absolute need (ie. where there is no tap), water coolers and jugs should be avoided.	<ul style="list-style-type: none"> If your department prefers filtered water, consider purchasing a Brita water pitcher for the office. Encourage one another to use refillable water bottles to minimize the use and disposal of plastic bottles.
2	Explore the feasibility of installing drinking water fountains and/or water bottle refill stations in public facilities. When feasible, single-use plastic bottles should be avoided.	<ul style="list-style-type: none"> Sell reusable water bottles for the public to use. If necessary, consider selling water in cans, as opposed to plastic bottles. This is already being done at the Huron County Museum. Remove disposable cups (ie. Dixie cups) for public use and encourage refillable bottles. If required for accessibility, see section 2.6 Single-Use Items for Accessibility.

2.3 Plastic Bags

Plastic bags are used in some facilities, particularly those that are visited by the public and tourists. It is important to reduce the use of these items across the corporation, especially considering that plastic bags are one of the most common items found on Canadian shorelines. The following recommendations offer alternatives to the plastic bags that are currently being used.

	Recommendation	Tips for Implementation
1	Avoid the use of disposable bags by encouraging the public to bring their own reusable options.	<ul style="list-style-type: none"> If not already doing so, consider selling reusable bags for the public to purchase and use. There is also an opportunity to use these bags for advertising. Raise awareness by posting signs, sending an email, etc. to encourage the public to bring their own bags before visiting the facility.
2	When feasible, purchase and use paper bags instead of plastic ones, and always encourage the reuse of bags for multiple purposes.	<ul style="list-style-type: none"> Paper should be purchased and used instead of plastic, as paper is more likely to be recycled and breaks down faster in the environment. Regardless of the type of bag, reuse should always be encouraged before disposal. Using items for their full lifecycle helps keep waste out of landfills, and reduces the creation of new materials using virgin resources.

2.4 Coffee Makers & Keurig's

Coffee is a beverage that many people enjoy on a daily basis. Unfortunately, brewing coffee often uses disposable items and generates waste. The recommendations below offer simple suggestions that may be helpful in encouraging County staff to reduce the use and disposal of single-use items for coffee.

	Recommendation	Tips for Implementation
1	Purchase and use a regular coffee pot in the office.	<ul style="list-style-type: none"> • Suggest having an office champion (ie. the first person who arrives each morning) that volunteers to make coffee. • In order to be courteous, have a rule that the coffee pot is never left empty. If you take the last cup, make more for others to enjoy. • Encourage each other to consider alternative coffee brewing methods, such as a French Press, which doesn't require disposable filters.
2	If Keurig's are already being used, consider using reusable K-cups instead of disposable ones.	<ul style="list-style-type: none"> • As a department, consider purchasing reusable K-cups to share. Reusable K-cups are often an affordable and long-lasting alternative to disposable pods. • Be aware of greenwashing. Many K-cups are labelled as recyclable, however depending on the waste management provider, these materials will not meet the criteria to be recycled. <i>Refer to section 2.7 Disposal of Unavoidable Items for more information.</i>
3	When possible, County employees should bring their coffee in a reusable travel mug to work, or enjoy it in a mug at the office.	<ul style="list-style-type: none"> • Encourage one another to avoid waste from disposable coffee cups. Not only is this better for the environment, but it will also likely save money.

2.5 Hosting Meetings & Catering

The County frequently hosts meetings internally with employees, as well as externally with other organizations and the public. Often these events involve supplying food and beverages, which can generate waste from plastic packaging and disposable dishware. It's important that we take steps as a corporation, to show our leadership by reducing the environmental impact of the events that we are responsible for.

There are several recommendations listed below that outline steps we can take when organizing meetings and events, to ensure we minimize the use and disposal of single-use items.

	Recommendation	Tips for Implementation
1	Host meetings and events at locations that have reusable cutlery and dishware, as well as the facilities to clean the items after use.	<ul style="list-style-type: none"> • Before booking a venue, ask whether they have reusable items that can be used. • Choose a location that offers these services and has already been used by the County for meetings and events.
2	When catering is required, ask that they try to avoid using and/or bringing single-use items, including plastics.	<ul style="list-style-type: none"> • Before booking a caterer, make them aware of our corporate goal of minimizing disposable items at meetings and events. Often, caterers are willing to accommodate this request to the best of their ability. • Similar to choosing a venue, select a caterer that is able to accommodate these requests and has been used for past County events.
3	If providing any additional snacks and refreshments at the meeting, try to avoid single-use items that may be unnecessary.	<ul style="list-style-type: none"> • When booking a caterer or venue, ask if they supply additional items, such as milk, cream, sugar, and coffee. This will avoid us having to purchase items that may be intended for single-use. • Purchase a full carton of cream or milk, instead of using single serve items. Smaller plastic materials tend to interfere with recycling processes, and as a result are diverted to landfills. • If purchasing fruits/vegetables or other snacks, try to avoid items that are packaged in plastic.

2.6 Single-Use Items for Accessibility

There may be instances when single-use items cannot be avoided, especially if they are required for accessibility or health and safety. This may include items such as bendable straws, water bottles, and those used for medical or sanitary purposes. When this is the case, the County should try their best to reduce the unnecessary use of these items and when possible, switch to more environmentally sustainable options.

The recommendations below offer suggestions for departments that may be required to use or supply single-use items for accessibility or health concerns.

	Recommendation	Tips for Implementation
1	When single-use items are required, try to reduce the use of these materials by only providing them when they are necessary	<ul style="list-style-type: none"> • If possible, keep single-use items out of sight, such as behind a counter or desk. This allows an individual to request an item if needed, and avoids the unnecessary use of these materials for convenience. • Always encourage staff to use reusable items from home, or those that are supplied by the department before using disposable alternatives.
2	When feasible, replace single-use items with more environmentally sustainable options that are reusable or recyclable.	<ul style="list-style-type: none"> • Always explore affordable alternatives to the single-use items currently being used. • Priority should be given to reusable items, followed by those that are recyclable (ie. recyclable plastic, paper or metal). Items that are landfilled should be chosen last, when possible. • Consider purchasing a Zero Waste Box from TerraCycle for single-use items that cannot be recycled through regular waste collection (ie. latex gloves, pens and markers, etc.). • Be aware of greenwashing. Items that are labelled as compostable/biodegradable may not be the better option. Often these items take a long-time to breakdown and are not accepted in regular waste collection. Always do your research and consider the pros/cons before purchasing. You may consider: <ul style="list-style-type: none"> ♦ The end use of the material, ♦ The rate the material breaks down, and ♦ How and where the material is disposed of.

2.7 Disposal of Unavoidable Items

When single-use items cannot be avoided, it is important that they are disposed of correctly. This can be challenging, as waste streams are complex and always changing. It is important to be aware of the waste systems we rely on, in order to ensure we are doing our best to use items that can be recycled. For this, there is one recommendation that is outlined below.

	Recommendation	Tips for Implementation
1	Know who the waste management provider is for your department, and make sure to stay up to date with the materials they accept for recycling.	<ul style="list-style-type: none"> • Always consider whether an item can be recycled by the service provider, before purchasing. • Have an office champion that volunteers to regularly check the service provider's website for changes to the items they accept. • Take advantage of composting/green bin programs if they are offered by the service provider

As a reminder, many single-use plastic items are accepted in recycling streams. This can be confusing, as it is often recommended that these types of materials should be avoided. The ability of a plastic to be recycled depends on several variables, including the requirements of the service provider, the type and quality of plastic, the capability of the recycling facilities, as well as the larger global market.

If ever in doubt, follow the above recommendation and check with the waste service provider. Generally, it is accepted that higher quality plastics, those that are rigid and clear (ie. PET, HDPE, and PP) are more valuable and have a greater chance of being recycled. Lower quality plastics, such as those that are flexible and coloured (often black), are not as valuable and therefore are not as readily recycled (Metro Vancouver, 2019).

With that said, due to the larger environmental impacts that plastics have, as a corporation we should do our best to eliminate the use of these items, and transition to long-lasting, reusable alternatives when it is feasible.

3. Compliance & Communication

The Single-Use Item Reduction Strategy relies on voluntary compliance. This strategy is intended to encourage County staff across all departments to begin taking action to reduce single-use items and improve the sustainability of the corporation.

Although this will not be enforced, with the support of County Council, this has been endorsed as a goal for the corporation. We need to work together to encourage one another to show our leadership and take action.

The Conservation Committee will support the corporation by helping communicate awareness and related information. Through posts on CountyNet, as well as materials distributed across departments, we will work to support ongoing changes to ensure the success of this strategy.

Some of the ways the Conservation Committee plans to do this, include:

- Awareness posts on CountyNet, such as educating staff on proper waste disposal practices,
- Sharing initiatives and successes across departments, and
- Providing regular updates to staff and Council about the progress being made.

4. References

Environment and Climate Change Canada (ECCC) (2019). Economic Study of the Canadian Plastic Industry, Markets and Waste: Summary Report to Environment and Climate Change Canada. Retrieved from http://publications.gc.ca/collections/collection_2019/eccc/En4-366-1-2019-eng.pdf.

Government of Canada (2019). Government of Canada actions on plastic waste in federal operations. Retrieved from <https://www.canada.ca/en/treasury-board-secretariat/services/innovation/greening-government/government-canada-actions-plastic-waste-federal-operations.html>.

Metro Vancouver (2019). Single-Use Item Reduction Toolkit. Retrieved from http://www.metrovancouver.org/services/solid-waste/SolidWastePublications/Single-Use_Item_Reduction_Toolkit.pdf.

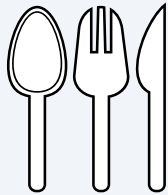
Ocean Wise & WWF (2018). Great Canadian Shoreline Cleanup: 2018 Annual Report. Retrieved from <https://www.shorelinecleanup.ca/storage/resources/gcsc-2018annualreport-190416.pdf>.

Single-Use Item Reduction Strategy: Summary Sheet

This sheet provides a summary of the recommendations outlined in the County's Single-Use Item Reduction Strategy. It is intended to be used as a quick reference for County staff, as a reminder of ways to reduce the purchase, use, and disposal of single-use items across the corporation. See the full strategy for additional information, including tips for implementing these recommendations.

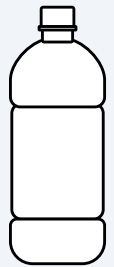
Cutlery & Dishware

1. Purchase reusable cutlery and dishware for kitchens and lunchrooms.
2. For meetings and events ask employees to bring their own cutlery and dishware.
3. When hosting a meeting or event at another facility, try to make use of the cutlery and dishware available at the location.



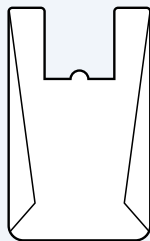
Water Bottles, Tap Water, & Drinking Fountains

1. Always drink tap water when it is available. Unless there is an absolute need, water coolers and jugs should be avoided.
2. When feasible, install drinking water fountains and/or water bottle refill stations in public facilities to avoid plastic water bottles.



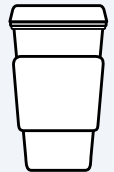
Plastic Bags

1. Avoid the use of disposable bags by encouraging the public to bring their own reusable options.
2. When feasible, purchase and use paper bags instead of plastic ones.



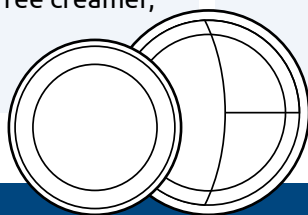
Coffee Makers & Keurig's

1. Purchase and use a regular coffee pot in kitchens and lunchrooms.
2. If Keurig's are already being used, consider using reusable K-cups instead of disposable ones.
3. When possible, County employees should bring their coffee in a reusable travel mug to work, or enjoy it in a mug at the office.



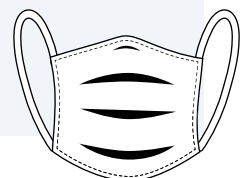
Hosting Meetings & Catering

1. Host meetings and events at locations that have reusable cutlery and dishware, as well as the facilities to clean the items after use.
2. Ask that caterers try to avoid using and/or bringing single-use items, including plastics.
3. When providing snacks or refreshments, try to avoid single serve items, such as coffee creamer, and items packaged in plastic.



Single-Use Items for Accessibility

1. Only provide single-use items when they are required and/or necessary.
2. When feasible, replace single-use items with reusable or recyclable alternatives.



Dear Friends,

It is my pleasure to invite you to submit a nomination for the **2023 [Ontario Volunteer Service Awards](#)**

Organizations can nominate their volunteers for an [Ontario Volunteer Service Award](#) to recognize their continuous service ranging from five to 65 years of continuous service. Youth (24 years old and under) can be recognized for two or more years of continuous service.

The new annual deadline for nominations is November 15. For more information about the program or to submit a nomination, please visit the [Ontario Volunteer Service Awards webpage](#).

The Ministry will provide more information about the ceremony to recognize 2022 volunteers in late Fall.

If you have questions about the Ontario Volunteer Service Awards or how to submit a nomination online, please contact the Ontario Honours and Awards Secretariat at OntarioVolunteerServiceAwards@ontario.ca.

Sincerely,

Ontario Honours and Awards Secretariat
Ministry of Citizenship and Multiculturalism
1075 Bay St, 7th Floor
Toronto, ON M5S 2B1

Telephone: 416-326-0206
Toll Free: 1-833-986-4022
VRS: 437-538-4850

Email: OntarioVolunteerServiceAwards@ontario.ca

Website: www.ontario.ca/honoursandawards



234-2022-4624

October 25, 2022

Good afternoon,

On October 25, 2022, our government released [More Homes Built Faster: Ontario's Housing Supply Action Plan 2022-2023](#) that proposes bold and transformative action to get 1.5 million homes built over the next 10 years.

Details about the range of measures in our plan can be found in the [news release here](#).

The More Homes Built Faster Plan proposes policies and tools that reflect recommendations from the [Housing Affordability Task Force Report](#) and builds on [More Homes, More Choice](#) and the [More Homes for Everyone Plan](#). Our plan also draws on many elements from AMO's 2022 A Blueprint for Action: An Integrated Approach to Address the Ontario Housing Crisis and ROMA's 2022 Task Force Report on Attainable Housing and Purpose-Built Rentals. These changes are providing a solid foundation to address Ontario's housing supply crisis over the long term and will be supplemented by continued action in the future.

Our government has also introduced the More Homes Built Faster Act, 2022, and is seeking feedback on the changes proposed under the legislation and associated regulations. Additionally, various housing and land use policy reviews – including a housing-focused policy review of A Place to Grow and the Provincial Policy Statement, with a theme of supporting rural and northern housing – are being undertaken to identify and remove barriers to getting more homes built. These and other related consultations can be found through the [Environmental Registry of Ontario and the Ontario Regulatory Registry](#).

We encourage you share this information with senior staff in the municipality and to inform the newly elected head of council and council members. Our government is building a strong foundation for action that will continue to ensure Ontario is a prosperous and growing province – and the best place in the world to call home. We look forward to continued collaboration with our municipal partners to get more homes built faster.

Sincerely,

Steve Clark
Minister

- c. The Honourable Michael Parsa, Associate Minister of Housing
- Kate Manson-Smith, Deputy Minister
- Ryan Amato, Chief of Staff, Minister's Office
- Joshua Paul, Assistant Deputy Minister, Housing Division
- Municipal Chief Administrative Officers



**Vanastra Recreation Centre/Day Care Minutes
Virtual Meeting
Monday, October 17, 2022**

Members Present:

Chair Janet Boot, Councillor Raymond Chartrand, and Becky Kyle

Members Absent:

Mark Stone

Staff Present:

Vanastra Recreation Centre Manager Lissa Berard; Manager of Vanastra Early Childhood Centre Candice Seulal; and Clerk Jessica Rudy

1. Call to Order

Chair Janet Boot called the meeting to order at 6:00 p.m. and requested that the last meeting be held in person.

2. Confirmation of the Agenda

Moved by Councillor Chartrand and Seconded by Becky Kyle:

That the agenda for the regular meeting dated October 17, 2022 be adopted as circulated.

Carried

3. Declaration of Pecuniary Interests

None declared.

4. Delegations

5. Minutes of Previous Meeting

Moved by Becky Kyle and Seconded by Councillor Chartrand:

That the following meeting minutes be approved as circulated:

5.1 Regular Meeting – August 29, 2022

Carried

6. Reports & Recommendations of Facility Manager

6.1 Year to Date Financial Statements – Day Care

Candice Seulal provided an overview of the financial statements noting the following:

- Upcoming meetings planned with the Treasurer to better understand the budget process.
- Explanation on \$10 a day care and subsidies from the County.
- Rebate cheques were issued to families in September, which is a result of the \$10/day program.
- Centre is just below full capacity with only seven open spots available by April.
- Update on the hiring of the daycare teacher/kitchen assistant.

6.2 Vanastra Recreation Centre Manager's Report: October 2022

Vanastra Recreation Centre Manager Lissa Berard provided an overview of the Manager's report and noted the following:

- Discount Drain coming to camera the sanitary line and observe the fixed area. Pipe should be fully completed by year end.
- Contacted the contractors who installed boilers to fix the corrosion of the shut off valve and a quote of \$2000 was received.
- Paperwork has been sent to Enbridge for the incentive program, which was used to install the new boilers.
- Still experiencing a shortage of staff noting that there may be consideration to close the recreation centre on Sundays in December.
- Noted that research is underway to attract new employees. Examples included a cash incentive after so many hours worked; RESP contribution from the Municipality and an apprenticeship program for 15 year olds, grooming them to be ready for lifeguard duty when they turn 16.

The Committee discussed the various new hire incentives and agreed that L. Berard should move forward with the appropriate approvals, it was also noted that outreach to high schools on the incentives would help raise awareness.

Moved by Councillor Chartrand and Seconded by Becky Kyle:

That the Vanastra Recreation Centre/Day Care Management Committee approve the apprenticeship program for 15 year olds for at least 2 individuals or offering a RESP contribution program or signing bonus in order to attract new employees.

Carried

L. Berard continued with the Manager's report noting that the PD day program for October 24, 2022 is full.

6.3 Year to Date Financial Statements – Vanastra Recreation Centre

L. Berard provided an overview of the financial statements noting the following:

- Overall financials are in good standing.
- Swimming lessons have exceeded what was budgeted however, program expenses have exceeded budget, which balances it out.
- Memberships are coming back in and should come in on budget.
- There has been an increase in pool and hall rentals.
- The County subsidy for the day camp hasn't been received for July or August which will involve some investigation.
- An overview of the activities, which affected the building and maintenance budget line, was provided noting that the bottom line is still within budget without transferring from the reserves, as was originally planned.
- Most repairs and upgrades were completed as planned except for the day care kitchen renovation.

Moved by Councillor Chartrand and Seconded by Becky Kyle:

That the Vanastra Recreation Centre/Day Care Committee accept the Early Childhood Education Centre and Recreation Centre Financial Statements, and Managers report as presented.

Carried

7. Correspondence

8. Unfinished Business

9. Other Business

9.1 Discussion re: Capital Needs

In response to the status and feasibility of a playground with adult exercise equipment, L. Bedard noted that she has been creating a concept and blueprint but has not yet found a company to provide a quote. It was noted that the project is being prepared so that if a grant becomes available staff would be ready to apply.

As part of other capital needs L. Berard stated that the five year budget plan is following the building report that was provided by BM Ross in 2021. An overview of some of the items was provided which included roof completion, a new layout for the men's and

women's change rooms including new showers and the day care kitchen renovation.

10. Closed Session and Reporting Out

11. Meeting Dates

The committee discussed meeting on the last Monday of November the 28th in person at 6:00 p.m. at the Vanastra Recreation Centre.

12. Adjournment

Moved by Becky Kyle and Seconded by Councillor Chartrand:

The time now being 7:11 p.m. That the meeting now adjourn until November 28 at 6:00 p.m.

Carried

Janet Boot, Chair

Jessica Rudy, Secretary

The Corporation
of The
Municipality of Huron East
By-law No. 090 for 2022

Being a by-law to Authorize the Signing of an Agreement between the Corporation of the Municipality of Huron East and Integrated Maintenance and Operations Services Inc., operating under the name of “Owen Sound Highway Maintenance Limited” to provide winter maintenance on Highway 8 within the limits of the Ward of Seaforth

Whereas Section 11(2) the Municipal Act, S.O. 2001 c.25, as amended provides that a Municipality may pass By-laws for services and things that the municipality is authorized to provide under subsection (1);

And Whereas Highway 8 within the limits of the former Town of Seaforth is under the jurisdiction of the Municipality of Huron East and connects to Highway 8;

And Whereas the Ministry of Transportation has awarded the contract to provide maintenance on provincial highways in this area to Integrated Maintenance and Operations Services Inc.;

And Whereas Integrated Maintenance and Operations Services Inc. will travel over Highway 8 within the limits of the former Town of Seaforth in order to maintain Highway 8;

And Whereas the Municipality has requested that Integrated Maintenance and Operations Services Inc. provide winter maintenance services on Highway 8 within the former Town of Seaforth;

And Whereas Integrated Maintenance and Operations Services Inc. has agreed to provide such winter maintenance services on Highway 8 within the limits of the former Town of Seaforth;

And Whereas the Council of the Municipality of Huron East deems it advisable to enter into the Agreement with Integrated Maintenance and Operations Services Inc. for the purpose of providing the winter maintenance services on Highway 8;

Now Therefore the Council of the Corporation of the Municipality of Huron East **Enacts As Follows:**

- 1. The Mayor and Clerk are hereby authorized and instructed to execute a Winter Maintenance Agreement attached hereto as Schedule ‘A’.
- 2. That By-law 72-2021 is hereby repealed.

Read a first and second time this 1st day of November, 2022.

Read a third time and finally passed this 1st day of November, 2022.

Bernie MacLellan, Mayor

Jessica Rudy, Clerk

This Agreement for winter maintenance services made this _____ day of _____, 2022

BETWEEN:

Integrated Maintenance and Operations Services Inc.
Operating under the name of “Owen Sound Highway Maintenance
Limited”

(hereinafter referred to as “IMOS”)

-and-

The Corporation of the Municipality of Huron East

(hereinafter referred to as the “Municipality”)

WHEREAS Highway 8 within the limits of the former Town of Seaforth is under the jurisdiction of the Municipality and connects to Highway 8;

AND WHEREAS IMOS will travel over Highway 8 within the limits of the former Town of Seaforth in order to maintain Highway 8.

AND WHEREAS the Municipality has requested that IMOS provide winter maintenance services on Highway 8 within the limits of the former Town of Seaforth and it is cost-efficient to provide such services.

AND WHEREAS IMOS has agreed to provide such winter maintenance services on Highway 8 within the limits of the former Town of Seaforth upon the terms and conditions set out herein.

NOW THEREFORE in consideration of the covenants in this Agreement and for other good and valuable consideration (the receipt and sufficient of which are hereby acknowledged), the parties hereto agree as follows:

- 1. **Term:** IMOS hereby agrees to provide the winter maintenance services on Highway 8 within the limits of the former Town of Seaforth from 12:01 a.m. October 15, 2022 until 11:59 p.m. April 30, 2023.
- 2. **Level of Service:** IMOS hereby agrees to provide such winter maintenance services and at the level of service specified in attached Schedule “A” to this Agreement.
- 3. **Contacts:**

IMOS’ contact shall be:
Greg Smart, Operations Manager
PO Box 309
Chatsworth, ON N0H 1G0
(519) 387-0563

The Municipality’s contact shall be:
Barry Mills, Public Works Manager
Municipality of Huron East
PO Box 610
72 Main Street South
Seaforth, ON N0K 1W0

4. **Insurance/Workplace Safety & Insurance:** Before signing the Agreement, the Municipality will require that the Contractor furnish certificates or affidavits to show that:


- a) His employees are currently covered by the Workplace Safety and Insurance Board
- b) He has General Liability and Property Damage Insurance in the amount of Five Million Dollars (\$5,000,000.00). The policy shall be endorsed to provide that it shall not be altered, cancel or lapse without 30 days notice to the Municipality.
- c) He has Standard Automobile Insurance Coverage providing third party limits of at least Two Million Dollars (\$2,000,000.00) on all licensed vehicles in the performance of services required in this contract.
- d) The Municipality shall maintain, in full force and effect, adequate liability insurance at all times and throughout the term of this Agreement.

5. **Payment:** The Municipality hereby agrees to pay IMOS two lump sum payments of \$3,269.31 plus HST for the winter maintenance services provided by IMOS pursuant to this Agreement. Invoices will be issued by IMOS to the Municipality in the above noted amounts on December 31st, 2022 and February 28th, 2023.

6. **Authority:** The Municipality warrants that it has taken all necessary steps, done all acts, passed all by-laws and obtained all approvals required to give it the authority to enter into this Agreement.

IN WITNESS WHEREOF IMOS and the Municipality, by their duly authorized representatives, have hereunto set their signatures on the dates herein written below.

IMOS



Greg Smart, Operations Manager
Owen Sound Highway Maintenance Ltd.

The Corporation of the Municipality
of Huron East

Mayor

Clerk

Schedule 'A'

IMOS agrees to attempt to maintain one lane in each direction of the Municipality's Connecting Link as a Class 2 Highway in accordance with the Ministry of Transportation's Maintenance Quality Standards 701. The following points also form part of this agreement:

1. The agreement must be renewed annually. IMOS cannot guarantee that the work can be undertaken in subsequent years and will notify the municipality as soon as possible if unable to provide future service.
2. The level of service will include patrolling, plowing, sanding and salting.
3. Snow removal adjacent to the through lanes will not be included in this agreement.

The Corporation
of The
Municipality of Huron East
By-law No. 091 for 2022

Being a By-law to Authorize the Signing of a Minutes of
Settlement Agreement between 1025343 Ontario Inc. and
The Corporation of the Municipality of Huron East

Whereas Section 11(2) the Municipal Act, S.O. 2001 c.25, as amended provides that a Municipality may pass By-laws for services and things that the municipality is authorized to provide under subsection (1);

And Whereas The Corporation of the Municipality issued a Notice of refusal of a Zoning By-law Amendment to change the existing Industrial (IND) zone to Industrial – Special (IND-11) zone to permit a cannabis production facility;

And Whereas 1025343 Ontario Inc. filed an Appeal with to the Municipalities refusal of the Zoning By-law Amendment pursuant to subsection 34(19) of the Planning Act;

And Whereas the 1025343 Ontario Inc. and the Municipality of Huron East have settled the Ontario Land Tribunal Appeal as set out in the Minutes of Settlement to change the existing Industrial (IND) zone to Industrial – Special (IND-11) zone to permit a cannabis production facility subject to he agreed upon conditions of within the required 150 metre setback to a Community Facility Zone and dwelling unit;

Now Therefore the Council of the Corporation of the Municipality of Huron East **Enacts As Follows:**

- 1. The Mayor and Clerk are hereby authorized to accept the Minutes of Settlement attached hereto as Schedule ‘A’.
- 2. That this By-law shall come into force and affect the final day of its passing.

Read a first and second time this 1st day of November, 2022.

Read a third time and finally passed this 1st day of November, 2022.

Bernie MacLellan, Mayor

Jessica Rudy, Clerk

MINUTES OF SETTLEMENT**B E T W E E N:****1025343 ONTARIO INC.**(hereinafter “**102 Ontario**”)

OF THE FIRST PART

-and-

THE CORPORATION OF THE MUNICIPALITY OF HURON EAST(hereinafter the “**Municipality**”)

OF THE SECOND PART

WHEREAS the Municipality and 102 Ontario are collectively referred to as the “Parties”;

AND WHEREAS 102 Ontario, being the Applicant / Appellant and owner of the property legally described as Part Lot 40, plan 133, Tuckership Ward, municipally identified as 40 1st Avenue, in the community of Vanestra, Municipality of Huron East, Huron County, Assessment Roll Number 4040 1600 125 401 (the “**Subject Lands**”);

AND WHEREAS the Subject Lands are 0.78 acres in area and designated Commercial/Industrial in the Huron East Official Plan.

AND WHEREAS 102 Ontario submitted an application for a Zoning By-law Amendment to change the existing Industrial (IND) zone to Industrial – Special (IND-11) zone to permit a cannabis production facility subject to the agreed upon conditions of within the required 150 metre setback to a Community Facility Zone and dwelling unit;

AND WHEREAS on July 16, 2021 the Municipality issued the Notice of Refusal of the Zoning By-law Amendment to permit the cannabis production facility on the Subject Lands;

AND WHEREAS 102 Ontario submitted an Odour Management Plan completed by Biorem Technologies Inc., along with a Dispersion Modelling Report in support of the Zoning By-law Amendment. The Odour Management Plan contained a list of both physical and management controls to minimize and mitigate the release of any odours from the proposed cannabis production facility;

AND WHEREAS 102 Ontario filed an appeal the Municipality's refusal of the Zoning By-law Amendment pursuant to subsection 34(19) of the *Planning Act* (the "**Appeal**");

AND WHEREAS the Parties have settled the Appeal as set out herein;

NOW THEREFORE in consideration of the mutual covenants given in these Minutes of Settlement and other good and valuable consideration, the sufficiency of which is hereby acknowledged, 102 Ontario and the Municipality agree as follows:

Recitals

1. The recitals to these Minutes of Settlement are true and accurate and form a binding part of these Minutes of Settlement.

Settlement

2. The Parties agree to jointly request that the Ontario Land Tribunal approve the revised draft Zoning By-law Amendment to amend section 32.5 Special Zones of Zoning By-Law 52-2006 of the Municipality of Huron East as set out in Schedule "A" attached to these Minutes of Settlement to permit the use of the Subject Lands for the purposes of a Cannabis Production Facility.
3. The Parties agree to permit a Cannabis Production Facility within the 150 metre required setback to a Community Facility Zone and a dwelling unit as required by Section 3.52 of the Huron East Zoning By-law 52-2006. To meet the requirements of

Huron East By-law 52-2006, the parties agree that the Cannabis Production Facility shall be equipped with an air treatment control system designed by a qualified person to reduce the minimum setback from Residential Zones, Community Facility Zones, dwellings and community facilities.

4. The Parties agree that the building to be used for a Cannabis Production Facility on the Subject Lands is setback approximately 30 metres to the municipally owned Curling Club, located on the neighbouring Community Facility Zoned property. The subject building is setback 115 metres from an existing dwelling unit located to the east of the Subject Lands. The Municipality has agreed to reduce the setbacks from the existing buildings as set out in Schedule "A" attached to permit a Cannabis Production Facility on the Subject Lands to the neighbouring buildings used for residential and community facility uses.
5. The Parties agree that the Subject Land is subject to site plan control.
6. 102 Ontario agrees to establish a procedure for substantiated odour complaints, prepare and submit and Odour Management / Preventative Maintenance Program, odour complaint recording and reporting program, allow for on-site inspections and investigations of complaints by Huron East By-law Enforcement Staff.

General

7. The Parties agree that they are contractually bound to the terms of these Minutes of Settlement, and that the obligations and benefits thereof are enforceable by any Party against the other Parties in the event of a breach of them. The Parties covenant and agree that at all times, and from time to time hereafter, upon every reasonable written request to do so, they shall make, execute, deliver or cause to be made, done, executed and delivered all such further acts, deeds, assurances and things as may be required for

more effectively implementing and carrying out the true intent and meaning of these Minutes of Settlement.

8. The Parties agree to act reasonably and with good faith in respect of all dealings between themselves pursuant to these Minutes of Settlement. If any dispute arises between the Parties relating to the application, interpretation, and/or implementation of these Minutes of Settlement or any part thereof, the Parties agree to refer the matter to the Tribunal for determination. In the event the Tribunal does not have jurisdiction or refuses to entertain any such application, then the Parties agree to resolve the dispute in an expeditious manner by arbitration in accordance with the provisions of the *Arbitration Act, 1991*.
9. These Minutes constitute the entire agreement between the Parties with respect to the Matters set out in these Minutes of Settlement and supersede all prior agreements, negotiations and understandings with respect to the Minutes of Settlement.
10. Any amendment to or waiver of any provisions of these Minutes of Settlement must be in writing and signed by the Parties.
11. The undersigned represent and warrant that they have all necessary power and authority to execute these Minutes of Settlement.
12. These Minutes of Settlement may be executed in counterparts, each of which so executed is deemed to be an original, and such counterparts together constitute one and the same instrument.
13. The terms and obligations set forth in these Minutes of Settlement shall be binding on the Parties, their respective heirs, beneficiaries, affiliates, successors, permitted, assigns and successors in title.

14. Unless waived in writing in advance by the Municipality, 102 Ontario agrees to obtain and file with the Town the written consent of any successor in title or assignee of development rights with respect to all or part of the Subject Lands to be bound by the terms of these Minutes of Settlement.
15. Nothing in these Minutes of Settlement is intended to waive or has the effect of waiving 102 Ontario's obligations to obtain such development approvals and comply with such conditions of approvals as may be required under applicable by-laws, regulations and legislation. 102 Ontario acknowledges that nothing in these Minutes shall fetter the discretion of the Municipality with respect to future amendments to the Official Plan, Zoning By-law, or other statutory decisions made in accordance with prescribed processes, nor do these Minutes of Settlement obligate the Municipality to grant any further exemption, exemptions, or variances to 102 Ontario now or in the future.
16. The Parties agree that they shall not question the capacity or legality of any portion hereof, nor question the legality of any obligation created hereunder, and this Agreement, their successors and assigns are and shall be estopped from contending otherwise in any proceeding before a Court of competent jurisdiction or any administrative tribunal.
17. These Minutes of Settlement are made pursuant to, and shall be governed by, and shall be construed in accordance with, the laws of the Province of Ontario and the federal laws of Canada applicable in Ontario.
18. Each Party shall initial all pages of these Minutes of Settlement.

One signature page to follow.

IN WITNESS WHEREOF the Parties have caused this agreement to be executed by their duly authorized representatives.

1025343 ONTARIO INC.

Name:

Position:

I/we have authority to bind the Corporation.

Name:

Position:

I/we have authority to bind the Corporation.

Dated this _____ day of _____, 2022

THE CORPORATION OF THE MUNICIPALITY OF HURON EAST

Name:

Position: Mayor

I/we have authority to bind the Corporation.

Name:

Position: Clerk

I/we have authority to bind the Corporation.

Dated this _____ day of _____, 2022

ZONING BY-LAW AMENDMENT

1. This by-law shall apply to Plan 133, Part Lot 40, Tuckersmith Ward, Municipality of Huron East, Assessment Roll Number 4040 160 031 25401 and is comprised of the attached Schedules.
2. Section 32.5 Special Zones of Zoning By-law 52-2006 is hereby amended by the addition of the following:

32.5 IND-11

Notwithstanding the provisions of Section 3.52 (Cannabis Production Facility) to the contrary, on the lands zoned IND-11, a Cannabis Production Facility equipped with air treatment control and is permitted to be setback a minimum 30 metres to the main building on the abutting Community Facility Zoned property and setback a minimum of 115 metres to any residential dwelling. This property and the existing building are subject to site plan control and subject to a holding zone.

The Holding Zone will remain in effect until the following is completed to the satisfaction of the Municipality:

1. The Cannabis Production Facility shall prepare and submit to Huron East for peer review, an Emission Summary and Dispersion Modelling (ESDM) report following the applicable Ministry of the Environment, Conservation and Parks guidelines. Air contaminants (chemicals) and odour released from the facility are the contaminants of concern. The ESDM is to be signed by the Proponent and by a qualified Professional Engineer licensed in the Province of Ontario in good standing with Professional Engineers of Ontario. The ESDM must include a signed statement by the Engineer that in their opinion, cannabis odour from the Cannabis Facility will not adversely impact the surrounding community. The ESDM is to include the maximum number of cannabis plants that will be situated within the Facility.

The ESDM must be completed prior to occupancy of the building by a cannabis facility.

3. All other provisions of By-law 52-2006 shall continue to apply.
4. This by-law affects Zone Map 38 of By-law 52-2006, attached as Schedule A.

AMENDMENT #14 TO THE HURON EAST OFFICIAL PLAN

STATEMENT OF COMPONENTS

PART A

Part A is the preamble to Amendment #14 to the Huron East Official Plan, and does not constitute part of this amendment. It provides general introductory information on the purpose and location of the amendment.

PART B

Part B consisting of the following map (Schedule 'B' Lowertown) constitutes Amendment #14 to the Huron East Plan. Part 'B' contains the land use designations which apply to the amended site.

PART C

Part C is the appendix and does not constitute part of this amendment but provides explanatory material to assist in interpreting the amendment.

Part A: Preamble**Purpose and Effect:**

The lands subject to both the Official Plan Amendment and Zoning By-law Amendment are described as Concession 10, PT Lot 18 & 19, McKillop Ward in the Municipality of Huron East. The subject property is municipally known as 43359 Sawmill Road.

This application proposes change the designation from Extractive Resource to Agriculture to recognize that the former gravel pit is closed and the aggregate license is surrendered. This application will recognize the parcel for its current and future General Agricultural use.

The proposed amendment to the Huron East Official Plan changes the designation of the subject lands from “Extractive Resources” to “Agriculture”.

The corresponding Zoning By-law Amendment to the Municipality of Huron East Zoning By-law will amend the zoning on the subject property from ‘Extractive Resource (ER1)’ to ‘General Agriculture (AG1)’.

**THE CORPORATION OF THE MUNICIPALITY OF HURON EAST
BY-LAW 092 -2022
A BY-LAW TO ADOPT AMENDMENT # 14
TO THE OFFICIAL PLAN OF THE MUNICIPALITY OF HURON EAST**

WHEREAS The Planning Act, R.S.O. 1990, as amended, Chapter P. 13, Section 17 (22), provides for adoption of an amendment to an official plan;

AND WHEREAS in accordance with Section 17(15) and Regulation 543/06, a Public Meeting was held with respect to Amendment #14;

NOW THEREFORE, the Council of The Corporation of the Municipality of Huron East in accordance with the provisions of section 17(22) of The Planning Act, enacts as follows:

THAT Amendment # 14 to the Official Plan of the Municipality of Huron East, constituting the attached Schedule 'B McKillop Ward', is hereby adopted.

THAT the Clerk is authorized to forward Amendment #14 to the County of Huron as required by Section 17(31) and to provide such notice as required by section 17(23) of the Planning Act.

THAT this By-law shall come into force on the day of passing thereof and this amendment comes into effect as an official plan when approved in accordance with Section 17 of the Planning Act.

READ A FIRST TIME ON THE 1st DAY OF NOVEMBER, 2022.

READ A SECOND TIME ON THE 1st DAY OF NOVEMBER, 2022.

READ A THIRD TIME AND PASSED THIS 1st DAY OF NOVEMBER, 2022.

Bernie MacLellan, Mayor

Jessica Rudy, Clerk

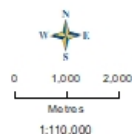
Municipality of Huron East Location Map

McKillop Ward

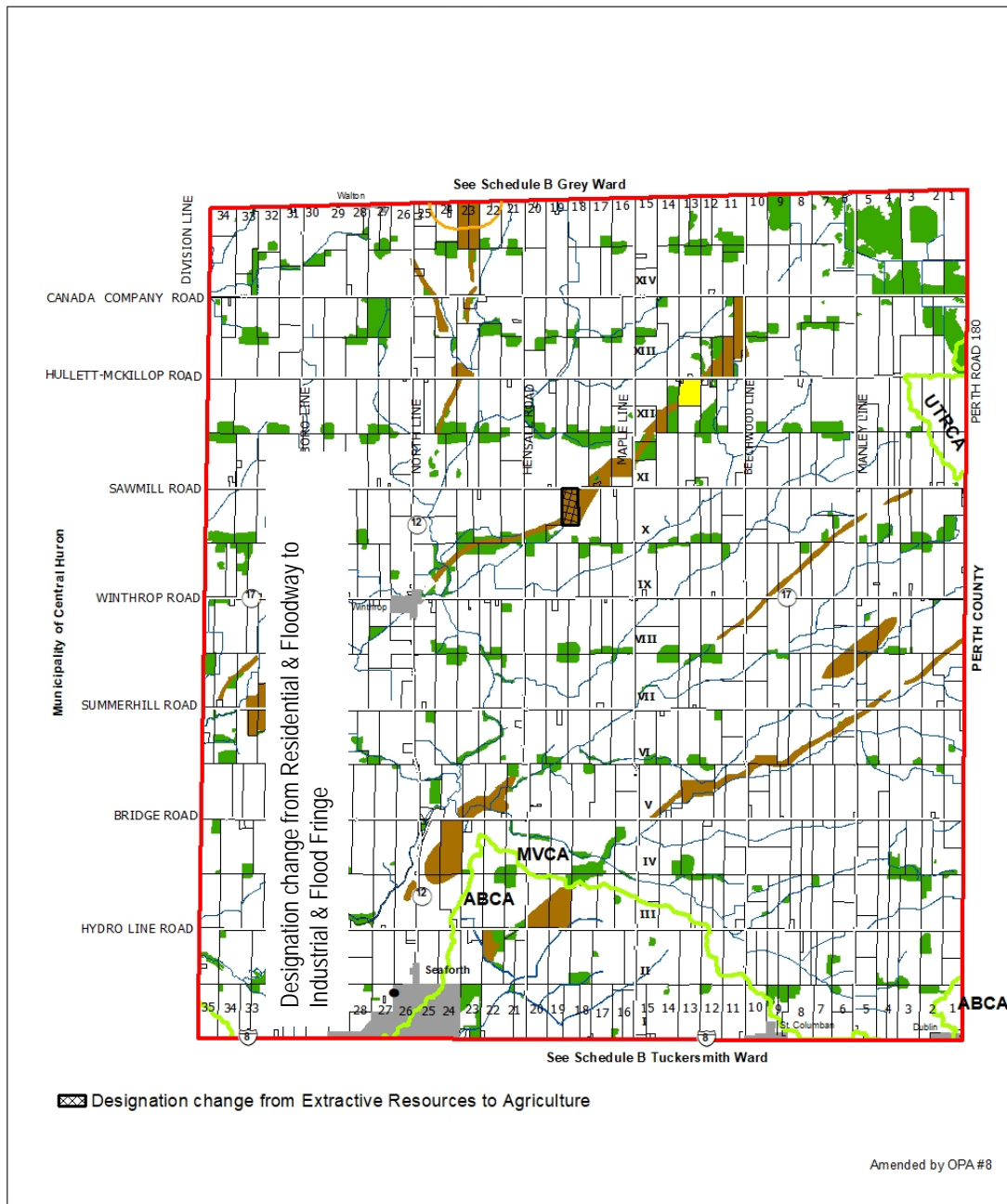


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Last Modified 10/6/2022



**SCHEDULE B MCKILLOP WARD
MUNICIPALITY OF HURON EAST
OFFICIAL PLAN
LAND USE**



**Schedule 1
Corporation
of the
Municipality of Huron East
By-law 093-2022**

Being a By-law to Amend the Zoning on Concession
10, PT Lot 18 & 19, McKillop Ward in the Municipality
of Huron East, known as 43359 Sawmill Road.

Whereas the Council of the Corporation of the Municipality of Huron East considers it advisable to amend Zoning By-law 52-2006 of the Municipality of Huron East.

Now, Therefore, the Council of the Corporation of the Municipality of Huron East **Enacts** as follows:

1. This by-law shall apply to Concession 10, PT Lot 18 & 19, McKillop Ward in the Municipality of Huron East, known as 43359 Sawmill Road, and is comprised of the attached Schedules.
2. By-law 52-2006 is hereby amended by changing the zone symbol from ER1 (Extractive Resources) to AG1 (General Agriculture), the subject lands currently zoned as 'ER1' on the attached Schedule.
3. This By-law affects Zone Map 26 of By-law 52-2006, attached as Schedule A.
4. This By-law shall come into force upon final passing, pursuant to Section 34(21) of the Planning Act, RSO 1990, as amended.

Read a first and second time this 1st day of November, 2022.

Read a third time and finally passed this 1st day of November, 2022.

Bernie MacLellan, Mayor

Jessica Rudy, Clerk

**Schedule 2
Corporation
of the
Municipality of Huron East
By-law 093-2022**

By-law 093- 2022 has the following purpose and effect:

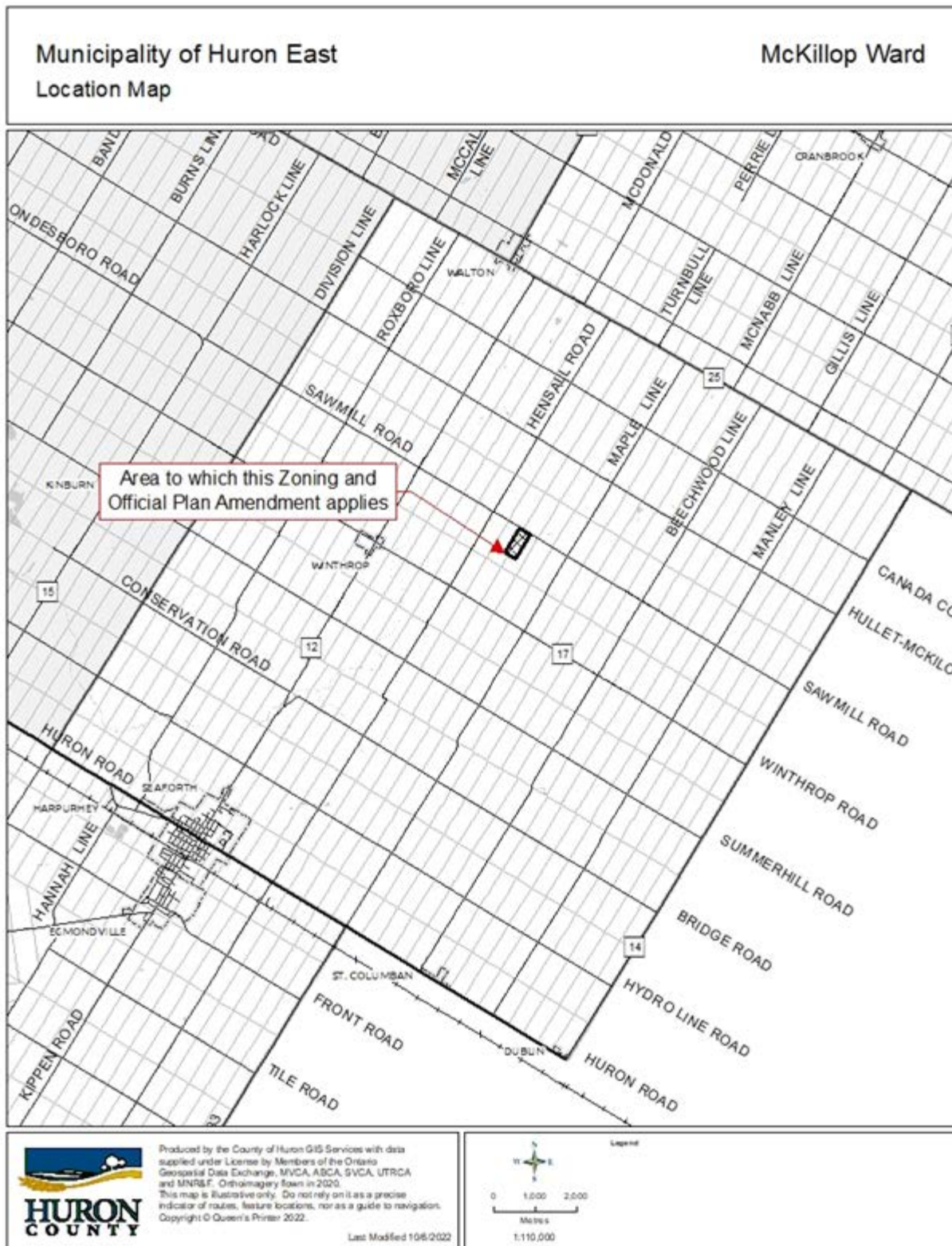
1. The lands subject to this Zoning By-law Amendment are described as Concession 10, PT Lot 18 & 19, McKillop Ward in the Municipality of Huron East. The subject property is municipally known as 43359 Sawmill Road.

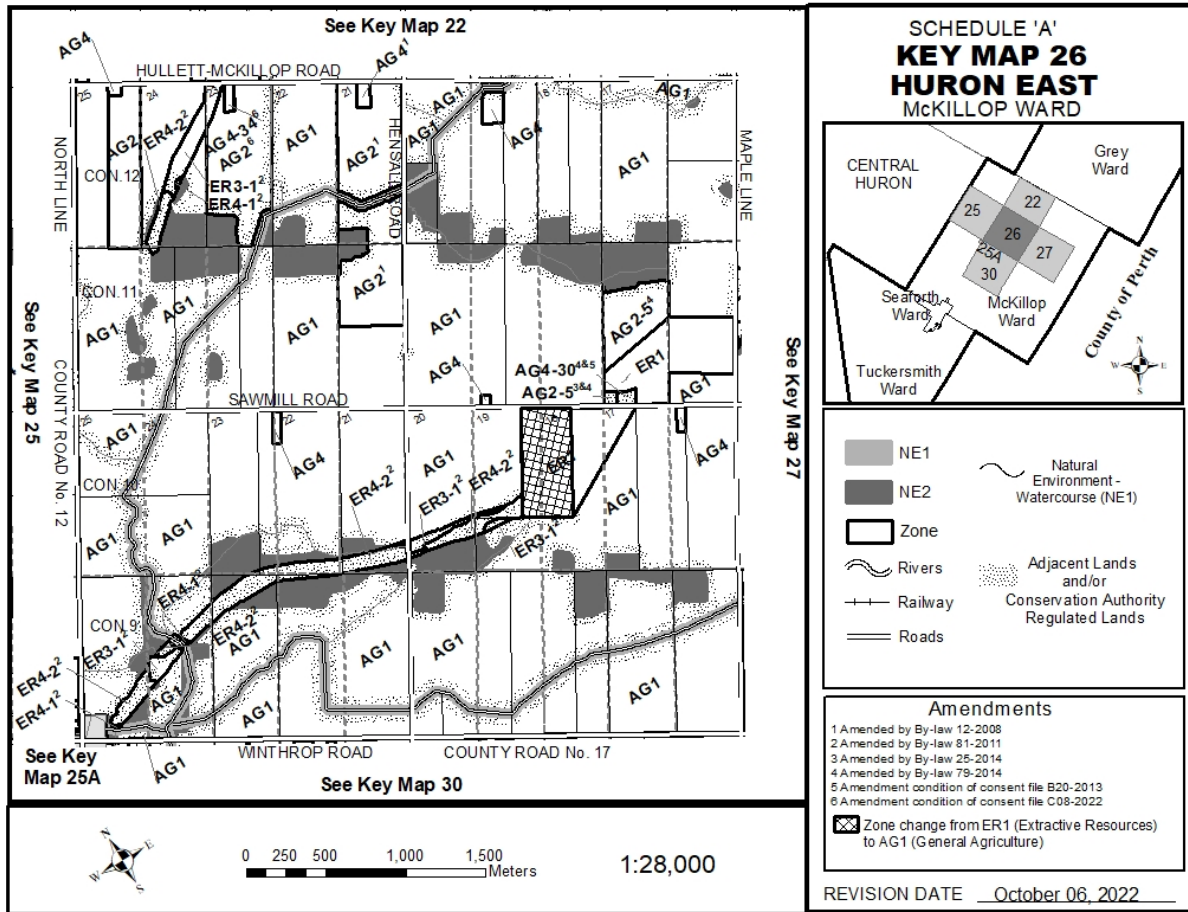
The amendment to the Huron East Zoning By-law proposes to amend the zoning of the subject lands from 'Extractive Resource (ER1)' to 'General Agriculture (AG1)'.

Maps showing the general location of the lands to which this Zoning By-law amendment apply are shown on Schedule A attached.

2. The map showing the location of the lands to which this by-law applies is shown on the following page and is entitled Location Map, Schedule A.

Schedule A
Corporation of The Municipality of Huron East
By-law 093- 2022





The Corporation
of the
Municipality of Huron East
By-law No. 094 for 2022

Being a By-law to Confirm the Proceedings of the Council of
the Corporation of the Municipality of Huron East

Whereas, the Municipal Act, S. O. 2001, c. 25, as amended, s. 5 (3) provides municipal power, including a municipality’s capacity, rights, powers and privileges under section 8, shall be exercised by by-law unless the municipality is specifically authorized to do otherwise;

And Whereas, the Municipal Act, S. O. 2001, c.25, as amended, s. 8 provides a municipality the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

And Whereas it is deemed expedient that the proceedings of the Council of the Corporation of the Municipality of Huron East at this meeting be confirmed and adopted by By-law;

Now Therefore the Council of the Corporation of the Municipality of Huron East **Enacts as Follows:**

- 1. The action of the Council of the Corporation of the Municipality of Huron East, at its meeting held on the 1st day of November, 2022 in respect to each recommendation contained in the Reports of the Committees and each motion and resolution passed and other action taken by the Council of the Corporation of the Municipality of Huron East at these meetings, is hereby adopted and confirmed as if all such proceedings were expressly embodied in this by-law.
- 2. The Mayor and the proper officials of the Corporation of the Municipality of Huron East are hereby authorized and directed to do all things necessary to give effect to the action of the Council of the Corporation of the Municipality of Huron East referred to in the proceeding section hereof.
- 3. The Mayor and the Clerk are authorized and directed to execute all documents necessary in that behalf and to affix thereto the Seal of the Corporation of the Municipality of Huron East.

Read a first and second time this 1st day of November, 2022.

Read a third time and finally passed this 1st day of November, 2022.

<hr/>	<hr/>
Bernie MacLellan, Mayor	Jessica Rudy, Clerk