

Municipality of Chatham-Kent
Infrastructure and Engineering Services
Parks, Fleet & Facilities
Information Report

To: Mayor and Members of Council
From: Ian Clark, Manager, Parks, Recreation & Cemeteries
Date: April 28, 2023
Subject: Motion for Safety of Swimmers and Watercraft at Eriean Beach

This report is for the information of Council.

Background

On December 5, 2022, Council approved the following:

Whereas there has been known problems with water vessels, specifically boats and sea-dos in Lake Erie that are entering areas near Eriean Beach where swimmers are present; And whereas there have been many close calls with collisions between the water vessels and swimmers; And whereas there is a high community concern for safety of swimmers in this area. Be it resolved that administration investigate options to make the beach safer for everyone utilizing the beach and water area such as the installation of buoys and other safety devices and provide an information report back to council.

Comments

The Municipality either owns or leases the lands at Eriean Beach. The offshore water falls under authority of the Province of Ontario and regulated federally by Transport Canada under the Navigation Protection Program. The Municipality's right to install a buoy system in these waters for the purpose of separating watercraft from swimmers must comply with federal regulations.

Administration conducted an environmental scan of 20 Ontario municipalities, provincial parks, or conservation authorities responsible for the operation of public beaches along Lake Erie about their existing practices to protect swimmers from personal watercraft. There is not a consistent approach between jurisdictions. Practices range from unsupervised public swim areas without separation markers – consistent with the existing practice at Eriean Beach – to supervised beaches with roped and marked swim areas physically restricting watercraft.

The public beach at Erieau has an approximate 750-metre linear shoreline accessible by recreational swimmers. There are no natural coves or inlets leveraged by some jurisdictions to limit the infrastructure necessary to denote swim areas. An assumption made in this report is that a demarcation zone would utilize as much of this existing recreational swim area as possible, however this area could be scaled down depending on resource investment. Buoys would be seasonally installed prior to Victoria Day Weekend and removed following Labour Day Weekend.

Administration has primarily researched two buoy system designs for Erieau Beach. While each option provides a visual deterrent to separate watercraft from swimmers, they differ in applicable regulations and costs required for installation and ongoing maintenance.

Demarcation Buoys Only

This option involves individually anchored buoys delineating a space between swimmers and watercraft. Buoys are marked as “Swim Only” in compliance with the Private Buoy Regulations of the Navigation Protection Act. There are no connecting ropes between buoys. Buoys are intended to deter watercraft from entering this area by their presence and markings.

Buoys can be installed where the water is approximately 1.5 meters in depth (10-30 metres from shore). Figure 1 illustrates the conceptional design for buoys spaced 10 metres apart and deployed in a formation beginning at the western public beach boundary and extending approximately 500 metres east towards the pier.



Figure 1: Conceptual Demarcation Buoys Only Design

Regulations

A buoy only design does not require pre-approval by Transport Canada due to the lack of a barrier (i.e., rope) physically preventing watercraft from entering navigable water. It

is a requirement that buoys must be white with regulated markings. Transport Canada can issue a removal order should any concerns be reported.

Costs

Initial capital costs are estimated between \$19,000 - \$23,000 including 35-40 regulatory buoys (quantity depending on spacing and design), swivels, clamps, chain, anchors, and delivery from a specialty supplier. Capital costs can be reduced by implementing a shorter demarcation border.

Ongoing maintenance costs are estimated at \$8,500 per season not including resources outlined in the Other Operational Challenges section of this report. This includes staff time, lifecycle, and maintenance supplies. Peer jurisdictions have reported challenges with maintaining the location of buoys throughout the season due to lake forces and water level fluctuations. Maintenance costs assume monitoring and weekly adjustment to ensure proper alignment.

Designated Swimming Area

An alternative option is to create a roped-off space in the water for recreational swimming. Watercraft would not be permitted inside this designated area. Anchored marker buoys would be connected to swim floats to create an enclosed area up to the shoreline.

Figure 2 illustrates an enclosed space with an approximate 450-metre perimeter on the western portion of the beach with a shoreline anchor point on either end.



Figure 2: Conceptual Designated Swimming Area Design

Regulations

This option would require approval by Transport Canada under the Navigation Protection Act. Public consultation must be conducted and an application is required

submitted to Transport Canada. The system must be reviewed and approved by a Transport Canada inspector prior to installation. If approved, this option provides greater enforcement options should watercraft ignore the restrictions.

Cost

Initial capital costs are estimated between \$10,000 - \$15,000 including regulatory buoys, floats, rope, swivels, clamps, chain, anchors, and delivery from a specialty supplier. Costs can be reduced by implementing a smaller swim area.

Ongoing maintenance costs are estimated at \$20,000 per season not including resources outlined in the Other Operational Challenges section of this report. This includes staff time, lifecycle, and maintenance supplies. Maintenance costs for this option are greater due to the increased burden reported by peer jurisdictions. Ropes are subject to multiple breaks during the season due to lake forces, swimmer or boater activities, or vandalism. Regular removal of debris entangled in floating rope is also anticipated.

Daily inspections of this system would be considered best practice. Beginning in 2023, the Municipality will have a Facility Operator present in Erieau for daily inspections at least every morning throughout the summer. However municipal policy regarding work around water requires a minimum of two employees. A student will join the Facility Operator, with both workers available in Erieau during a day-long shift, 2-3 days per week throughout the summer. All maintenance costs in this report are in addition to these current service levels.

Other Operational Challenges

Parks, Recreation, and Cemeteries operators do not have access to a boat or barge required to conduct the annual installation and ongoing maintenance of a buoy system. Investment in this type of asset is expected to be cost prohibitive. The installation of buoys in Mitchell's Bay is aided by the operators of the Mitchell's Bay Marine Park. No such relationship currently exists in Erieau. Contracting an experienced vendor to provide seasonal installation and ongoing buoy adjustments would be preferable due to the lack of internal equipment and expertise. Such costs are currently unknown but would offset some of the operating estimates cited above. This vendor could also be required to store all buoy equipment in the off-season as the Municipality currently does not have sufficient storage in Erieau for the large infrastructure deployments depicted in the conceptual designs.

Conclusion





A non-restrictive demarcation buoy system is preferred due to savings on maintenance, conformance with federal regulations, and decreased risk of vandalism due to the lack of rope and shoreline anchor points. This design is used in Mitchell's Bay in the Municipality of Chatham-Kent. The higher capital cost could be mitigated by piloting a smaller buoy deployment zone than depicted in the conceptual design. However, the

effectiveness of any system intended to separate watercraft from swimmers will be limited without on-site supervision and enforcement.

A Council decision to move forward with developing this infrastructure at Eriean Beach should be preceded by a public consultation process targeting swimmers and boaters at Eriean to better understand infrastructure impacts to all users and inform the design considerations which may become necessary to mitigate those impacts. A Request for Information (ROI) should also be issued to determine the availability of experienced vendors or partners with the required equipment to ensure this infrastructure can be professionally installed, maintained, and stored on a seasonal basis.

Areas of Strategic Focus

This report supports the following areas of strategic focus:

			
Economic Prosperity	Healthy & Safe Community	People & Culture	Environmental Sustainability
	2.3		

Consultation

Administration engaged with 20 Ontario municipalities, provincial parks, or conservation authorities responsible for public beach along Lake Erie. The marine unit of the Ontario Provincial Police and the Eriean Community Association were also consulted.

Communication

Communication is proposed to be through the inclusion of this report on the Council agenda and related communications.

Diversity, Equity, Inclusion and Justice (DEIJ)

This report does not have implications related to diversity, equity, inclusion, or justice.

Financial Implications

There are no financial implications resulting from this information report.

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