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## MEMORANDUM

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To: Mayor Scarpitti and Members of Council

Copy: Andy Taylor, CAO

From: Morgan Jones – Director of Operations

Date: February 23, 2021

Subject: **Toogood Pond – Recreational Use of Natural Ice**

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This memo provides an overview of the historical timelines of reports, staff actions and Council resolutions associated with the activities related to Toogood Pond with respect to the recreational use of natural ice.

### **1. Recreational Use of Natural Ice Timelines**

- December 2013 post ice storm event the City discontinued maintenance of ice on Toogood Pond following concerns for safety of staff and the public.
- Fall 2014 the local Union made the City aware that staff were no longer willing to undertake pond maintenance due to unsafe work conditions.
- September 20, 2015 – Ward 3 resident meeting asks for Toogood Pond winter maintenance to be reinstated.
- December 7, 2015 General Committee Report Toogood Pond Outdoor Winter Maintenance recommending the following (see Report included as *Attachment “A”*):
  - Not permit skating on Toogood Pond due to health and safety
  - Provide a volunteer ice rink beside the pond
  - Direct staff to no longer monitor or clear the pond
  - Alternatively Council could consider funding contractor to clear the ice-\$155K
  - Install a flagging System
  - Allow residents to clear the ice
  - Staff were directed by Council to undertake the following;
    - Continue to not provide maintenance
    - Erect proper signage stating dangers
    - Fire/EMS to develop an ice safety and ice rescue plan inclusive of a flagging system

- Liaise with other municipalities to consider hiring a contractor jointly, i.e., City of Toronto
  - Create a community working group with appropriate Terms of Reference
  
- Stakeholder Consultation Working Group created with the following members: Deputy Mayor Heath, Councillors Hamilton, Collucci, Campbell, residents Wes Rowe, Reid McAlpine, Yasmin Mawani, Kendra Hui, staff members Nancy Myles, Fred Rich, Dave Decker, Barb Rabicki, David Plant. Four meetings were held prior to the October 31, 2016 Meeting.
  
- October 31, 2016 GC Report Toogood Pond – Recreational Use of Natural Ice – Ice Monitoring Program Options – recommending the following (see Report included as *Attachment “B”*):
  - Due to health and safety and financial implications that Council not approve implementing ice monitoring and maintenance.
  - Support interested residents in the establishment of a community volunteer ice rink program adjacent to Toogood Pond
  - Staff were directed by Council to undertake the following;
    - Cost share an ice engineer with the City of Toronto for pond maintenance for 8 weeks, \$23-30K
    - Provide status of other municipal programs
    - Cost a safety net under the ice
    - Explore lowering the water with TRCA
  
- November 14, 2016 memorandum from Commissioner Librecz issued to Mayor and Council providing further updates (see *Attachment “C”*);
  - The City of Toronto WILL NOT provide any maintenance to Grenadier Pond however confirmed a willingness to partner with the City of Markham to share costs of a contractor
  - Other municipalities/agencies advise;
    - Richmond Hill monitors, flags, maintains however looking to move away
    - Credit Valley Conservation Authority monitors, maintains an ice surface north of Orangeville with staff on site at all times, the area is open to the public
  - Underwater netting would cost +/- \$300K
  - Further explore lowering water level in Toogood Pond with TRCA

- November 15, 2016 Council Meeting (see Meeting Extract included as *Attachment “D”*) – Deputations by members of the public. Council resolution to not consider an ice monitoring and maintenance program for Toogood Pond.

## **2. 2021 Winter Season Issues**

- Early to mid January 2021 Operations staff are advised a significant number of persons using Toogood, Milne, Mount Joy and other natural ponds including storm water management ponds for hockey and skating purposes often with open bodies of water present.
- Operations staff engaged both By-law and Security to provide assistance in asking users to leave the ponds due to unsafe conditions as users were both belligerent and non-responsive to initial requests to leave.
- Users of ponds increase requiring Ops/By-law/Security to identify locations where large numbers of users are gathering, playing organized hockey games, conducting practices, taking figure skating lessons and simply pleasure skating
- City staff continue to monitor usage, inform and educate those present on the ice of inherent dangers. Users are asked to leave with compliance being mixed.

Report to: General Committee

Report Date: December 7, 2015

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**SUBJECT:** Toogood Pond Winter Maintenance Report

**PREPARED BY:** Barb Rabicki, Director, Operations Ext. 4857  
David Plant, Manager, Parks Operations Ext 4893

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**RECOMMENDATION:**

1. THAT the staff report dated December 7, 2015 entitled "Toogood Pond Winter Maintenance Report" be received
2. THAT staff recommend due to health and safety, liability and climate change impacts that Council
  - i. Approve option C and not permit skating on Toogood Pond;
  - ii. Authorize staff to provide a volunteer natural ice rink beside Toogood Pond; and
  - iii. Direct staff not to monitor ice or clear ice on Toogood Pond by the City workers or its contractors.
3. In the alternative, if Council were to support the use of Toogood Pond as a natural recreational ice surface, the following conditions shall apply:
  - i. Additional annual funding of \$155,000 for contracted services of ice engineers;
  - ii. Installation of flag system and signage;
  - iii. Ice cleared by residents.
4. THAT staff be authorized and directed to do all things necessary to give effect to this resolution

**PURPOSE:**

The purpose of this report is to report back on the request from Unionville residents to reinstate winter maintenance of Toogood Pond for recreational skating. Staff will provide options for Council's consideration that take into account health and safety of recreational skaters, employees and others, liability, and climate change impacts.

**BACKGROUND:**

Toogood Pond has been a location for recreational skating for many years in Unionville. For the majority of those years the ice was cleared originally by residents themselves with staff clearing the ice more recently. Urbanization & environmental changes related to significant climate change, as well as increased salt usage impacts ice formation on the pond. Circumstances today are not the same as 20 years ago. Public safety is paramount for the City of Markham. Concerns regarding public safety prompted many other municipalities to consider safer options for public skating.

Even in the years when City staff cleared the ice, this would occur only after road, sidewalk and parking lots were completed, as priority is winter maintenance for public safety. There were no dedicated resources to monitor and clear the ice, nor were there any staff resources with the required expertise to ensure safety. Staff previously used a rudimentary flagging system to alert the public to unstable ice conditions; most years resulted in "safe" flagging for 8-12 days usage annually. The practice was stopped in 2012-13 (year of the ice of storm) due to concerns with health and safety of our City workers. The City does not permit skating on any other natural

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bodies of water. In 2010, the City received an Infrastructure grant to construct the largest outdoor ice rink in the Greater Toronto Area at the Civic Centre to ensure residents had safe outdoor recreational skating opportunities.

## **DISCUSSION:**

### **Health and Safety of Residents and Staff**

The Ontario Health and Safety Act (OHSA) requires that the Employer shall take every precaution reasonable in the circumstances for the protection of workers. It is important to note that no worker shall use or operate equipment in a manner that shall endanger the safety of the worker. Past incidents reported by staff indicated that the previous methodology of monitoring and maintaining natural pond ice did not adequately ensure the safety of City staff performing work on the ice. City staff are unable to assure with complete confidence the safety of ice on natural ponds including Toogood due to fluctuating weather conditions, constant movement of springled water, zones of high flow and fluctuating pond depth which could result in unstable ice.

The Occupiers Liability Act (OLA) is similar to the Occupational Health and Safety Act (OHSA) with respect to primary duties. The OLA states in Subsection 3(1) that “an occupier has a duty to take reasonable care to see that people entering the premises are kept reasonably safe.” As the owner and occupier of parks, the City of Markham has a duty to ensure that, if skating were permitted on Toogood Pond (or other similar surfaces in City parks), the conditions on the pond are reasonably safe for skaters. The City’s duties include protecting the public against dangers that are foreseeable and potentially severe in this case, including potential drowning/death. This includes a responsibility to make safe the designated access route to the pond; monitor the thickness of the ice; clear the ice of snow; ensure a smooth ice surface free of cracks and other rough or uneven spots; prevent access to areas that are not safe for skating; and erect signs advising skaters of the dangers inherent in skating on pond ice. Claims against municipalities under the *Occupiers’ Liability Act* can expose the City to costly legal expenses to defend lawsuits and also include the risk of significant awards of damages.

The City’s liability insurance broker and risk management advisor supports the decision to discontinue snow clearing services on Toogood Pond, noting that the City has ample safer skating opportunities available for residents. They also advised that:

- not only would the public be at risk, but this would also risk the safety of City staff providing winter maintenance
- it is important to understand that a plaintiff lawyer only needs to prove that the municipality was 1% negligent in order for the City to be found responsible for up to 100% of any judgement
- during colder winter seasons more resources are required for priority winter services (eg. snow and ice removal from City sidewalks. etc) and available resources and City priorities need to be assessed against recreational opportunities

### **Reported Incidents**

The Canadian Red Cross report, “Drownings and other water-related injuries in Canada, What We Have Learned: 10 Years of Pertinent Facts” summarizes injuries and deaths due to water-related activities. The report notes that “Canadians are at risk of drowning as a result of falling through ice. During the period 1991-2000, there were 218 such victims. Of these,

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67% drowned during recreational activities such as playing, walking and fishing.” The report also states that “Young children are at high risk of ice drowning” and the report notes that **skating accounted for 8% of drowning during recreational activities on ice**. Furthermore the report states “Ice on reservoirs may be more hazardous than on lakes, since reservoirs accounted for 19% of all ice drowning on lakes, ponds and reservoirs. Reservoirs may also be closer to towns and more accessible for play and walking”.

Incidents involving death or injury related to activities on frozen bodies of water in the City of Toronto have occurred, despite best efforts to inform people of the dangers. The most tragic incident was in December 2006 when two boys, aged 11 and 15 died after falling through the ice on a storm water management pond (private property at the time) near Finch and Morningside.

The City of Toronto maintained a natural ice rink program on Grenadier Pond in High Park which ran for 9 weeks, weather permitting, with monitoring for ice safety & thickness provided by the Metro Toronto Police Service – Marine Unit until 1996. In 2001, Toronto Police Service – Marine Unit and Toronto Water Division advised Parks and Recreation staff that open water and storm water management pond ice in Toronto was unstable and never truly safe. The costly natural ice rink program on Grenadier Pond, which averaged 7-10 days of skating annually, was discontinued in 2001. Community members continued to maintain areas of the pond for skating. Two known incidents have occurred on Grenadier Pond in the last 10 years, including an incident which resulted in costly litigation for the City.

In 2007, a Global News crew was on site to film a segment about the potential dangers of using the ice at Grenadier Pond. Just prior to going on air, the crew filmed a woman breaking through the ice with her leg in the water up to her hip. The temperature at the time was minus 15 degrees Celsius, seemingly ideal weather conditions for ice to solidly form.

In 2014, despite unseasonably cold temperatures, a woman broke through the ice on the Rideau Canal Skateway in Ottawa. Despite the federally maintained, highly monitored ice development and maintenance program, which includes enforcement as a key component, accidents have occurred.

Prior to the installation of the refrigerated skating surface at the Civic Centre, Markham Parks staff recall multiple incidents where large and small pieces of equipment with operators broke through the ice on Toogood Pond, including an incident when an experienced operator had to crawl out the back window of a pick up truck as icy water poured in. The depth of water in Toogood Pond varies, and is estimated up to 5 metres deep, with inflow and outflow currents, which may lead to ice instability.

Much consideration was given by Council to provide a safe, excellent outdoor skating experience to the Markham community, when the decision was made to invest in Canada’s largest outdoor artificial ice surface, at Civic Centre within 5 km of the Too Good Pond.

### **Climate Considerations**

While the 2013-2014 winters were the coldest in 20 years, climate change is starting to have significant impacts on the City of Markham. At time of report preparation in December 2015, daily temperatures over the next week are well above freezing, in the 5 to 9 degree Celsius range.

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The City of Toronto staff report PE05-091815-AFS#21019, noted that “since 1948, Canadian winters have warmed and average of 3.2 degrees Celsius. The warmest winter on record for Canada was 2009-2010 followed by 2011-2012. 2012-2013 was the eight warmest winter in 100 years; winters like 2013-2014 are predicted to be an anomaly in the future. An overall warming trend, combined with Toronto’s urban heat island effect, mean that shorter, warmer winters will continue for the foreseeable future. The number of days cold enough to bring ice levels on Grenadier Pond to a safe thickness for skating or walking on will likely decrease, making the program less cost-effective as time goes on.”

Climate change has affected the quality of the water with higher levels of salt run-off and other containments making the water more unstable for ice making.

## Ensuring Safe Recreational Use

### Ice Formation & Monitoring

Ice strength and safety is not as simple as often believed; often ice can be white or “snow ice” which contains air bubbles and is not as solid and strong as “clear or blue ice”. Periods of extended cold weather associated with the formation of clear ice are not regularly experienced in the Toronto area. Additionally, any snow which falls on ice acts as a thermal blanket, and slows the formation of ice crystals below the surface. The weight of snow also depresses the ice surface, an important factor which necessitates rapid snow clearing after snowfalls by crews to ensure ice integrity.

Effective ice monitoring is not simply measuring ice depth, but also ice density. Samples must be regularly taken to analyze the composition including the combinations of clear and white ice, to ensure safety of both public as well as staff clearing snow.

In addition to thickness and composition of ice, it is essential to consider weight distribution of both people and equipment on ice. The highest degree of expertise is required to ensure ice safety. The National Capital Commission (NCC) in Ottawa is recognized as the industry experts, and their recommendations are considered by leading municipalities as the industry standard to be followed.

### National Capital Commission Skateway, City of Ottawa

Annual operating costs for the Ottawa program are \$1.85M. Preparation for skating begins in fall by **lowering the water depth in the canal to approximately 12 inches**, and installing Skateway infrastructure. Then an Ice Safety Committee (consisting of at least one engineer, a surveyor & safety support staff) is established. The City of Ottawa, located in a colder climatic zone than the Toronto area, typically has extended periods of very cold weather, favourable to ice development. The Canal Skateway, which has controlled access & egress, does not open to the public until there is **at least 12 inches of good (clear) ice**. **The maintenance of the Skateway is continuous: 24 hours a day, seven days a week**. The NCC uses a flag system to indicate conditions, and Skateway access can be controlled and monitored. A highly developed program of monitoring, enforcement and maintenance including ice surface preparation with equipment including Zamboni ensures a safe user experience; this work is performed by contractors. The Skateway has a skate patrol of up to 60 patrollers trained in first aid and CPR (cardiopulmonary resuscitation). The Skateway can be closed when ice conditions are deemed unsafe. With the

exception of the Rideau Canal, the City of Ottawa prohibits skating on any other frozen body of water.

### **City of Toronto**

The City of Toronto sought advice from the National Capital Commission advice on implementing a program for monitoring ice thickness and density to ensure public & staff safety. NCC employs the services of ice engineers, with expertise in this area. City of Toronto has been directed by Council to report back in December regarding implementation of an ice monitoring program including the services of consulting ice engineers or contractors to ensure safety. Costs of the Ice Monitoring Program are currently under development, but will include the services of contracted ice engineers; monitoring; signage and a flagging system. City staff will not be providing ice clearing, flooding, enforcement or a skating program. Residents will need to clear the ice themselves based on the flag conditions. The City of Toronto prohibits skating on all other outdoor frozen bodies of water.

### **Richmond Hill**

Town staff maintains the Mill Pond for skating. Ice surface maintenance is incorporated into routine daily winter maintenance of the swan enclosure, and bathrooms at the Mill Pond. Staff clears the surface with equipment including a Jeep with plow; tractor with broom; and tractor mounted Zamboni to cut ice the ice surface to prepare smooth ice for skating. A warming hut is provided. There is no flag system in place to provide community notification of days the pond is deemed safe, or unsafe to use.

## **Options for Consideration**

### **Option A: Ice Monitoring and Maintenance Program**

This option includes ice monitoring and analysis by contracted services and flagging for an 8 week period; signage; plus snow plowing, sweeping, and flooding provided by contractors. The average number of skateable days would be approximately 15.

Based on industry Best Practices, the following would be required in order to provide a reasonably safe ice surface on Toogood Pond:

1. The services of an outside consulting team including ice engineers to analyze and monitor the ice surface to ensure a safe thickness (12 inches or greater), composition, and ice load on a daily basis for an 8 week period.
2. Modifying a section of shoreline to ensure safe access to the maintained area and minimize impact on the natural environment.
3. Contractor to operate equipment to maintain the ice surface including plowing, sweeping and flooding. Note: this surface will not be the smooth quality similar to surfaces which are maintained using Zamboni equipment for skating; risks are inherent in this process.
4. Safety perimeter boundary, a flag system and signage. Best practices recommend that signage be posted around Toogood Pond every 75 to 100 feet to ensure that the public is warned at every possible entry point of potential dangers.

It is important to note that the City of Markham Operations staff is currently at full capacity with priority snow clearing activities after snowfalls; hence contractors would need to be hired to



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support snow clearing on Toogood Pond immediately after snowfalls, per the National Capital Commission (NCC) recommendations.

**This option will cost: \$222,000 per year, including \$155,000 for contracted ice monitoring, and \$ 67, 000 to maintain skating surface.** It is recommended that due to potential liability to the City, the services of an outside contractor to perform ice monitoring services be employed, to ensure safety prior to staff working on the ice, and public usage. There is no staff at the City with ice engineering designation and training. The costs of ice engineers are high due to limited number of such businesses. This doesn't include any other amenities such as washroom and warming facilities.

#### **Option B: Ice Monitoring Program**

This option includes ice measuring and monitoring by contracted services; signage; and a flagging system. It is recommended that due to potential liability to the City, the services of an outside contractor to perform ice monitoring services be employed. There are no staff at the City with ice engineering designation & training. It does not include maintenance of the pond such as snow clearing, flooding or a skating program; enforcement, or staff to supervise or provide first aid. Residents will need to clear the ice themselves using care and notice to the flagging system.

**This option will cost \$155,000 to retain the contracted services of ice engineers and costs to install flagging system.**

#### **Option C: Establishment of Volunteer Community Ice Rink Program at Toogood - recommended**

City staff recognizes that residents value the recreational activity of outdoor skating. The City of Markham has built Canada's largest outdoor artificial skating surface, at Civic Centre, located 4.8 km away from Toogood Pond, to support safe and enjoyable recreational skating. Additionally, the City of Markham partners in approximately 10 community ice rinks each year, maintained by community volunteers, with support from City staff. The volunteer ice rink at Crosby Arena, located across the road from Toogood Pond, at Main & Carleton, offers outdoor skating.

City staff has also undertaken minor site leveling of the area adjacent to Toogood Pond to facilitate establishment of a community volunteer ice rink, should community members wish this option within the park setting. Separate rinks can be built to accommodate both hockey and recreational skating. Additionally, during the recent site work, several residents inquired with staff about the work, with very positive feedback received from residents. Future work for this area may include a gazebo, which will provide year round use at Toogood Pond, including a place to sit and lace up skates, watch skating, or provide shade during the summer.

**This option will cost \$1,500 in annual Operating Expense.** This proposal anticipates the use of the existing water chamber, however if water pressure is not sufficient, a water chamber may be required in close proximity, at a cost of approximately \$10K. Funding to support this program will be earmarked within the existing 2016 Community Volunteer Ice Rink Program for this initiative.

#### **Conclusion:**

The safest manner to undertake skating on Toogood Pond is extremely costly for such a limited number of days. The City currently has a highly successful volunteer community ice program in many neighbourhoods in the City providing opportunities for active and healthy living in a safe

manner. The City supports active living through its excellent recreational programs that include indoor rinks, the Civic Centre Artificial Rink and the well loved neighbourhood based community ice rink program.

Staff recommends that the volunteer community ice rink option be advanced based on health and safety, liability and climate change impacts. If Council chooses to permit skating on Toogood Pond it is recommended that funding be allocated in the budget for monitoring the ice conditions with a flagging system and residents clear the ice on their own. It should also be noted that permitting skating on Toogood Pond may potentially open up requests for maintaining natural ice surfaces for other locations within the City.

#### **FINANCIAL CONSIDERATIONS AND TEMPLATE:**

<b>Options for Considerations</b>	<b>Operating Cost</b>	<b>Operating Cost Per Useable Day</b>
Option A – Ice Monitoring and Maintenance Program (includes \$155.3K contracted ice monitoring) 15 “Useable” days estimated	\$222,000	\$14,800
Option B – Ice Monitoring Program 15 “Useable” days estimated	\$155,000	\$10,300
Option C – Volunteer Ice Rink 30 “Useable” days estimated	\$1,500	\$50.00

Given the timing of this report, it is recommended that Council’s recommendation, if any, for an option be implemented for the 2016-2017 winter season to be funded from the volunteer Ice Rink program in the 2016 Operating Budget. The volunteer rink however could be done this year with community interest.

#### **HUMAN RESOURCES CONSIDERATIONS:**

Contracted services

#### **ALIGNMENT WITH STRATEGIC PRIORITIES:**

Staff recommend Option C - Establishment of Volunteer Ice Rink at Toogood Pond as best alignment with the Corporation’s strategic priorities including Financial Performance, Operational Excellence, Staff Engagement and Customer Satisfaction. Establishing a volunteer community ice rink program at Toogood Pond will allow an outdoor skating experience within the park setting, while promoting public and staff safety. Additionally, skating on a community ice rink situated on land, will allow for much extended seasonal use compared to frozen ice surfaces on ponds.

#### **BUSINESS UNITS CONSULTED AND AFFECTED:**

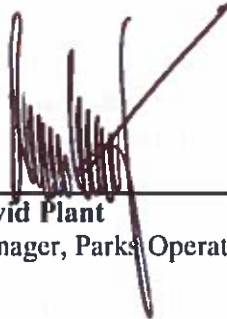
Legal Department, Risk Management, and Occupational Health and Safety have been consulted in developing staff recommendation to cease winter maintenance on Toogood Pond, due to high potential for safety risks, and liability to the Corporation.

Finance has been consulted regarding cost implications.

**RECOMMENDED BY:**



**Barb Rabicki**  
Director, Operations



**David Plant**  
Manager, Parks Operations



**Brenda Librecz**  
Commissioner,  
Community & Fire Services

Attach: Public Information Sheet – dated January 29, 2015



## Ice Safety on Toogood Pond

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Public and staff safety are of the highest priority for the City of Markham. As a result, we have had to make the difficult decision to discontinue winter servicing of Toogood Pond in Unionville for the purpose of public skating.

We understand the legacy and tradition of ice skating on Toogood Pond, and the importance of offering outdoor winter activities. However, it is Markham's responsibility to support healthy and safe options for residents and visitors. Toogood Pond is no longer one of these options.

The City recently reviewed snow clearing activities and it was determined that staff are unable to ensure with complete confidence the stability and safety of the ice. This presents potential risk to the public and City staff, and liability considerations including being in compliance with our obligations under the *Ontario Occupational Health and Safety Act*.

The ice instability is due to a number of factors, including:

- Fluctuating weather conditions;
- Constant movement of spring-fed water, particularly in high-volume areas of the pond;
- Changes in water depth throughout the pond; and
- Changing water quality and composition - the water contains more runoff materials such as salt, pesticides and silt that contribute to ice instability.

Signs will be installed at common access points to the pond to warn residents of the risks. The City strongly recommends that residents not use Toogood Pond and instead use the many alternative family-friendly and safe ice surfaces across the City.

The Civic Centre ice rink, the largest artificial ice surface in the GTA, is an excellent safe alternative less than 4km from Main Street Unionville. It has the added convenience of heated change rooms, washrooms and skate rental onsite.

Anyone interested in skating on an old-fashioned outdoor ice rink can try Cedarena, which is nestled among cedar trees on the bank of the Rouge River in Markham.

There are also 14 neighbourhood-based Volunteer Outdoor Ice Rinks in operation this season across the City. If you're interested in establishing one in the vicinity of Toogood Pond, Markham would be pleased to support your efforts.

For those who prefer indoor skating, Markham also offers public skating at eight of its Community Centres, including Crosby Arena right on Main Street Unionville.

Visit [markham.ca](http://markham.ca) for a complete list of ice rinks and to learn more about the Volunteer Outdoor Ice Rink program.

**General inquiries:**

Markham Contact Centre at [customerservice@markham.ca](mailto:customerservice@markham.ca) or 905.477.5530

**Volunteer Outdoor Ice Rink Program:**

Nory Takata at [ntakata@markham.ca](mailto:ntakata@markham.ca) or 905.477.7000 ext. 3226



Report to: General Committee

Report Date: October 31, 2016

**SUBJECT:** Toogood Pond Recreational Use of Natural Ice – Ice Monitoring Program Options

**PREPARED BY:** David Plant, Manager, Parks Operations Ext 4893

**RECOMMENDATION:**

1. THAT the staff report dated October 31, 2016 entitled “Toogood Pond Recreational Use of Natural Ice – Ice Monitoring Program Options” be received.
2. THAT staff recommend due to health and safety risks and financial implications that Council do not approve the implementation of ice monitoring of the natural ice surface at Toogood Pond
3. THAT staff support interested residents in the establishment of a community volunteer ice rink program on the lands adjacent to Toogood Pond.
4. THAT staff be authorized and directed to do all things necessary to give effect to this resolution.

**PURPOSE:**

To report as requested by Council on the options and implications related to ice monitoring of Toogood Pond and other related items as directed by Council.

**BACKGROUND:**

At the December 15, 2015 Council meeting where staff was directed as follows.

1. That City of Markham staff be directed to continue the City’s current practice of not providing maintenance or ice monitoring of Toogood Pond and to erect proper signage with respect to the dangers of skating on Toogood Pond; and
2. That City of Markham staff liaise with other York Region and GTA communities with outdoor pond skating to gauge interest in jointly hiring an ice engineering firm to provide options for ice condition assessment; and,
3. That City of Markham staff report back on the feasibility of Fire and Emergency Services developing an ice safety and ice rescue program for City staff involved in checking the ice condition; and,
4. That a Working Group be established with appropriate Terms of Reference to review options; and
5. That staff report back to General Committee within the first quarter of 2016;
6. That staff be authorized and directed to do all things necessary to give effect to this resolution.

Toogood Pond has been a location for recreational skating for many years in Unionville. For the majority of those years the ice was cleared by residents themselves and then in later years City staff clearing the ice until 2013 when this activity ceased due to health and safety concerns. Urbanization & environmental changes related to climate change, as well as significant silt build-up and increased road salt usage impacts ice formation on the pond. City operations today are not the same as 10 years ago. Public safety is paramount for the City of Markham. Concerns regarding public safety on natural ice have prompted many other municipalities to consider safer options for public skating.

In the years when City staff cleared the ice, this would occur only after road, sidewalk and parking lots were completed, as priority is winter maintenance for public safety. There were no dedicated resources to monitor and clear the ice, nor were there any staff resources with the required expertise to ensure safety. The scope of winter work for parks staff has increased since 2013 but the staff level has remained unchanged resulting in primary winter functions requiring more time to complete. The City does not permit skating on any other natural bodies of water. In 2010, the City received an Infrastructure grant to construct the largest outdoor ice rink in the Greater Toronto Area at the Civic Centre to ensure residents had safe outdoor recreational skating opportunities. This outdoor rink is 4 kilometers from Toogood Pond and available for public skating approximately 90 days of the winter season.

### **DISCUSSION:**

A Working Group reviewed ice monitoring options at Toogood Pond as directed and worked with City staff and municipal partners to collect information for Council consideration and evaluation. Additionally, the Working Group discussed alternate outdoor skating options within the immediate community.

The Working Group was comprised of the following members:

- Deputy Mayor Jack Heath
- Councillor Amanda Collucci
- Councillor Don Hamilton
- Councillor Colin Campbell
- City Solicitor Catherine Conrad
- City Senior Health and Safety Specialist Nancy Myles
- City Strategy and Insurance Risk Manager Fred Rich
- City Fire Chief Dave Decker
- City Director of Operations Barb Rabicki
- City Manager Parks Operations David Plant
- Unionville Rate Payers Association Reid McAlpine
- Unionville Rate Payers Association Wes Rowe

The Working Group met 4 times, reviewing information that staff had researched and received from other municipalities, other City staff, and Geniglance Ice Experts with a view to providing information and evaluation of options that consider all elements:

- Public Safety
- Worker Safety
- Environmental and financial implications

The Working Group received information from the Fire Chief regarding establishing an ice safety and ice rescue program and was informed that the Markham Fire Service does not have the capacity or the ability to provide this training to City staff. The Chief advised that the best course of action if a problem surfaced was to call 911 and keep eyes on the victim until Fire and Emergency Services arrive.

The Working Group received information from the City Senior Health and Safety Specialist with respect to training of staff and what would constitute adequate training under the Occupational

Health and Safety Act. She further advised that given the limited exposure that staff would have that ice monitoring training would be a yearly requirement and that a 1 day course would not be adequate. The Working Group received information from the City Solicitor and Acting Director of Human Resources, who advised the group to consider the human impact of a potential accident in addition to financial and regulatory liability.

The Working Group received information from the Manager of Strategy and Insurance Risk Management who reported that in the opinion of the City liability insurance broker and risk management advisor, Jardine Lloyd Thompson, that "not only would the public be at risk, but this would also risk the safety of City staff providing winter maintenance" on the ice. They further added that "it is important to understand that a plaintiff lawyer only needs to prove that the municipality was 1% negligent in order for the City to be found responsible for up to 100% of any judgment." To clarify, even in cases where a person is found to be negligent and responsible in large part for any injuries or damages, if the City is found to be even 1% negligent, the City could be required to satisfy the entire damages judgment.

The Working Group received information from Manager of Parks Operations on the various proposals submitted by Ice Expert Engineers Geniglace. The Working Group was reminded that historically the City has flagged Toogood pond at the most for 12-15 days of "safe" skating per year and in some years zero days.

In assessing the risk and financial implications of an ice monitoring options as directed by Council, a partnership with the City of Toronto to share the cost of engaging Geniglace to monitor the ice on Toogood Pond was the best risk mitigation option but a very costly ice monitoring program option. The expected skating days for natural outdoor ice surfaces is 15 days in total over the winter.

## **(I) Ice Monitoring Options for Council Consideration**

### **Option 1: Ice Monitoring – City Staff with 1 Day of Training**

Staff are not able to support this option as it contravenes their primary responsibilities under the Occupational Health and Safety Act Sec 25(2)(h) to "take every precaution reasonable in the circumstances for the protection of a worker." This option is not recommended by staff for consideration due to high risk and potential worker concerns.

### **Option 2: Ice Monitoring Program – 1 Ice Engineer with City Staff for 8 Weeks**

This option is not recommended by staff due to moderate risk and high costs. This option includes ice measuring and monitoring by an ice engineer working with City staff to assist the Ice Engineer. Dressed in Emergency Services approved floater suits, staff would be expected to be on the ice for up to 4 hours per day, 7 days per week, for an 8 week period. This option would provide staff with 8 weeks working with a professional ice engineer to gain experience. To accommodate the 7 day per week schedule, 6 fulltime staff would be rotated through this position which even further reduces the opportunity to gain experience.

Staff believes that this level of training meets bare minimum levels required and has potential for issues with the collective bargaining unit. Frontline staff who currently responds to winter storm events for snowplowing above and beyond regular Monday to Friday work weeks will now be asked to undertake scheduled weekend work at overtime rates. Staff turnover issues will provide additional challenges.

**The cost of this option is \$136,498.00 or \$9,099.87 per expected skating day**

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**Option 3: Ice Monitoring Program – 1 Ice Engineer with City Staff for 8 Weeks – Cost Sharing of Ice Engineer with City of Toronto**

This option is the same as Option 2 with the only difference being cost sharing of the professional ice engineer services with the City of Toronto. This option is not recommended by staff due to moderate risk and high costs

Staff believes that this level of training meets bare minimum levels required and has potential for issues with the collective bargaining unit. Frontline staff who currently respond to winter storm events for snowplowing above and beyond regular Monday to Friday work weeks will now be asked to undertake scheduled weekend work. Staff turnover issues will provide additional challenges.

**This cost for this option is \$91,564.00 or \$6,104.27 per expected skating day**

**Option 4: Ice Monitoring Program by 2 Ice Engineers for 8 Weeks**

This option, while low risk, is the most expensive option and therefore not recommended by staff. This level of service, with no involvement of City staff, utilizes 2 professional ice engineers to be on the ice for up to 4 hours per day, 7 days per week, for an 8 week period. The contracted ice engineering firm would be responsible for all personal protective equipment, tools, and safety related to ice monitoring. This option avoids potential conflict with the collective bargaining unit, allows front line staff to continue to focus on core business needs such as snowplowing roads and sidewalks, and mitigates risk to the Corporation.

**The cost for this option is \$164,672.00 or \$10,978.13 per expected skating day**

**Option 5: Ice Monitoring Program by 2 Engineers for 8 Weeks – Cost Share with City of Toronto**

This option, provides the highest level of due diligence for the City for both the safety of the public and staff. While this option is the most workable from a risk management perspective, it is still not cost effective and therefore not recommended.

This option is the same as Option 4 with the only difference being cost sharing with the City of Toronto.

**The cost for this option is \$100,185.00 or \$6,679.00 per expected skating day**

**(II) Alternative Recreational Skating Opportunities:****Development of a Community Volunteer Ice Rink Program at Toogood Pond and Use of Existing Volunteer Rink at Crosby Arena**

Immediately east of the parking lot, there is a level area adjacent to Toogood Pond to facilitate establishment of a community volunteer ice rink, should community members wish this option within the park setting. Separate rinks can be built to accommodate both hockey and recreational skating.

The City of Markham partners in approximately 10 community ice rinks each year, maintained by community volunteers, with support from City staff. The volunteer ice rink at Crosby Arena, located across the road from Toogood Pond, at Main & Carlton, offers outdoor skating.

This proposal anticipates the use of the existing water chamber, however if water pressure is not sufficient, a water chamber may be required in close proximity, at a cost of approximately \$10K. Funding to support this program will be earmarked within the existing 2016 Community Volunteer Ice Rink Program for this initiative.



The expected skating days for a volunteer rink is 30 days

**The cost for this option is \$1,500.00 or \$50.00 per expected skating day**

**Use of Outdoor Artificial Ice Surface at Civic Centre**

City staff recognizes that residents value the recreational activity of outdoor skating. The City of Markham has built Canada's largest outdoor artificial skating surface, at Civic Centre, located 4.8 km away from Toogood Pond, to support safe and enjoyable recreational skating serving all residents from across Markham. The expected skating days for this facility is 100 days.

**FINANCIAL CONSIDERATIONS:**

**Toogood Pond Working Group - Options Explored**

**COSTS**

	Option 1	Option 2	Option 3	Option 4	Option 5
	2 City Staff with 1 day of Training	1 Ice Engineer with 2 City Staff Year 1	1 Ice Engineer with 2 City Staff - Cost Share with Toronto Year 1	2 Ice Engineers	2 Ice Engineers - Cost Share with Toronto
<b>Geniglace</b>	Does not meet City's obligation				
Prepare Ice Program		Included	Included		
Annual Training					
Geniglace Ice Engineer(s)		\$103,603.00	\$58,669.00	\$164,672.00	\$100,185.00
				2 Ice Engineers	2 Ice Engineers
City Staff Personal Protective Equipment & Tools		\$10,250.00	\$10,250.00		
City Truck		\$20,000.00	\$20,000.00		
Total Seasonal Cost	\$2,645.00	\$2,645.00			
		\$136,498.00	\$91,564.00	\$164,672.00	\$100,185.00

Cost/Skate day (15 days)		\$9,099.87	\$6,104.27	\$10,978.13	\$6,679.00
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**ASSESSMENT CRITERIA**

	Option 1	Option 2	Option 3	Option 4	Option 5
<b>Cost</b>	Moderate	High	High	High	High
<b>Risk</b>	High	Moderate	Moderate	Low	Low
<b>Liability</b>	High	Moderate	Moderate	Low	Low
<b>Collective Bargaining Agreement</b>	Conflicts	Conflicts	Conflicts	None	None
<b>Issues</b>	Staff Turnover/Work Refusal	Staff Turnover	Staff Turnover	None	None

**HUMAN RESOURCES CONSIDERATIONS:**

- Contracted services
- Potential for issues with the collective bargaining unit. Frontline staff who currently responds to winter storm events for snowplowing above and beyond regular Monday to Friday work weeks will now be asked to undertake scheduled weekend work. Staff turnover issues will provide additional challenges.

**BUSINESS UNITS CONSULTED AND AFFECTED:**

Legal Department, Risk Management, Health and Safety, Fire and Emergency Services, Finance

**CONCLUSION:**

Staff recommends that due to health and safety risks and financial implications, that Council do not approve the implementation of ice monitoring of the natural ice surface at Toogood Pond. The City should continue the practice of posting danger signs at Toogood Pond warning people to stay off the ice due to unsafe conditions and that the ice is not monitored or maintained by the City of Markham.

The following is a comparison of estimated costs per skating day for the various options presented by staff.

<b>COST SUMMARY OF OPTIONS</b>	<b>COST:</b>	<b>COST/SKATE DAY</b>
1) Volunteer Ice Rink program North of Toogood Pond	\$1,500.00	\$50.00 (30 days)
2) Use of Artificial Ice Rink at Markham Civic Centre	No Additional cost	(100 days)
3) Ice Monitoring of Toogood Pond By Geniglance Ice Engineers in Partnership with City of Toronto	\$100,185.00	\$6,679.00 (15 days)

Should Council wish to proceed with an ice monitoring program for Toogood Pond, the option which represents the least amount of risk would be to contract the service to Geniglance Ice Experts, however this is extremely costly for such a limited number of days. The City currently has a highly successful volunteer community ice program in many neighborhoods in the City providing opportunities for active and healthy living in a safe manner. The City supports active living through its excellent recreational programs that include indoor rinks, the Civic Centre Artificial Rink and the well loved neighborhood based community ice rink program.

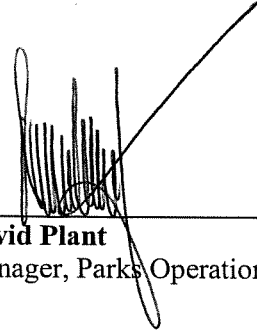
Staff recommends that the volunteer community ice rink option be advanced based on health and safety, liability and climate change impacts.

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

Staff recommends the establishment of a volunteer ice rink program at Toogood Pond as the best alignment with the City's strategic priorities.

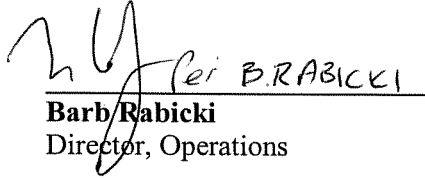
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**RECOMMENDED BY:**



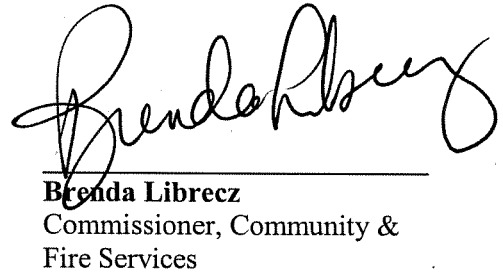
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**David Plant**  
Manager, Parks Operations



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**Barb Rabicki**  
Director, Operations



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**Brenda Librecz**  
Commissioner, Community &  
Fire Services



**Reducing Risks of Recreational Use of  
Activities on Natural Ice Surfaces**

**T e r m s   o f   R e f e r e n c e**

April 27, 2016

# 1. Establishment

This Stakeholder Consultation Working Group was established by Council Resolution at its December 15, 2015 meeting.

# 2. Mandate

The Stakeholder Consultation Working Group, in consultation with City staff, municipal partners, and members of the public will review work undertaken by City staff to facilitate an understanding of risk management and health and safety concerns and evaluate options for Council consideration concerning the possible actions that would need to be in place to facilitate a reduction in risks/dangers of recreational use of natural ice surfaces.

## Deliverables:

- The Markham community will gain a better understanding of the high risks associated with the safety of ice on flowing water and the measures needed to be in place to mitigate the safety issues.
- The Stakeholder Consultation Working Group will work collaboratively with City staff, municipal partners and members of the public, to become better educated about the decision making process in deciding potential uses of Toogood Pond for recreational purposes.
- The Stakeholder Consultation Working Group will provide input on options being considered by the City concerning the use of Toogood Pond as a natural ice surface
- Completion of policy for use of natural ice rinks

## Definitions:

In addition to definitions outlined in the Council Procedural By-law 2001-01, in this Term of Reference:

- a) Natural Ice Surface: Ice is formed when freezing occurs from cold ambient temperatures

# 3. Membership and Roles and Responsibilities

Role and Responsibilities	Member Name
Community Representatives – 4 representatives	One representative from each of the following groups: UBIA, URA, UVA, YRDSB Youth Rep
City Councillors – 3 members of Council	Deputy Mayor Jack Heath, Councillor Don Hamilton, Councillor Colin Campbell, Councillor Amanda Collucci
City Staff – Legal, HR, Finance, Operations, Fire	Catherine Conrad, Nancy Myles, Fred Rich, David Plant, Barb Rabicki and Chief Decker Fire

## 4. Term:

The Stakeholder Consultation Working Group is being formed to work collaboratively with City staff, municipal partners and members of the public to review and provide comments on staff document to Council as directed in the December 15, 2015 General Committee meeting by the end of Q1.

## 5. Meeting Schedule and Decision Making

April 27, 2016 – 1:00pm

June 7 or 14, 2016 – At the call of the Chair

### Decision Making:

It is understood that the Stakeholder Consultation Working Group is a reference group established to provide feedback on options being considered by the Project Team.

## 6. Reporting Requirements and Methods

A recording Secretary will be nominated or appointed by the Chair and minutes circulated to the participants of the Stakeholder Consultation Working Group only for review. Reporting to Council will be through the Clerks staff in keeping with practice.

## 7. Budget and Resources

The Stakeholder Consultation Working Group does not have budgeted funds allocated for use in this Charter Project. If funds are required to obtain the advice or attendance by experts, Parks Operations will approve the expenditures through the Manager of Parks Operations.

### Staffing Resource:

The following City of Markham staff resources will be required for the successful operation of this Task Force:

Staff Resource	Time Commitment (FTE equivalent) for total Charter Project
Staff Position: Legal	FTE: 24 hours
Staff Position: Human Resources	FTE: 24 hours
Staff Position: Operations	FTE: 100 hours
Staff Position: Financial Services	FTE: 24 hours

Staff Position: Community and Fire Services	FTE: 36 hours
Staff Position: Project Sponsor	FTE: 8 hours

## 8. Test for Completion

The mandate of the Task Force will be considered complete when the deliverables set out in its mandate (Section 2 above) have been accomplished.

A report based on feedback from the Stakeholder Consultation Working Group Chairs will be prepared and delivered to Council at the end of Q1, subject to availability on the schedule.

October 31, 2016

## **Report of General Council Toogood Pond Recreational Use of Natural Ice – Ice Monitoring Program Options**

### **Appendix A**

#### **Health and Safety of Residents and Staff**

The Ontario Health and Safety Act (OHSA) requires that the Employer shall take every precaution reasonable in the circumstances for the protection of workers. It is important to note that no worker shall use or operate equipment in a manner that shall endanger the safety of the worker. Past incidents reported by staff indicated that the previous methodology of monitoring and maintaining natural pond ice did not adequately ensure the safety of City staff performing work on the ice. City staff is unable to assure with complete confidence the safety of ice on natural ponds including Toogood due to fluctuating weather conditions, constant movement of spring fed water, increasing build-up of silt, and zones of high flow and fluctuating pond depth which could result in unstable ice.

The Occupiers Liability Act (OLA) is similar to the Occupational Health and Safety Act (OHSA) with respect to primary duties. The OLA states in Subsection 3(1) that “an occupier has a duty to take reasonable care to see that people entering the premises are kept reasonably safe.” As the owner and occupier of parks, the City of Markham has a duty to ensure that, if skating were permitted on Toogood Pond (or other similar surfaces in City parks), the conditions on the pond are reasonably safe for skaters. The City's duties include protecting the public against dangers that are foreseeable and potentially severe in this case, including potential drowning/death. This includes a responsibility to make safe the designated access route to the pond; monitor the thickness of the ice; clear the ice of snow; ensure a smooth ice surface free of cracks and other rough or uneven spots; prevent access to areas that are not safe for skating; and erect signs advising skaters of the dangers inherent in skating on pond ice. Claims against municipalities under the *Occupiers' Liability Act* can expose the City to costly legal expenses to defend lawsuits and also include the risk of significant awards of damages. .

The City's liability insurance broker and risk management advisor, Jardine Lloyd Thompson, supports the decision to discontinue the recreational use of natural ice at Toogood Pond, noting that the City has ample safer skating opportunities available for residents. They also advised that:

- not only would the public be at risk, but this would also risk the safety of City staff providing winter maintenance on the ice.
- it is important to understand that a plaintiff lawyer only needs to prove that the municipality was 1% negligent in order for the City to be found responsible for up to 100% of any judgement
- during colder winter seasons more resources are required for priority winter services (eg. snow and ice removal from City sidewalks. etc) and available resources and City priorities need to be assessed against recreational opportunities



The City's legal department advised that "Council would be putting employee's lives, livelihood, health and families at risk if they approved a plan that was under funded: there is a human cost associated with risk, and employee's family lives can be ruined."

## Reported Incidents

The Canadian Red Cross report, "Drownings and other water-related injuries in Canada, What We Have Learned: 10 Years of Pertinent Facts" summarizes injuries and deaths due to water-related activities. The report notes that "**Canadians are at risk of drowning as a result of falling through ice. During the period 1991-2000, there were 218 such victims.** Of these, 67% drowned during recreational activities such as playing, walking and fishing." The report also states that "Young children are at high risk of ice drowning" and the report notes that **skating accounted for 8% of drowning during recreational activities on ice.** Furthermore the report states "Ice on reservoirs may be more hazardous than on lakes, since reservoirs accounted for 19% of all ice drowning on lakes, ponds and reservoirs. Reservoirs may also be closer to towns and more accessible for play and walking".

Incidents involving death or injury related to activities on frozen bodies of water in the City of Toronto have occurred, despite best efforts to inform people of the dangers. The most tragic incident was in December 2006 when two boys, aged 11 and 15 died after falling through the ice on a storm water management pond (private property at the time) near Finch and Morningside.

The City of Toronto maintained a natural ice rink program on Grenadier Pond in High Park which ran for 9 weeks, weather permitting, with monitoring for ice safety & thickness provided by the Metro Toronto Police Service – Marine Unit until 1996. In 2001, Toronto Police Service – Marine Unit and Toronto Water Division advised Parks and Recreation staff that open water and storm water management pond ice in Toronto was unstable and never truly safe. The costly natural ice rink program on Grenadier Pond, which averaged 7-10 days of skating annually, was discontinued in 2001. Community members continued to maintain areas of the pond for skating. Two known incidents have occurred on Grenadier Pond in the last 10 years, including an incident which resulted in costly litigation for the City.

In 2007, a Global News crew was on site to film a segment about the potential dangers of using the ice at Grenadier Pond. Just prior to going on air, the crew filmed a woman breaking through the ice with her leg in the water up to her hip. The temperature at the time was minus 15 degrees Celsius, seemingly ideal weather conditions for ice to solidly form.

In 2014, despite unseasonably cold temperatures, a woman broke through the ice on the Rideau Canal Skateway in Ottawa. In February of 2015, two women broke through the ice on the Rideau canal again. Despite the federally maintained, highly monitored ice development and maintenance program, which includes enforcement as a key component, accidents have occurred.

Prior to the installation of the refrigerated skating surface at the Civic Centre, Markham Parks staff recall multiple incidents where large and small pieces of equipment with operators broke through the ice on Toogood Pond, including an incident when an experienced operator had to crawl out the back window of a pick-up truck as icy water poured in. The depth of water in Toogood Pond varies, and is estimated up to 5 metres deep, with inflow and outflow currents, which may lead to ice instability. The continual build-up of silt is adding to the difficulty with poor ice quality.

Much consideration was given by Council to provide a safe, excellent outdoor skating experience to the Markham community, when the decision was made to invest in Canada's largest outdoor artificial ice surface, at Civic Centre within 4 km of the Too Good Pond.

### **Climate Considerations**

While the 2013-2014 winters were the coldest in 20 years, climate change is starting to have significant impacts on the City of Markham.

The City of Toronto staff report, noted that "since 1948, Canadian winters have warmed and average of 3.2 degrees Celsius. The warmest winter on record for Canada was 2009-2010 followed by 2011-2012. 2012-2013 was the eight warmest winter in 100 years; winters like 2013-2014 are predicted to be an anomaly in the future. An overall warming trend, combined with Toronto's urban heat island effect, mean that shorter, warmer winters will continue for the foreseeable future. The number of days cold enough to bring ice levels on High Park's Grenadier Pond to a safe thickness for skating or walking on will likely decrease, making the program less cost-effective as time goes on."

Climate change has affected the quality of the water with higher levels of salt run-off and other containments such as silt, making the water more unstable and unpredictable for ice making.

### **Ensuring Safe Recreational Use - Ice Formation & Monitoring**

Ice strength and safety is not as simple as often believed; often ice can be white or "snow ice" which contains air bubbles and is not as solid and strong as "clear or blue ice". Periods of extended cold weather associated with the formation of clear ice are not regularly experienced in the Toronto area. Additionally, any snow which falls on ice acts as a thermal blanket, and slows the formation of ice crystals below the surface. The weight of snow also depresses the ice surface, and acts as an insulation layer, important factors which necessitate rapid snow clearing after snowfalls by crews to ensure ice integrity and ice formation.

Effective ice monitoring is not simply measuring ice depth, but also ice density. Samples must be regularly taken to analyze the composition including the combinations of clear and white ice, to ensure safety of both public as well as staff clearing snow.

In addition to thickness and composition of ice, it is essential to consider weight distribution of both people and equipment on ice. The highest degree of expertise is required to ensure ice safety. The National Capital Commission (NCC) in Ottawa is recognized as the industry experts, and their recommendations are considered by leading municipalities as the industry standard to be followed.

### **National Capital Commission Skateway, City of Ottawa**

Annual operating costs for the Ottawa program are \$1.85M. Preparation for skating begins in fall by **lowering the water depth in the canal to approximately 12 inches**, and installing Skateway infrastructure. Then an Ice Safety Committee (consisting of at least one engineer, a surveyor & safety support staff) is established. The City of Ottawa, located in a colder climatic zone than the Toronto area, typically has extended periods of very cold weather, favourable to ice development. The Canal Skate

way, which has controlled access & egress, does not open to the public until there is **at least 12 inches of good (clear) ice**. **The maintenance of the Skate way is continuous: 24 hours a day, seven days a week**. The NCC uses a flag system to indicate conditions, and Skate way access can be controlled and monitored. A highly developed program of monitoring, enforcement and maintenance including ice surface preparation with equipment including Zamboni ensures a safe user experience; this work is performed by contractors. The Skate way has a skate patrol of up to 60 patrollers trained in first aid and CPR (cardiopulmonary resuscitation). The Skate way can be closed when ice conditions are deemed unsafe. With the exception of the Rideau Canal, the City of Ottawa prohibits skating on any other frozen body of water.

### **City of Toronto**

The City of Toronto sought advice from the National Capital Commission advice on implementing a program for monitoring ice thickness and density to ensure public & staff safety. NCC employs the services of ice engineers, with expertise in this area. City of Toronto was directed by Council to report back in December 2015 regarding implementation of an ice monitoring program including the services of consulting ice engineers or contractors to ensure safety. Costs of the Ice Monitoring Program are currently under development, but will include the services of contracted ice engineers; monitoring; signage and a flagging system. City staff has expressed interest in sharing the costs of retaining professional ice engineers with the City of Markham. **City staff will not be providing ice clearing, flooding, enforcement or a skating program. Residents will need to clear the ice themselves based on the flag conditions.** The City of Toronto prohibits skating on all other outdoor frozen bodies of water.

### **Richmond Hill**

Town staff maintains the Mill Pond for skating. Ice surface maintenance is incorporated into routine daily winter maintenance of the swan enclosure, and bathrooms at the Mill Pond. Staff clears the surface with equipment including a Jeep with plow; tractor with broom; and tractor mounted Zamboni to cut ice the ice surface to prepare smooth ice for skating. A warming hut is provided. There is no flag system in place to provide community notification of days the pond is deemed safe, or unsafe to use. Town staff has advised that Mill Pond is the subject of a master plan review for the area and that alternate options for outdoor skating will be explored for this location moving forward.



## MEMO

**TO:** Mayor and Members of Council  
**CC:** Andy Taylor, CAO

**FROM:** Brenda Librecz, Commissioner of Community & Fire Services

**PREPARED BY:** David Plant, Manager Parks Operations

**DATE:** November 14<sup>th</sup> 2016

**SUBJECT:** Follow up Information – Toogood Pond

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Please find below information requested of Operations Staff related to the Toogood Pond Ice Monitoring Report. Staff is still waiting for some responses from TRCA and received other information this week hence the lateness of this status update.

### **General Committee Direction to staff:**

Following the staff presentation of the Toogood Pond Recreational Use of Natural Ice – Ice Monitoring Program Options report at General Committee on October 31, 2016, staff received direction to provide the following additional information for Council consideration.

1. That staff be directed to confirm that the City of Toronto will cost share with Option 5 of the report (Engage the services of 2 Ice Engineers with no staff involvement) and if not report back on other options.
2. That staff be directed to report back on the cost of a winter maintenance program for Toogood Pond for the purposes of recreational skating and include the size of the pond to be maintained.
3. That staff be directed to further investigate what other municipalities such as Richmond Hill and Credit Valley Conservation Authority are doing to continue using their ponds for recreational skating.
4. That staff investigate the use of a safety net below the ice surface
5. That staff speak to TRCA about the possibility of lowering the water level in Toogood Pond

### **Follow Up Information :**

1. That staff be directed to confirm that the City of Toronto will cost share with Option 5 of the report (Engage the services of 2 Ice Engineers with no staff involvement) and if not report back on other options.

### **Response:**

The City of Toronto has confirmed that they have entered into a sole source agreement with Geniglace Ice Engineers for the purpose of monitoring the ice on Grenadier Pond. The contract period is from January 2, 2017 until February 28, 2017. The City of Toronto WILL NOT be providing any maintenance services to the ice surface.

Toronto staff will be providing the following services.

- a. marking the area that is being monitored with red bamboo poles
- b. posting signage to explain the flagging system they are employing to warn of ice conditions
- c. posting warning flags on a 25 foot pole to alert the public to ice conditions

**The City of Toronto has confirmed their willingness to partner with the City of Markham and share the costs of the Geniglace Ice Engineers as outlined in the proposal discussed by General Committee.**

2. **That staff be directed to report back on the cost of a winter maintenance program for Toogood Pond for the purposes of recreational skating and include the size of the pond to be maintained.**

**Response:**

Staff contacted six reputable contractors who engage in winter maintenance activities to provide pricing on a winter maintenance program for the ice at Toogood Pond for the 8 week monitoring period. While we are still waiting for formal quotes, we have 4 contractors who have declined the opportunity to bid and one verbal quote at \$23,200.00 +HST. Staff continues to pursue further quotes. **Contracted Service for 8 weeks: \$23,000 to \$ 30,000.**

**Size of Pond to be maintained is outlined in the attached map. *Restricted Area as shown will determine the costs.***

3. **That staff be directed to further investigate what other municipalities such as Richmond Hill and Credit Valley Conservation Authority are doing to continue using their ponds for recreational skating.**

**Response:**

a) Staff received the following information from The Town of Richmond Hill staff with respect to what they are doing to continue using the ice on Mill Pond for recreational skating. Richmond Hill is carrying out the following for Mill Pond in the winter of 2016/2017.

- The Town monitors the ice thickness which is done by Town staff.
- The Town uses a flagging system to let residents know of unsafe conditions.
- The Town provides winter maintenance to the ice performed by Town staff.
- Town staff commented that in places the pond is so shallow that ice will not form
- **The Town is looking to move away from this activity in the future.**

b) Staff received the following information from Credit Valley Conservation Authority in response to the resident deputation regarding the practices used by this organization. Established in 1954, the **CVCA is a community based organization** dedicated to protecting the Credit Valley Watershed. Working with provincial and municipal government, residents, schools and volunteers, they support the use and conservation of a large geographical area. Staff has been informed that CVCA monitors and maintains natural ice for recreational outdoor use at Island Lake Conservation area just north of Orangeville. CVCA staff carries out the following.

- CVCA staff are used to monitor the ice conditions on Island Lake
- CVCA follows MNR Guidelines as their training guide for staff
- CVCA staff clear snow and flood the ice surface
- **CVCA staff is on site at all times that the area is open to the public**

c) Staff reviewed the **Ministry of Natural Resources Working On Ice Policy** dated 2002. This policy is designed for use by MNR staff who must work on or cross ice surfaces to perform their job functions and does not address clearing snow or allowing unlimited access to an ice surface.

*It focuses on worker safety not public access. Additionally, the policy says that "at all times, every individual must carry a self extraction tool, wear an approved PDF, and that 1 in 5 employees must carry a survival kit.*

4. That staff investigate the use of a safety net below the ice surface.

**Response:**

Staff researched the idea of deploying **safety netting** in Toogood Pond that would in effect be frozen into the ice and act as a barrier should the ice break. Safety netting designed for ponds requires anchor points at a minimum of 2 meter intervals around the mesh which would be impractical and costly to provide within the pond area. ***From a cost perspective, such netting sufficient to support the weight of an adult is approximately \$10.00 per square foot for a cost of approximately \$300,000.00.*** In addition, there would be costs to install/remove each year. Based on the conditions at Toogood Pond netting is not recommended and further it doesn't eliminate the need to monitor the ice.

1. That staff speak to TRCA about the possibility of lowering the water level in Toogood Pond

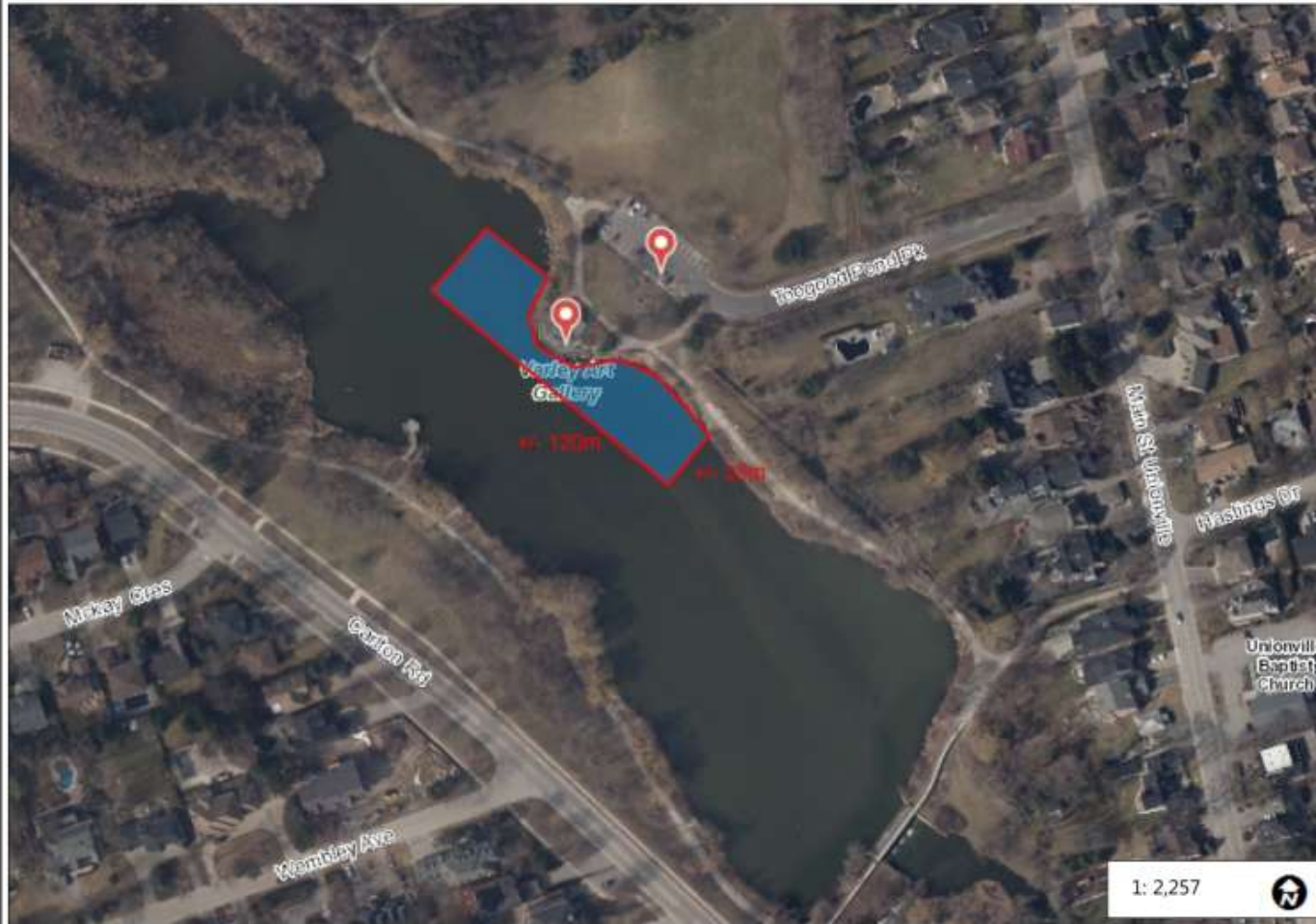
Staff has not been able to get a definitive answer on the feasibility of lowering the water level of Toogood Pond. Staff will provide Members of Council an update once we have received an official response.

If you have any further questions please do not hesitate to contact myself or David Plant, Manager Parks Operations.

Respectfully,



Brenda Librecz  
Commissioner, Community & Fire Services



Legend

- Road Attributes
- Building Footprints
- Ponds
- Creeks
- Rivers
- Parcel (MPAC)
- Park Facilities

Notes

114.7 0 57.33 114.7 Meters

NAD\_1983\_UTM\_Zone\_17N  
© City of Markham

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION



## THE CORPORATION OF THE CITY OF MARKHAM

**EXTRACT FROM THE MINUTES OF THE COUNCIL MEETING HELD ON Nov 15, 2016  
NEW/OTHER BUSINESS****(2) TOOGOOD POND RECREATIONAL USE OF NATURAL ICE - ICE MONITORING PROGRAM  
OPTION (5.6)****Report Memo**

This matter was deferred from the November 1, 2016 Council meeting.

Moved by Councillor Don Hamilton

Seconded by Deputy Mayor Jack Heath

- 1) That the Staff report dated October 31, 2016 entitled Toogood Pond Recreational Use of Natural Ice - Ice Monitoring Program Options be received; and,
- 2) That the memorandum dated November 14, 2016 from the Commissioner of Community and Fire Services providing an update on the Toogood Pond Ice Monitoring Program be received.

Carried as amended by a recorded vote (12:1)

(See following recorded vote)

(See following call the question)

(See following to consider the matter)

**Recorded vote (12:1):**

**YEAS:** Councillor Valerie Burke, Councillor Alan Ho, Councillor Don Hamilton, Councillor Karen Rea, Regional Councillor Jim Jones, Mayor Frank Scarpitti, Deputy Mayor Jack Heath, Regional Councillor Joe Li, Councillor Colin Campbell, Councillor Amanda Collucci, Councillor Logan Kanapathi, Councillor Alex Chiu. (12)

**NAYS:** Regional Councillor Nirmala Armstrong. (1)

**Call the question:**

Moved by Councillor Karen Rea

Seconded by Councillor Amanda Collucci

That Council call the question on the matter of the Toogood Pond Ice Monitoring Program.

Carried by a 2/3 vote of Members of Council present

**Motion to consider the matter:**



**Moved by Councillor Colin Campbell**

**Seconded by Councillor Don Hamilton**

**That Council consider the matter of the Toogood Pond Ice Monitoring Program immediately following the delegation section of the agenda.**

**Carried**

**Council consented to not consider the following recommendation from the**

**October 31, 2016 General Committee:**

**That Option 5: Ice Monitoring Program by two (2) engineers for 8 weeks - cost share with City of Toronto, be approved; and,**

**That staff be directed to confirm that the City of Toronto will cost share with Option 5 and if not that staff report back on other options; and,**

**That staff be directed to report back on the cost for a winter maintenance program of Toogood Pond for recreational skating purposes including the size of the pond that will be maintained; and,**

**That the Ice Monitoring Program and winter maintenance program of Toogood Pond be part of the 2017 Budget deliberation; and,**

**That the list of names gathered electronically in support of re-instating winter maintenance program of Toogood Pond for recreational skating, be received; and further,**

**That Staff be authorized and directed to do all things necessary to give effect to this resolution.**

# NOTICE

Persons engaged in prohibited activities are subject to removal and prohibition from property.

Trespass to Property Act, R.S.O. 1990, C.T.21

**CAUTION!**

RECREATIONAL TRAILS (TRAILS) MAY CONTAIN HAZARDS. TRAILS ARE NOT MAINTAINED FOR SNOW AND/OR ICE CONDITIONS. TRAILS ARE VERY SLIPPERY WHEN SNOW AND/OR ICE ARE PRESENT WHICH CAN RESULT IN SERIOUS INJURY.



**Park Closed  
12am - 6am**



**No Persons or  
Vehicles Permitted**

**BY USE OF PARKS & RECREATIONAL TRAILS YOU ASSUME ALL RISKS**

By-law infractions or concerns, please call  
The City of Markham Contact Centre at

**905-477-5530**



# DANGER



## STAY OFF THE ICE

**Ice may be unstable and is not  
monitored or maintained by  
The City of Markham**



For Skating Venues  
See [www.markham.ca](http://www.markham.ca)

