



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 Geniglance. 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 Geniglance 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

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	1 Ice Engineer with 2 City Staff - Cost Share with Toronto	2 Ice Engineers	2 Ice Engineers - Cost Share with Toronto
		Year 1	Year 1		
Geniglace	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		\$10,250.00	\$10,250.00		
Personal Protective Equipment & Tools		\$20,000.00	\$20,000.00		
City Truck		\$2,645.00	\$2,645.00		
Total Seasonal Cost		\$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
Cost	Moderate	High	High	High	High
Risk	High	Moderate	Moderate	Low	Low
Liability	High	Moderate	Moderate	Low	Low
Collective Bargaining Agreement	Conflicts	Conflicts	Conflicts	None	None
Issues	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.

COST SUMMARY OF OPTIONS	COST:	COST/SKATE DAY
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)

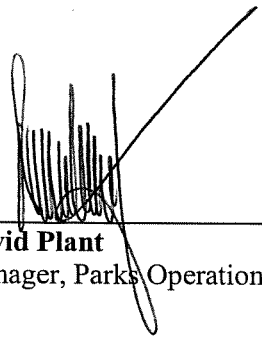
Should Council wish to proceed with an ice monitoring program for Toogood Pond, the option which represents the least amount of risk would be to contract the service to Geniglance Ice Experts, however this is extremely costly for such a limited number of days. The City currently has a highly successful 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.

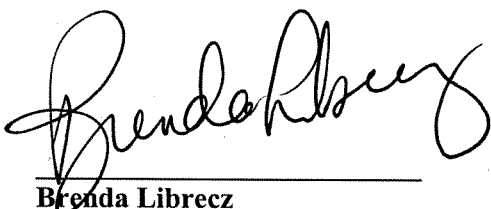
RECOMMENDED BY:



David Plant
Manager, Parks Operations



Barb Rabicki
Director, Operations



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.