

## **Arena closure throws Orillia minor hockey into turmoil - January 20, 2009**

An arena closure in Orillia, Ontario, has sent minor hockey in the region into disarray. The Orillia Community Centre's doors were closed last Wednesday by city council, which cited "structural concerns."

"We are devastated by this news, as the Orillia Community Centre is a well used facility within the city," Orillia mayor Ron Stevens said in a release

Cathy O'Connor, president of the Orillia Minor Hockey Association (OMHA), knows exactly how "well-used" that facility is. "We've lost 54 hours of ice a week," she said. The Orillia Community Centre is one of only two arenas in the city.

Connor, however, describes the situation as "devastating, sickening, and unnecessary." It has had her scrambling to save the house league and rep programs for the season.

"Everybody knew this was coming," she said. "The community centre was on its last legs. It's 50 years old."

O'Connor hopes that the loss of the community centre galvanizes the city to act and build the two-pad arena she thinks the city desperately needs.

"People are outraged, so maybe this is what we needed to get people moving," she said.

For now, O'Connor wants at least a temporary facility built, to save the OMHA a ton of scheduling headaches next season.

"We're going to be putting a lot of pressure on council to get something up," she said.

Source:

<http://www.cbc.ca/sports/hockey/ourgame/story/2009/01/20/orillia-rink-closure.html>

*It was a Saturday like any other, a winter morning that echoed with the sounds of a community stirring to life. At the arena, a peewee hockey team was practicing. More children were in the dressing room, getting ready for their turn. A handful of adults looked on through the glass. And then without warning, it happened. Heavy snow and poor construction conspired to bring the building down, as an inquiry would ultimately conclude. Three of the walls collapsed out, and the roof crashed down. Source: Canadian Press*

On February 28, 2009, 50-years to the day, the Town of Listowel paused to remember the 1959 arena collapse that claimed seven boys that Saturday morning - along with Ken McLeod, Listowel's recreation director. This disaster was instrumental in improving Ontario's recreation infrastructure for years to come!



Listowel Arena Collapse-1959

As much as we would be led to believe that such events no longer occur, the following collapses confirm that this is not true:

- Prince George Civic Arena - 1956
- Hartford Civic Centre - 1978
- Kemper Arena – Kansas City, 1979
- Springhill, N.S. Arena – 2001
- Temagami Arena - 2002
- Fort Chipewyan Arena – 2004
- Bad Reichenall, Germany - 2006
- Fort Nelson BC - 2007
- N. Idaho Ice Arena – 2008
- Le Cheval de Boskydell Arena - 2009

The community of Orillia's programming schedule has been disrupted but when compared to the possible disaster of a building failure community leaders in Orillia must be acknowledged for their leadership. Having parents distraught from a loss of ice time pales when compared to the alternative! What will be brought into light is how the community may have been preparing to meet the needs of the community and how the infrastructure is being maintained – something that you as a reader could be faced with anytime soon. The message thus far is how your aging infrastructure is managed may lead to two separate outcomes based on action or lack of action in respect to ongoing inspection and maintenance.



*Fort Nelson Arena Collapse 2007*

Snow combined with wind and ice build-up is most often the final stress needed to our aging infrastructure to cause disaster. Additional load that shifts due to weather that is unseasonal causes “moving loads” that can significantly contribute to roof failure. Further compounding of the problem may include innovative architectural design and advancements in building practices and materials. Some are producing unexpected or complex issues relating to the accumulation and control of winter precipitation on buildings. Increased awareness of the effects of snow, ice, freezing rain and melt-water accumulation on buildings is a greater requirement. While national building codes continue to advance, to keep up with the increasing creativity and complexity of modern building structures, there is still the need for expert interpretation of the code and ongoing review of the existing building. Facility managers

are reminded that they cannot merely rely on the building code to ensure all potential snow loading patterns on a structure; particularly when there are sloped or curved roofs or otherwise complex shapes!

The ORFA is often contacted to provide guidance and support to members who are trying to determine the life-cycle of their existing recreation infrastructure. Most are looking for firm leadership in determining when a building has exceeded a natural life-cycle. As much as we would like to be able to assist in such projections it would be impossible as there are too many variables at play. We do know through a recent Canadian Recreation Facilities Council (CRFC)/Hockey Canada study that Canadian arenas are getting older and the state of the infrastructure must be carefully addressed. The study revealed that the next generation of facility professionals will be inheriting an estimated 3.7 billion in facility maintenance and improvement debt just to keep the existing building inventory in operation.

Serious consideration does need to be directed to the issue and certain guiding principles applied, including the precautionary principle that Canadian facilities will not last forever!

So, is there a magic building age that should set the planning wheels in motion – some have said **32 years!** This statement is open to debate and as such we will attempt to explain what the proposed age actually identifies and what some of the variables might be to extend the life of the facility. The CRFC/Hockey Canada review of the state of Canada's arenas conducted in 2005 discovered that typically an ice arena's life-cycle was between 30-35 years. In Manitoba, it was stated to be 32-years and as much of Ontario's recreation facilities mirrored Manitoba's design and construction trends, the 32-year marker appears reasonable to adopt. At 32-years of age it does not demand that the infrastructure be torn down, however, at this juncture it is suggested that the original construction costs have now doubled; and technology has significantly improved when compared to the original construction design; and significant changes to building, electrical and plumbing codes have most likely occurred. It is also considered a “tipping point” of where it may be less expensive to tear down the existing facility than to begin replacing original materials such as roofs, siding, HVAC-R equipment in mass

(For example, investing in a new engine and paint job for a 1980 K-car still has someone driving that same “1980” K-car). Further, anyone who has conducted such improvements knows how these projects can quickly escalate in costs as the project starts and new issues are identified that were not part of the original plans for updating.

As we indicated the statement that a typical life expectancy of an arena is 32-years will have many variables. The following information will help clarify this position:

- With the ever-changing outside environmental conditions facilities that did not invest in dehumidification equipment early in the life of the structure will most likely encounter a building that will have significantly reduced life-expectancy.
- Buildings that were made to function outside of the natural capability of the original design (e.g. taking a rink that was designed for a 7-month operational schedule and increasing its operational season) might also have its life expectancy reduced.
- Buildings that are multi-use have more challenges for staff to consider and control. Lack of air balancing between the aquatic and artificial ice pad will further accelerate the buildings demise.
- No or little on-going capital financial investment by the “owners” in the first 30-years will expedite the death of the infrastructure.
- The original construction methods, equipment and materials will greatly influence the longevity of the building.
- And, the final and one of the most important influences is the employee skill to maintain the building on a daily basis through knowledge based upkeep while having the financial resources to meet these needs.

Early investment in these key areas will significantly increase the quality of life for the facility.

A key operational activity that is often tabled due to a lack of resources is the structural integrity report. These professional reviews were mandatory and strictly governed by Ontario’s Ministry of Labour as a 5-year requirement. This governance was shifted to the facility “owner” as their obligation to schedule such inspections as required under the Occupational Health and safety Act to maintain a safe work environment at all times. This shift has generated an opportunity to save financial resources and many of Ontario’s recreation facilities have failed to conduct any real review in 10+years. This review must be emphasized by ORFA members through the budget process! This “due diligence” by ORFA members is vital toward user and worker safety.

The ORFA continues to recommend that detailed professional engineer inspections on all recreation facilities should take place no less than every 60-months. The inspection should be completed for all steel/concrete designs, while aging wooden structures will require reduced inspection schedules.



*US Rink Collapse 2009*

Much of Canada’s recreation infrastructure has surpassed the 32-year mark and we are very much aware of the looming crisis of Canadian recreation infrastructure. There will be buildings that will significantly surpass 32-years of age in their operation and maintain their form and function, while others will struggle in maintaining a quality recreation experience in their “golden years”. The stated age of 32-years should be used as a warning that buildings passing this point will require significant ongoing financial investment to remain safe and serviceable. This

objective needs to be the priority of today's recreation facility management!

The ORFA supports the findings of the CRFC/Hockey Canada report as reasonable timeframes that can be used to generate a more comprehensive site specific life-cycle plan for ORFA members to base their long-term life cycle planning goals on.

As a follow up to this discussion paper, the ORFA contacted the consulting Engineers of Ontario and President John D. Gamble P.Eng. offered the following comments that are re-printed with his permission.

*I am in agreement with the general thesis of your document. While I do not presume to comment on the accuracy of any of the specific cases cited or statistics presented, I do believe your document fairly and reasonably addresses many concerns that arise from underinvestment in infrastructure.*

*From our perspective, we believe the importance of investing sufficiently in professional services at the beginning of a project (engineering and architectural) should also be stressed.*

*Engineering and architectural decisions have significant ramifications for construction, operations and maintenance over the entire service life of infrastructure assets. Investing in engineering services can potentially reduce capital, maintenance and operating costs and increase innovation, reliability and service life. Conversely, reducing investment at the planning and design stages can result in higher capital, operating and maintenance costs down the road – as well as diminished service life. Therefore, the presumption that obtaining professional services at the lowest price represents the best value to owners and ratepayers is erroneous and short sighted. Price-based competition is especially ill-suited for such professional services such as engineering.*

*The procurement process recommended by CEO is the Best Practice – Selecting a Professional Consultant developed by the National Guide to Sustainable Municipal Infrastructure (InfraGuide) in 2006. InfraGuide is a collaboration of the National Research Council and the Federation of Canadian Municipalities and has produced over 50 best practices –*

*written by the public sector for the public sector – and is recognized as being the leading national authority on the delivery of infrastructure projects. This Best Practice is available from the Federation of Canadian Municipalities or from [www.thebestpractice.ca](http://www.thebestpractice.ca). It recommends a qualifications-based selection (QBS) method that is endorsed by Ontario's Municipal Engineers Association and by the American Public Works Association. This approach is used extensively across the United States and in Western Canada and has been recently adopted by the City of London in Ontario.*

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