Q & A: Robron Park All Weather Field Upgrade Project

In the Summer of 2015 the Robron Park All Weather Field Upgrade Project will commence. The following questions and answers are intended to provide an overview of the project.

1. **What is the project?**
   This project includes the supply and installation of a new artificial turf, all weather field to replace the existing soccer field. This new playing surface will allow user groups future access to a turf surface throughout the entire year.

2. **Where is the project?**
   The project is located at Robron Park and will involve the replacement of the existing soccer field.

3. **When is the construction work going to take place?**
   Construction is expected to commence in the late Summer 2015 and completion is anticipated to be achieved by late Fall 2015.

4. **What is the cost of the project?**
   The project budget was approved by City Council at $2.62m. Funding is being provided by Parks Parcel Tax and Capital Lending Reserve.

5. **Who has been involved in developing the plans?**
   In 2010, HB Lanarc of Nanaimo, developed the park master plan with stakeholder input which included a provision for an all weather field. Highland Engineering Ltd. of Campbell River has been contracted to complete the design and act as the contract administrator for this project.

6. **Who will be constructing the work?**
   It is anticipated that the construction contract will be publically tendered in Summer 2015 and presented to Council for approval of award such that work can commence this year.

7. **How will traffic be managed during construction?**
   Traffic management during construction will be the responsibility of the contractor doing the work. It is anticipated that all of the work is limited to the park; however, there will be equipment and truck traffic in the area. As details of the traffic management plan are finalized we will update the City's website page with any traffic related impacts.

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Synthetic Turf Questions and Answers

Sources: www.bellvuewa.gov & www.syntheticturfcouncil.org/?page=FAQs

Q: What is synthetic turf?

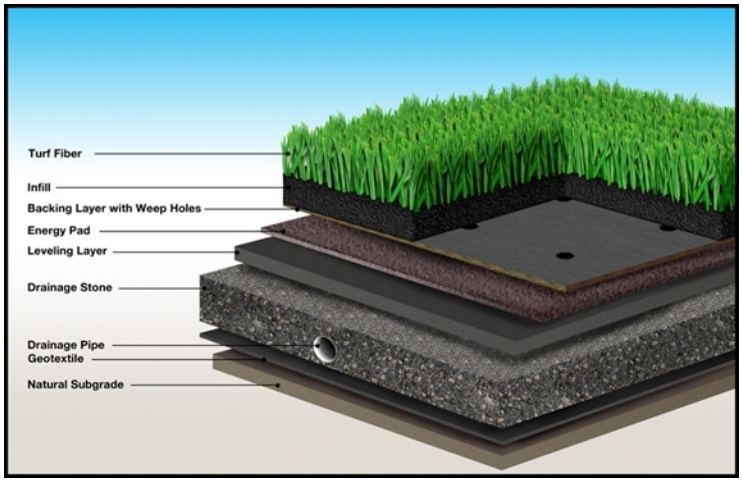
The latest generation of synthetic turf is a grass-like ground cover used on athletic fields to provide a consistent year-round, all-weather playing surface built to withstand extended use, even in wet weather. Synthetic turf provides a lower-maintenance, weed-free surface that looks like grass and doesn't need to be watered or fertilized.

Q: Are there limitations or special rules regarding the use of synthetic turf fields?

While the majority of sports and outdoor activities played on natural grass can also be played on synthetic turf, a few special rules apply to synthetic surfaces that may limit use. These include no in-ground staking/poles/accessories, no painting of lines or markings, no dogs and no metal cleats.

Q: How is synthetic turf made?

Most synthetic turf systems installed today include a drainage layer, a multi-layered backing system, and resilient artificial grass blades that resemble natural turf interspersed with a granular filler, a top soil created with sand and/or granulated recycled rubber or other materials to provide stability, uniformity, and resiliency. The typical blade length and system characteristics are determined by the specific activity requirements.



Q: How is the new generation of synthetic turf different from that of the past?

While the first artificial turf systems used in the 1960s and 1970s were hard, significant advancements have been made during the past few decades. By the 1990s, the first synthetic turf systems with sand and rubber infill were introduced, which dramatically improved player performance and safety. Today's synthetic turf, used by many professional teams and international sports federations, combines the playing characteristics, look and feel of natural turf, with the advantages of increased frequency of use. Also, today, synthetic turf is made without lead as a pigment ingredient, in response to a request made of all industries to remove lead from all products, if possible.

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Q: Why has synthetic turf become so popular over the past few years?
A grass field simply cannot remain lush and resilient if it is used more than three to four days a week, or in the rain, or during the months when grass doesn't grow. Also, the demand for access to sports fields is increasing, to the point where more than 8,000 multi-use synthetic turf sports fields are now used in North American schools, colleges, parks and professional sports stadiums.

Q: Which other communities on Vancouver Island are using or planning to install artificial turf fields?
Courtenay, Port Alberni, Nanaimo, Ladysmith, North Cowichan and several in the Greater Victoria area.

Q: How do costs and economic benefits compare between synthetic and natural turf field?
A synthetic turf field usually has a higher upfront cost to install, but because the field allows more hours of play (expected to be approximately 1,500 hours per year locally), it provides the equivalent of two well-maintained natural turf fields – so there are more hours of use, and the cost per hour of use is less.
In addition, synthetic turf maintenance costs are less than natural turf, since no mowing, irrigation or fertilizers are needed.
Because synthetic turf provides a consistent year-round, all-weather playing surface built to withstand extended use, even in wet weather, it provides increased opportunity for sports groups to host tournaments, bringing more visitors to our community, which supports the local economy.

Q: Will heat be an issue on a local synthetic turf field?
During the summer months on hot sunny days, when synthetic turf is exposed to direct sunlight, some synthetic turf fields have reported surface temperatures hotter than the surface temperature of a natural turf field. In such conditions, coaches would likely schedule practices and games for the cooler times of day, and limit the number and duration of practices. They would also follow heat-acclimation guidelines published by the National Athletic Trainers' Association.

Q: Will rain make artificial turf slippery?
Made with resilient materials for safety, synthetic turf sports fields are always ready to play on. Traction, rotation and slip resistance, surface abrasion and stability meet the rigorous requirements of the most respected sports leagues and federations, and recent studies indicate that the injury risk of playing on synthetic turf is no greater than natural grass.

- Three 2010 long-term studies published by researchers from Norway and Sweden compared acute injuries on synthetic turf and natural grass. The studies examined the type, location and severity of injuries sustained by hundreds of players during thousands of hours of matches and training over a four to five year period. Many types of acute injuries to men and women soccer players, particularly knee injury, ankle sprain, muscle strains, concussions, MCL tears, and fractures were evaluated. The researchers concluded that the injury risk of playing on artificial turf is no greater than playing on natural grass.

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- An analysis by FIFA's Medical Assessment and Research Centre of the incidence and severity of injuries sustained on grass and synthetic turf during two FIFA U-17 World Championships. According to FIFA, "The research showed that there was very little difference in the incidence, nature and causes of injuries observed during games played on artificial turf compared with those played on grass."
- A 2004 NCAA study among schools nationwide comparing injury rates between natural and synthetic turf found that the injury rate during practice was 4.4% on natural turf, and 3.5% on synthetic turf.

Q: Can synthetic turf hold up under heavy use?

Yes, one of the important advantages of synthetic turf is its ability to hold up under very heavy use. While natural turf shouldn't be played on during or immediately after a rain storm, after the application of pesticides and fertilizers, or during the months when grass doesn't grow, synthetic turf is always ready for play. Regular maintenance is important to enable synthetic turf to withstand the heavy use that it is often subjected to.

Q: Does synthetic turf fade?

The warranty typically includes a guarantee against fading for a certain number of years. The greater the intensity of the sunlight, the shorter the lifespan of the fibre. A field in the southern US will not last as long as the same field located at the 50th parallel.

Q: How long can a synthetic turf field be used?

Synthetic turf sports fields are typically warranted for eight years, but their life expectancy will depend to a great extent on the amount and type of use and the maintenance it receives.

Q: Is maintenance of synthetic turf required?

While much less time and money is required to maintain a synthetic turf sports field than a natural grass field, synthetic turf needs to be maintained through sweeping and cleaning to maximize playability and the life of the product according to proper maintenance techniques and frequency.

Q: What options are there for disposing of synthetic turf once it has reached the end of its useful life other than putting it in a landfill?

In January 2013, a review of the various options that exist for the Removal, Recovery, Reuse & Recycling of Synthetic Turf and Its System Components includes recycling. The City would follow best practices in disposing of synthetic turf materials.

Q: What are the different types of infill materials?

The City's request for proposals to provide a synthetic turf field will consider all options for infill materials. Below is a list of types of infill that could be suggested for the Robron field.

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- **Crumb Rubber**: Crumb rubber comes from used car and truck tires that are ground up and recycled. Two types of crumb rubber infill exist: ambient and cryogenic. Together these make up the most widely used infill in the synthetic sports field and landscape market.

- **Coated Rubber Infill**: Both ambient and cryogenic rubber can be coated with colorants, sealers, or anti-microbial substances if desired. Coated rubber provides additional aesthetic appeal, reduction of dust by products during the manufacturing process and complete encapsulation of the rubber particle.

- **EPDM Infill**: EPDM (Ethylene Propylene Diene Monomer) is a polymer elastomer with high resistance to abrasion and wear and will not change its solid form under high temperatures.

- **Organic Infill**: There are several organic infills available in the North American market, all using different organic components, such as natural cork and/or ground fibres from the outside shell of the coconut. These products can be used in professional sports applications as well as for landscaping. At the end of its life cycle it can be recycled directly into the environment.

- **Sand (Silica) Infill**: Pure silica sand is one of the original infilling materials used in synthetic turf. This product is a natural infill that is non-toxic, chemically stable and fracture resistant. Silica sand infills are typically tan, off-tan or white and, depending upon plant location, may be round or sub-round in particle shape. As a natural product there is no possibility of heavy metals, and the dust/turbidity rating is less than 100. It can be used in conjunction with many other infills on the market to provide a safe and more realistic playing surface. The round shape plays an integral part in the synthetic turf system. It is important that silica sand have a high purity (greater than 90%) to resist crushing and absorption of bacteria and other field contaminants. Silica sand can either be coated with different materials as a standalone product or can be used to firm up in combination with traditional crumb rubber infill systems.

- **Coated Silica Sand Infill**: This class of infill consists of coated, high-purity silica sand with either a soft or rigid coating specifically engineered for synthetic turf. These coatings are either elastomeric or acrylic in nature (non-toxic) and form a bond with the sand grain sealing it from bacteria to provide superior performance and durability over the life of a field. Coated sand is available in various sizes to meet the application's needs.
- Depending on the amount and type of infill, coated sands can either be used with or without a pad and are available in various colors. All of the coatings are non-toxic and are bonded to the quartz grain for superior performance and durability over the life of your field. These materials are typically used as a homogenous infill which provides both ballast and shock absorbing qualities to a synthetic turf application.

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- **TPE Infill**: Thermo plastic elastomer (TPE) infill is non-toxic, heavy metal free, available in a variety of colors that resist fading, very long lasting, and 100% recyclable and reusable as infill when the field is replaced. TPE infill, when utilizing virgin-based resins, will offer consistent performance and excellent *g*-max over a wide temperature range.

Q: Do synthetic fields pose health risks or environmental hazards?
In response to a request from North Cowichan, a letter dated April 8, 2015 from Island Health appears on the final page of this document.

Current research studies commissioned by government health agencies, universities, independent laboratories, health and safety study groups and environmental organizations conclude that newer generation synthetic turf systems using article turf and crumb rubber have no known health or environmental risks.

Here are samples of such studies and reports.

Artificial Turf: Environmental and Occupational Disease and Epidemiology
www.nyc.gov/htm/doh/html/eode/eode-turf.shtml

Are the benefits worth the environmental and health risks?
http://wwwchildrenenvironment.org/pdf/turf_presentation.pdf

Potential health and environmental effects linked to artificial turf systems
http://www.isss.de/conferences/Dresden%202006/tecnical/NBI%20Engelsk.pdf

A survey of microbial populations in In-filled synthetic turf systems
http://cropsoil.psu.edu/mcnitt/microbial/discussioncfm

Evaluation of health effects of recycled waste tires in playground and track products
http://www.ciwmb.ca.gov/Tires/Pubs.htm (scroll research papers)

Initial evaluation of potential human health risks associated with playing on synthetic turf fields on Bainbridge Island
http://www.syntheticturfcouncil.org.

Evaluation of playing surface characteristics of various In-filled systems
http://cropsoilpsu.edu/mcnitt/infill8.cfm

An assessment of chemical leaching, releases to air and temperature at crumb rubber synthetic fields http://www.dec.ny.gov/chemical/46856.html

Consumer products safety commission findings http://www.cpsc.gov/cpscpub/prerel/prhtml08/08348.html

Additional health information:

More than 50 independent and credible studies from groups such as the U.S. Consumer Product Safety Commission, U.S. Environmental Protection Agency and statewide governmental agencies such as the New York State Department of Environmental Conservation, New York State Department of Health and the California Environmental Protection Agency, have validated the safety of synthetic turf (see Position Statements to learn more). For 40 years, under EPA oversight and OSHA-regulated manufacturing, not one person has ever reported ill effects related to any materials associated with synthetic turf. Recent highlights include:

- In October 2010, the California Office of Environmental Assessment completed its multi-year study of air quality above crumb rubber infilled synthetic turf, and bacteria in the turf, and reported that there were no public health concerns.
- In July 2010, the Connecticut Department of Public Health announced that a new study of the risks to children and adults playing on synthetic turf fields containing crumb rubber infill shows "no elevated health risks."
- A December 2009 U.S. Environmental Protection Agency scoping study of the health risks from inhalation, ingestion, and dermal contact with synthetic turf and crumb rubber found every test result to be "below levels of concern."
- The California EPA released a report dated July 2009 which indicated there is a negligible human health risk from inhaling the air above synthetic turf.
- Independent tests conducted by the New York State Department of Environmental Conservation and New York State Department of Health, released in May 2009, proved there were no significant health concerns at synthetic turf fields.
- In July 2008, a U.S. Consumer Product Safety Commission staff report approved the use of synthetic turf by children and people of all ages. See Independent Research to learn more.

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island health

April 8, 2015
16608

Ernie Mansueti
Director of Parks & Recreation
PO Box 278
7030 Trans-Canada Highway
North Cowichan, BC V9L 3X4

Dear Mr. Mansueti:

Thank you for your inquiry March 5, 2015 regarding the health implication of synthetic turf fields. I have been very fortunate over the past few weeks to have had the assistance of Dr. Geoff McKee, who has done an extensive review of the subject for my office.

As with many issues of potential contention, there are multiple facets to the question. While risk elimination is a laudable goal, where the actual risk can be measured through toxicological or other studies, this helps determine what if any substantive concerns exist with various activities or technologies. The review of synthetic turf has identified many potential concerns with components of the product should exposures be of much higher levels than exist during the real life scenarios associated with installation and use on an outdoor field in the North Cowichan region. These concerns might be quoted by those who oppose such an endeavor and the detailed information may be useful in quantifying the actual risk.

Our question was one of determining if the measurable risks exceed the current acceptable national thresholds for health outcomes. A comparison of outcomes of injuries between synthetic and natural turf was undertaken. Other health outcome measures of synthetic turf were not identified that were tangible concerns in the Island based climate as such comparison analysis with natural turn is not included in this review such as the use of pesticides and other chemical treatments used for maintenance.

As with any potential exposure, there is ongoing research which may further document concerns. Uncertainty is inherent in regarding at what point is evidence sufficient to absolutely state safety, and in typical scientific fashion, the conclusions reflect the potential for additional information. The final conclusion of the report "given the current available evidence it is concluded that the existing information does not suggest that synthetic turf fields have a substantive independent effect on human health" speaks to the comparative safety that has been identified in the use of synthetic turf for outdoor recreational field settings. Our office is more than willing to review additional "evidence" that may be submitted in relation to this topic should persistent concerns be noted.

Yours in Health,

Paul Hasselback, MD, MSc, FRCPC
Medical Health Officer

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