



View overlooking the installation of the Iceland Artificial Turf Facilities. Photo Credit: Stefan Szczepanski, City of Mississauga

Artificial Turf: An Alternative to Natural Sports Turf? You Decide!

STEFAN SZCZEPANSKI AND SUSAN MENTIS, CITY OF MISSISSAUGA • ANNUAL FIELD DAY COVERAGE CONTINUED

The science of sports turf, whether sand-based or natural grass, continues to be a topic for study and innovation. When it comes to meeting the needs of sports programs, whether it be professional, institutional or municipal based, sports fields require the services and involvement of both designers and sports turf managers to provide the appropriate facility for the intended uses. What does it all come down to? What's the bottom line? That depends on who and what your interests are.

Those involved in the development and delivery of sports turf programs may have varying opinions and contrasting preferences on what is important to the success of a sports turf field:

1. The financial planners want a field that pays for itself.
2. The buyers want a field that is fiscally accountable.

3. The programmers want a field that they can permit to its limit.
4. The user groups want a field that performs at all times as if it were new.
5. The sports turf managers want a field that can perform and respond under maximum use.

The goals of a sports turf program can be both numerous and contrasting based on personal interests but, the bottom line is performance and with the "sports turf" moniker, expectations are always "high."

The new generation of in-fill artificial turf products are giving providers of sports turf facilities new options in high performance. Does this mean sports turf will eventually be replaced by artificial turf? Probably not. Most of us have heard the saying, "use the right tool for the job."

In planning a sports turf facility, whether artificial or natural, the objectives are the same. The questions arise in the

assessment of the business case and the costs benefit analysis.

Do the benefits outweigh the costs after assessing? You decide!

The City of Mississauga Community Services Department has recently invested both time and resources to research and investigate the process of implementing and constructing artificial turf facilities. The first season of operations for two soccer fields is underway at Iceland, Park 357. Some of the factors and key values that were integral to the business case investigation for this project included such notable items as:

Capital Costs

- A natural sand-based turf soccer field can cost up to \$500,000.
- An artificial turf installation can amount to two times the cost of a natural turf field.

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Usage

- A continuing debate surrounds the number of allowable events before a natural turf field will show signs of wear. Defining season length by geographic climates, event numbers can vary between 224 in Mississauga, Ontario to 360 in British Columbia. Some proponents of sports turf fields say the number should be as low as 100.
- A properly constructed artificial turf field will have no restrictions on numbers of allowable events. Even tournaments, which are typically allocated over many fields to lessen the impact, can be played on one field.

Seasonal Implications

- The natural turf season is governed by the turf growing period. The prime season in Mississauga is sixteen weeks, essentially June to September.
- The artificial turf season includes the same prime season, however, the seasonal advantages lie in the ability to also operate during the shoulder seasons in early spring and prior to the first snowfall. This extends the season for the field to 28 weeks of unlimited use.
- It is also possible to use the artificial turf field during the winter months as the field will not freeze solid and the snow can be removed from the surface for play.

Operating Costs

- Operating costs for natural turf fields will vary from operator to operator as will the degree of maintenance, materials and the required equipment. Annual maintenance costs for a natural sand-based sports turf can vary between \$11,000 and \$30,000.
- Annual maintenance costs on an artificial turf field can run around \$3,000.
- Annual irrigation costs associated with natural turf can also vary from \$5,000 to \$7,000 depending on the climate and scheduling.
- Artificial turf irrigation costs are eliminated.
- Natural turf life cycle repairs are unknown and can occur through innocent mis-use or mis-management.

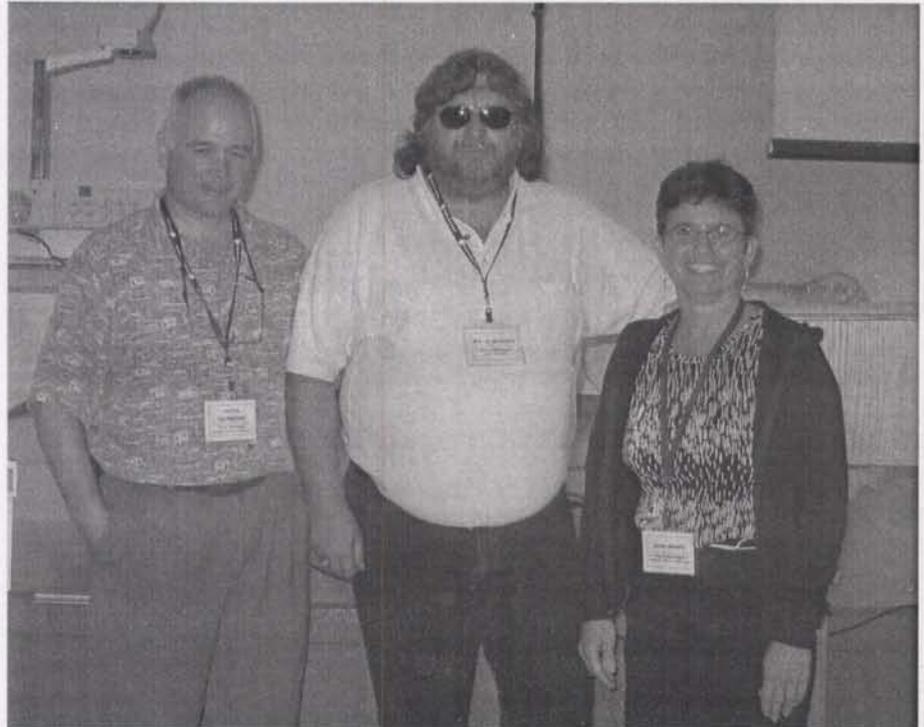
- Artificial turf products are designed and manufactured to consistently perform.

Performance

- Durability of natural turf fields rely greatly on the results of proper management, maintenance procedures and weather. Field closures and program cancellations can occur.

turf event numbers translates to a moderate use ratio of three to one fields.

- Comparing the maximum number of events of a natural turf field to the "maximum capacity" of an artificial turf, translates to a use ratio of five to one fields.
- Assuming a 12 year lifespan before a major reconstruction of a natural or



From left to right: Stefan Szczepanski, Murray Glassford and Susan Mentis.

- Artificial turf fields remove any inconsistencies with field performance. There is a reduced focus on management and maintenance. Fields provide a consistent quality playing surface even under extreme impacts of heavy use and poor weather.

Efficiencies

- The City of Mississauga has determined a natural turf sports field can sustain 224 events per year based on City practice of program allocation, sports turf management and maintenance practices.
- Adopting a "conservative" approach to permitting an artificial turf field, the City of Mississauga has set a benchmark of 616 events per year. Comparing the maximum number of events of a natural turf field to the "conservative" artificial

artificial turf and the capital and operating cost requirements for each field, the costs per event comparison can be calculated as \$427 per event on natural turf versus \$246 per event on artificial turf.

Infill artificial turf products in the sports turf industry are still a relatively new technology. Research has shown that the oldest field in North America to use this technology is no more than seven years. Manufacturers continue to promote research and development and improve the technology with performance being imperative. The principle is right and exactly what the sports turf industry strives to achieve. Will artificial turf replace natural sports turf? The jury is out – you decide! ♦