



## **REQUEST FOR PROPOSAL**

**NWRFP-15-29**

### **Mercer Stadium: Supply and Installation of Synthetic Turf**

**Closing Time:**

Thursday, November 26, 2015, 2015  
3:00 PM, Local Time, Vancouver BC

**Closing Location:**

Main Information Desk  
City of New Westminister  
511 Royal Avenue,  
New Westminister, BC, V3L 1H9

**Further requests for information :**

**Purchasing: Heather Rossi**

Intermediate Buyer  
Telephone: 604-515-3781  
Facsimile: 604-527-4509  
Email: nwpurchasing@newwestcity.ca

<b>COMPANY NAME</b>		
Street Address:		
City Province Postal Code		
Contact Name:		
Telephone number:		Fax:
Email		Date:
<u>Signature:</u> by officer with express authority to bind the Proponent to the statements made in the Proposal		

**CORPORATION OF THE CITY OF NEW WESTMINSTER**

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**CORPORATION OF THE CITY OF NEW WESTMINSTER****1.0 DEFINITIONS**

- 1.1** “Agreement” “Contract” “Services Agreement” means a contract that may be issued to formalize with the successful Proponent through a negotiation process with the City based on the proposal submitted and will incorporate by reference the Request for Proposal, any addenda issued, the Proponent’s response and acceptance by the City.
- 1.1** “City” “Owner” means City of New Westminster.
- 1.2** “Consultant” “Contractor” “Project Manager” means the person(s), firm(s) or corporation(s) appointed by the City to carry out all duties, obligations, work and services first contemplated in the Request for Proposal and all associated documentation, which may also include mutually agreed revisions subsequent to submission of a Proposal. Both “Consultant” “Contractor” “Project Manager” and “Proponent” are complimentary in terms of duties, obligations, and responsibilities contemplated at the Request for Proposal stage, through evaluation process, execution, and performance of the Services.
- 1.3** “Mandatory” “Must” “Shall” “Will” mean a requirement that must be met.
- 1.4** “Product” means, unless the context requires otherwise, any and all articles, goods, materials, supplies, commodities, machinery, equipment and fixtures to be supplied by the Contractor that comprise a portion of the Services, but specifically excluding facilities, equipment and materials used or constructed to carry out the Services that are not incorporated permanently into the Services.
- 1.5** “Proponent” means responder to this Request for Proposal.
- 1.6** “Proposal” means the submission by the Proponent.
- 1.7** “Provide” “Supply” shall mean provide and pay for, and supply and pay for.
- 1.8** “Request for Proposal” “RFP” shall mean and include the complete set of documents, specifications, drawings, and addenda incorporated herein, and included in this Request for Proposal.
- 1.9** “Services” means and includes the provision by the successful Proponent of all services, duties and expectations as further described in this RFP.

## CORPORATION OF THE CITY OF NEW WESTMINSTER

### 2.0 INTRODUCTION

The City is seeking to undertake improvements to the existing artificial turf sports field at Mercer Stadium, and is currently seeking proposals from qualified firms with requisite experience in the supply and installation of synthetic turf.

Proponents are advised that the City has initiated a separate tender process for a civil contractor to undertake removal of existing turf, construct fencing and other work including field base and drainage improvements. These works will be completed in advance of the supply and installation of synthetic turf. The City expects the successful proponent to work collaboratively with the civil contractor to ensure the timely and satisfactory completion of this project.

### 3.0 PROPOSAL INSTRUCTIONS

One electronic plus one hard copy (including one turf sample) of the Proposal, are to be submitted and clearly marked on the outside envelope or box as follows:

**NWRFP-15-29**  
**Mercer Stadium: Supply and Installation of Synthetic Turf**  
Attention: Purchasing Manager

The City will receive Proposals at the location and time indicated on the title page of this Request for Proposal.

It is the Proponent's responsibility to ensure that the City receives its Proposal prior to the stated closing time. The City may nevertheless choose to consider late proposals. The City does not accept facsimile, electronic mail, or other unsealed submissions.

Requests for clarification or further information must be made in writing only to the individual identified on the first page of this RFP. The City will respond to enquiries that it, in its sole discretion, considers relevant to this RFP. The City intends to respond only to those relevant written enquiries received at least ninety-six (96) hours prior to the closing time. The City will record enquiries and post written responses on its website at [City of New Westminster | Bid Opportunities | Business | Request for Bids & Proposals - Open](#)

### 4.0 BID SECURITY, PERFORMANCE BONDING AND GUARANTEES

4.1 All Proponents are required to provide with their Proposal, Bid Security in a form acceptable to and payable to the City of New Westminster. The amount of the Bid Security must be equal to ten percent (10%) of the Total Proposal Price (excluding GST), and one of the following types:

- a) Bid Bond;
- b) Certified Cheque;
- c) Irrevocable Letter of Credit; or
- d) Bank Draft.

4.2 If, after Award of Contract, the Proponent refuses to enter into the Contract, the Bid Security (if any) may be forfeited to the City of New Westminster because of its damages, without prejudice to the City's remedies for the Bidder's breach of contract.

4.3 **Failure to provide Bid Security (when required) will result in disqualification of the Proponent.**

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- 4.4** The Successful Proponent will be required to provide to the City of New Westminster, in a form acceptable to the City, **Performance Security** in an amount equal to fifty percent (50%) of the Contract Price, and in one of the following types:
- Certified Cheque;
  - Irrevocable Letter of Credit;
  - Bank Draft; or
  - A Performance Bond.
- 4.5** The Successful Proponent will be required to provide to the City of New Westminster, in a form acceptable to the City, **Labour and Material Payment Security** in an amount equal to fifty percent (50%) of the Contract Price, and in one of the following types:
- Certified Cheque;
  - Irrevocable Letter of Credit;
  - Bank Draft; or
  - A Labour and Material Payment Bond, the Bond must be a Broad Form bond protecting all companies with a direct contract with the Principal or any Sub-Contractor of the Principal.

### **5.0 GENERAL CONDITIONS**

#### **5.1 NO CONTRACTUAL OBLIGATIONS AS A RESULT OF RFP OR PROPOSAL**

This is a Request for Proposal, and not a call for tenders or request for binding offers. The City does not intend to enter into contractual relations as part of this RFP process and no contractual obligations whatsoever will arise between the City and any Proponent who submits a Proposal in response to this RFP until and unless the City and a Proponent enter into a formal, written contract for the Proponent to undertake this project. Attached for reference is the City's Supplementary Conditions to CCDC –2008 Contract (Appendix B).

#### **5.2 OWNERSHIP OF PROPOSALS AND FREEDOM OF INFORMATION**

All documents submitted to the City in response to this RFP or as part of any subsequent negotiation will become the property of the City, and will not be returned. Proponents should also be aware that the City is subject to the provisions of the *Freedom of Information and Protection of Privacy Act* (FOIPPA) ("Act"). A Proponent may stipulate in their Proposal that a portion(s) of their Proposal that contains confidential information and are supplied to the City in confidence. However, under FOIPPA, the City may nevertheless be obligated to disclose all or part of a response pursuant to a request made under the Act, even if the Proponent has stipulated that part of their Proposal is supplied in confidence. The Proponent should review Section 21 and other provisions of FOIPPA in order to gain a better understanding of the City's disclosure responsibilities under the Act.

#### **5.3 CONFIDENTIALITY OF CITY INFORMATION**

This RFP and all information provided by the City to a Proponent is provided on a confidential basis, and Proponents will not disclose any such information to any person (other than the Proponent's legal advisers) without the City's prior written consent, nor may any Proponent publicize or advertise its involvement with this RFP process or the City in connection therewith without the prior written consent of the City.

#### **5.4 PROPONENT'S EXPENSES**

For clarity, Proponents will be solely responsible for their own expenses incurred in preparing a Proposal or in any subsequent negotiations with the City.

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### 5.5 CONTACTING CITY REPRESENTATIVES

Proponents shall not contact City elected officials, officers or employees directly or indirectly regarding this RFP, except as indicated in this RFP.

### 5.6 CONFLICT OF INTEREST

By submitting a Proposal, the Proponent confirms that neither it nor any of its officers, directors, employees or proposed subcontractors, has any financial or personal relationship or affiliation with any City elected official, officer or employee or their immediate families which might in any way create or be perceived to create a conflict of interest.

If any of the Proponent's officers, directors, employees or subcontractors, has any financial or personal relationship or affiliation with any elected official, officer or employee of the City of New Westminster or their immediate families which might in any way be seen or perceived, in the City's sole and unfettered discretion, to create a conflict of interest, the Proponent must disclose the relationship in the outset of their Proposal.

### 5.7 INSURANCE

The successful Proponent will, without limiting its obligations or liabilities and at its own expense, provide and maintain throughout the Contract term, the following insurance with insurers licensed in British Columbia in forms acceptable to the City:

- a) Proof of Insurance as required under the CCDC-2 2008 Contract and the Supplementary General Conditions of this Invitation to Tender, Section GC-11.1 Insurance;

### 5.8 PERMITS AND LICENSES

The successful Proponent will be required to obtain a City of New Westminster or Inter-Municipal Business license prior to commencement of work.

### 6.0 LIVING WAGE EMPLOYER

Effective January 1, 2011, the City of New Westminster became a "Living Wage Employer". As such, the City has established a [Living Wage Policy](#) that requires all firms that are contracted by the City to provide services on City premises, to pay their employees, who perform said service on City property, a Living Wage as calculated by the Living Wage for Families Campaign. The figure for 2015 for the Lower Mainland is \$20.68, assuming no benefits are provided by the employer.

In order to determine an employee's hourly rate with benefits the Living Wage for Families has created a Living Wage Calculator to assist with this determination. Please access the following website to determine your compatibility. <http://www.livingwageforfamilies.ca/employers/living-wage-calculator/>

The City includes in all its competitive bid documents a Declaration referencing the City's expectations with regards to compliance of the Policy (attached as Appendix A). Completion and submission of the Declaration is required prior to Contract award.

In evaluating submissions, the City intends to rely on the Declaration provided by a Respondent and shall have no obligation or duty to investigate the truthfulness of the Declaration. Please review the City's [Living Wage Policy](#) for further information.

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### **7.0 SUMMARY OF WORK**

**7.1** The scope of work includes the provision of all labour, material, equipment, transportation and services to supply and install complete a new vertical draining synthetic turf surfacing system and associated work on one multi-use sports field at Mercer Stadium, 701 Eighth Avenue, New Westminster, BC. The synthetic turf is to be suitable for soccer, football, and lacrosse games and practises as well as physical education and general sports and recreation use.

### **8.0 MATERIALS AVAILABLE TO SUCCESSFUL PROPONENT**

**8.1** The City is able to provide drawings in digital format to assist with the production of line marking shop drawings.

### **9.0 SCHEDULE**

**9.1** The proposed project schedule is indicated below

- a) Start of Civil Work Construction May 2, 2016
- b) Field base ready for Turf June 27, 2016
- c) Commencement of Work July 4, 2016
- d) Turf install complete August 15, 2016
- e) Gmax testing complete August 31, 2016

### **10.0 DELIVERABLES**

**10.1** The scope of work for the synthetic turf surfacing system is to be as shown on the Project Drawings and specified in this Request for Proposal (RFP). The general components of work include:

- a) Design, manufacture, and install a new infilled synthetic turf surface to accommodate in the order of 3,000 hours of organized sport related use per year
- b) Design the synthetic turf system to meet the minimum performance testing requirements outlined in the Specifications and Technical Product Data Sheets. A portion of the technical requirements includes meeting the minimum FIFA One Star testing. Note that post construction FIFA certification will not be required as part of this RFP.
- c) Coordinate and cooperation with the City-retained civil contractor responsible for constructing the field base, concrete edge anchor and drainage systems improvements (as applicable).
- d) Review and acceptance or certification of installed work of other trades directly affecting the Work of this Contract, especially of the gravel base as it applies to installation of the turf system and the Warranty.
- e) Supply and installation of a complete synthetic turf surfacing system including the synthetic turf, all infill material, shock pad (if applicable) and other items described in the Specifications. The total surface area of the new synthetic surface is approximately 10,300 square metres. This area refers to the finished surface area of the turf (as measured at the face of the concrete edge anchor) and does not account for any additional material required for either joining seams, inlaying lines and markings or anchoring the turf around the edges of the fields. The amount quoted will apply provided the actual total surface area of the synthetic turf field at completion is within one percent (1%) of the field area as described above.
- f) Install and final survey of all tufted in and inlaid (as applicable) field sport lines and markings in accordance with the Specifications.
- g) Provide extra turf materials to the City for future repair and protective purposes as described in the Specifications.

## **CORPORATION OF THE CITY OF NEW WESTMINSTER**

- h) Provide maintenance and operating manuals (in electronic format) on a compact disk, as described in the Specifications.
- i) Hire an independent testing agency approved by the City to complete all laboratory testing in accordance with the Specifications.
- j) Hire an independent testing agency approved by the City to complete G-Max testing in accordance with ASTM F355 Procedure A.
- k) Provide one four-hour (minimum) workshop for City staff for the purposes of routine maintenance training and instruction on minor turf repairs. The workshop will be held at a location provided by the City on a date and time determined by the City. The Contractor will supply any equipment needed for the workshop and will also provide at least one experienced synthetic turf installer to demonstrate proper turf repair methods. The City will make efforts to accommodate any reasonable requests of the Contractor with respect to scheduling of the workshop.
- l) Provide full replacement minimum eight (8) year Warranty in accordance with the requirements of the Warranty section of this document.
- m) Various additional related works as outlined in the Performance Specifications and Drawings.

### **11.0 PROPOSAL FORMAT AND PREPARATION**

**11.1** Proponents **must** complete and submit the Form of Proposal attached in Schedule A. Additional information may be submitted if needed to respond fully.

**11.2** A sample of each proposed turf Product must be provided with the proposal.

**11.3** Technical Product Data Sheets are to be completed and submitted for each turf product proposed.

### **12.0 PROPOSAL EVALUATION AND SELECTION**

**12.1** The City of New Westminster will evaluate all submitted valid Proposals. The object of the evaluation and selection process is to identify the Proposal that, in the City's opinion offers the best value for the Products and/or Services requested.

**12.2** The City is not obligated to accept the lowest priced Proposal or any Proposal, and may reject all submissions.

**12.3** The City has the absolute right to accept or reject any Proposal for any reason, to negotiate with any Proponent or Proponents and to evaluate the Proposals in accordance with all information submitted by the Proponents and to abandon the RFP at any stage, for any reason.

**12.4** There shall be no obligation on the part of the City neither to receive further information, whether written or oral, from any Proponent nor to disclose the nature of any Proposal received.

**12.5** The City at its discretion, may invite some or all Proponents for an interview to provide clarifications of their Proposals. In such event, the City will be entitled to consider the answers received in evaluating Proposals.

**12.6** The City may award a Contract to the Proponent whose submission, in the City's sole discretion, provides the best overall value to the City for the work. In evaluating the overall value to the City for the work in respect of each submission received, the City, in addition to price, will have in mind its critical goals of obtaining a high quality product in accordance with the schedule established under the Request for Proposal documents.



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- 12.7** In evaluating overall value, the City may consider, without limitation, price, qualifications and past experience of Proponents, availability of necessary work forces and other resources, proposed methodology and schedule for completing the work, and the past performance of Proponents on similar projects in respect of quality of work, timeliness of work, costs of contract administration to the owner of the project, and costs associated with claims for extras in respect of the project. In this regard, considerations other than price may be of greater weight in the City's evaluation of submissions received.
- 12.8** Proposals will be evaluated based on the following criteria:
- a) Experience, Reputation and Resources
  - b) Technical Proposal (responses in Form of Proposal)
  - c) Proposed product
  - d) Financial considerations
- 12.9** Proposed project teams must be capable of completing all identified tasks; the City will not consider partial submissions.
- 13.0** **REFERENCES**
- 13.1** **NOTE: Failure To Provide References May Result In Disqualification**



Corporation of the City of  
**NEW WESTMINSTER**

**NWRFP-15-29**

**SCHEDULE A**

**Form of Proposal**

**This schedule must be completed and submitted with your proposal.**

**FORM OF PROPOSAL**

**Schedule of Prices**

All prices shall include all Taxes, but shall not include GST, which shall be shown separately. Note that the Work items have been separated into general categories of Work; however, not all of the required Work items have been listed in the descriptions provided below. It is the responsibility of the Proponent to include in the various lump sums and unit prices sufficient allowance to cover the cost of the Work and materials not explicitly listed in the Schedule of Prices. All such amounts shall be included in the items to which they pertain most closely in the Schedule of Prices. General work items that do not pertain to any one item are to be included in each item on a pro-rated basis.

<b>SECTION 'A' –BASIC WORK (Turf plus Standard Infill)</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>EST. QTY</b>	<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
1	Supply & Install Synthetic Turf	Sq. M	10,300	\$	\$
<b>SUBTOTAL SECTION A (BASIC WORK):</b>					\$

*Carry forward Subtotal Section A to Proposal Price Summary*

<b>SECTION 'B' – OPTIONAL SHOCK PAD (Indicate if pad is optional below)</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>EST. QTY</b>	<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
2	Supply & Install Shock Pad	Sq. M	10,300	\$	\$
<b>SUBTOTAL SECTION B (OPTIONAL WORK):</b>					\$

*Carry forward Subtotal Section B to Proposal Price Summary*

Turf Product Name: \_\_\_\_\_

Shock Pad Product Name: \_\_\_\_\_

Shock pad optional for the above turf product? (indicate yes or /no): \_\_\_\_\_

Shock pad required to meet FIFA One Star? (indicate yes or /no): \_\_\_\_\_

FIFA testing Performed on Turf/Shock Pad combo? (indicate yes or /no): \_\_\_\_\_

Shock Pad required to meet Gmax Warranty requirements? (indicate yes or no): \_\_\_\_\_

The City may consider substituting an alternative infill in place of crumb rubber/sand. To facilitate the City’s consideration and potential selection of this alternative, please complete Section C below. Proponents should only propose alternative infills that are wholly compatible with the Proponent’s synthetic turf system(s). While completion of Section C is optional, failure to complete Section C would eliminate the Proponent’s Proposal from consideration with respect to the assessment of alternative infill systems.

Please complete the following for Alternative Infill to crumb rubber:

<b>SECTION ‘C’ – ALTERNATE PRICE WORK (ALTERNATIVE INFILL)</b>		
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>ADDITIONAL COST</b>
3	Delete Rubber/Sand Infill & Replace with Alternative Infill. Indicate the <u>additional cost</u> of substituting the proposed infill in Section A with an alternative infill.	\$
<b>SUBTOTAL SECTION C (ALTERNATE WORK):</b>		\$

*Do Not Include Cost of the Alternative Infill in Proposal Price Summary*

Alternative Infill Product Name: \_\_\_\_\_

Alternative Infill Description: \_\_\_\_\_

Alternative Infill Supplier: \_\_\_\_\_

Indicate below which proposed synthetic turf system(s) the Alternative Infill Additional Cost applies to:

Turf System Name(s): \_\_\_\_\_

**Proposal Price Summary**

We hereby declare that we have carefully examined the site of the project, have read and examined the RFP package including the supporting Specifications and Project Drawings, and hereby offer to furnish all plant, labour, materials, technical and professional services necessary to supply and install the synthetic turf surface, in accordance with all the provisions stated in the RFP documents, for the following stipulated price:

Synthetic Turf Product (Name): \_\_\_\_\_

Drainage/Shock Pad (Name): \_\_\_\_\_

A. Basic Work (Turf/Standard Infill):   \$\_\_\_\_\_

B. Shock Pad:           \$\_\_\_\_\_

C. Total Proposal Price (A+B): (excluding GST) \$\_\_\_\_\_

(Note that a separate executed Technical Product Data Sheet, Product Installation/Reference Sheet, and Turf Samples are to be completed for each synthetic turf product for which the Proponent submits a Response.) Product samples of the shock pad are not required if one of the pre-approved shock pad products is used.

Authorized Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Proposals must remain open for acceptance for a minimum of 60 days.

**We agree to complete the work within the following schedule:**

Commencement of Work (following completion of civil works).....	July 4, 2016
Turf Install Complete.....	August 15, 2016
Gmax Testing Completed.....	August 31, 2016

**Force Account Rates**

Indicate the hourly rates for force account (additional) work.

Labour Classification	Hourly Rate	Overtime Rate
Foreman	\$ /hour	\$ /hour
Equipment Operator	\$ /hour	\$ /hour
Labourer	\$ /hour	\$ /hour
Turf Installer	\$ /hour	\$ /hour
Turf Superintendent	\$ /hour	\$ /hour
	\$ /hour	\$ /hour

**Indicate Schedule with Bar Chart with Major Item Descriptions and Time**

ACTIVITY (add items as req'd)	WEEKS																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Mobilization																						
Shop drawings submitted																						
Turf manufacture																						
Pre-shipment turf testing																						
Infill testing																						
Turf delivery																						
Turf panels installed																						
Infill installation																						
Clean-up																						
Gmax testing																						
Substantial Performance																						

**Subcontractors and Suppliers**

Indicate any subcontractors below.

WORK ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER

Indicate material suppliers below.

WORK ITEM	SUPPLIER

**Comparable Experience**

Indicate comparable work experience of the Proponent below.

OWNER / CONTACT INFORMATION	WORK DESCRIPTION	VALUE (\$)
Owner / Contract _____ Phone (    )                      Fax (    )		
Owner / Contract _____ Phone (    )                      Fax (    )		
Owner / Contract _____ Phone (    )                      Fax (    )		
Owner / Contract _____ Phone (    )                      Fax (    )		

**References**

Please provide references that the City may contact to verify the reputation, resources, and qualifications of the Proponent:

<b>Reference No. 1</b>	
Company:	
Reference Contact:	
Phone:	
Email:	
<b>Reference No. 2</b>	
Company:	
Reference Contact:	
Phone:	
Email:	
<b>Reference No. 3</b>	
Company:	
Reference Contact:	
Phone:	
Email:	



**Questionnaire**

Proponents should respond to the questions under each heading clearly and concisely. The tables below are expandable. Attach additional pages as required. This Questionnaire is provided separately in Microsoft Word format.

**PROFILE, EXPERIENCE AND QUALIFICATIONS:**

<p><b>Q1:</b> Describe the location of branches, background, years of business under the current legal entity, stability, and structure of the Proponent. Provide an executive summary describing the Proponent’s relevant experience and qualifications in delivering Services similar to those required by the RFP</p>
<p>A1:</p>

<p><b>Q2:</b> Provide the Proponent’s history with particular reference to experience with the supply and installation of synthetic turf fields, including the total number of fields installed. Indicate the approximate value of work (or sales, as applicable) completed by the Proponent for each of the past three years. A list of fields installed over the past ten years (listing the field location and turf type) should also be provided.</p>
<p>A2:</p>

<p><b>Q3:</b> Provide the following information for the Proponent’s past five installations (minimum):                  Location                  Type and size of installation (turf product)                  Date of installation                  Owner                  Purpose / use of fields                  Contact name for owner / operator with telephone number                  Proponents should provide at least three project references for each different turf product for which a Response is submitted. Provide the details of any outstanding unresolved construction claims or any active legal action(s) filed against the Proponent related to past or current synthetic field installations:</p>
<p>A3:</p>

<p><b>Q4:</b> Provide information on the background and experience of all key personnel proposed to undertake the Services including any subcontractors. Provide a resume describing the qualifications for each installation crew member that will be assigned to the Project and provide a resume for the proposed superintendent of the installation crew giving details on qualifications and experience relating to the installation of synthetic turf fields including descriptions of synthetic turfs installed. Provide names and telephone numbers of references for the proposed superintendent.</p>
<p>A4:</p>

Q5: Proponent’s financial strength: Provide a letter from the Proponents financial institution stating; years of business together, available line of credit, and NSF reports if any

A5:

**TECHNICAL APPROACH AND METHODOLOGY**

Q6: Provide the Proponent’s total number of installation crews and identify their availability for this Project. Describe the resources the Proponent will apply to allow turf installation to meet the Project schedule. Indicate the number of site personnel that will be assigned to the installation work and with their roles:

A6:

Q7: Describe the manner in which the Proponent proposes to back the Warranty to be provided under the terms of this RFP. Provide details of any Warranty insurance policies or other forms of financial securities covering the warranty:

A7:

Q8: Describe the post-installation support that will be provided. Provide the details of any permanent local post-installation support personnel.  
Provide details of the company’s typical response time for follow-up service calls including the location of the nearest service centre to the Project. Indicate whether the Owner would incur travel expenses for out-of-warranty service requests. If costs will be incurred, provide a lump sum cost based on an 8-hour day including all travel costs, accommodations and other disbursements.

A8:

**Q9: Technical Product Data**

For each synthetic turf product for which a price is provided in the Response Form and Schedule of Prices, the Proponent is to complete the Technical Product Data Sheets. A blank copy of the Technical Product Data Sheets is attached.

A9:

**Q10: Seam and Inlaid Line Details**

Describe the seaming and inlaid line joining and construction details including:

Turf roll joining method (seams sewn, cemented, etc.)

Width of seam overlap

Inlaid line joining method

A10:

**Q11: Operation and Maintenance Procedures**

Describe the general operations and maintenance procedures for each turf type included in the Response.

Identify any special operations and maintenance equipment required:

A11:

**Q12: Sport Association Accreditation**

Proponents are to submit documentation for each type of turf indicating any association accreditation for any specific sports activities (such as FIFA, etc.). The documentation is to provide the name of the association, the exact name and description of the turf for which accreditation has been obtained and an association contact name, address and telephone number to permit verification:

A12:

**Q13: Patent Infringement Concerns**

Proponents are to submit documentation confirming that their turf product does not infringe any existing or pending Canadian patent. Provide the details of any outstanding unresolved patent infringement claims or any active legal action(s) filed against the Proponent or against the owner of a past or current synthetic field installation supplied or installed by the Proponent. Provide the details (where legally permitted to do so) of the outcome of any resolved past patent infringement claims.

A13:

**Q14: Warranty**

Confirm that the eight (8) year Warranty with the terms and conditions exactly as specified in the RFP will be provided.

Indicate if the Proponent has any outstanding warranty claims that have not been resolved to the satisfaction of the field owner.

Provide details of any additional Warranty benefits offered (i.e. extended Warranty duration, etc.).

A14:

**Q15: Acceptance of Base Design**

Proponents to provide confirmation whether they accept the base design (see below) for the synthetic turf(s) for which a Response is being submitted and that they will be prepared to certify the turf(s) installation providing the base is provided in accordance with the design described in this RFP. Refer to the project drawings for the base design.

A15:

**Q16: Turf Product Samples**

Provide the following samples for each synthetic turf product for which a price is proposed in the Response & Proponent Commitment Form(s).

One set of Synthetic Turf:

150 mm by 150 mm unfilled square of each type of synthetic turf proposed.

One set of any Alternative Infills (crumb rubber infill sample not required):

80 mm by 170 mm plastic bag of any alternative infill material

One set of any Alternative Drainage/Shock Pad:

300 mm by 300 mm square of each type of pad proposed. Note: samples of the shock pad are not required if one of the pre-approved shock pad products is used.

A16: Attach Product Samples

**Q17: Environmental Concerns and Opportunities**

Confirm the proposed synthetic turf system (synthetic turf fibre, backing, adhesives, pad and all other components) meets the Synthetic Turf Council’s recommendations and all current Canadian environmental regulations (for public sports field/playground use – i.e. BC Ministry of Environment (MoE) Urban Park standards) with respect to contaminants such as lead, other heavy metals and other hazardous materials. Confirm that the synthetic turf system will continue to meet all current Canadian environmental regulations upon installation and throughout the life of the Warranty.

Confirm the proposed synthetic turf infill material meets the Synthetic Turf Council’s recommendations and the BC MoE’s soil standards (Commercial for PAH’s, Urban Park for Heavy Metals and other components) and will continue to meet existing standards upon installation and throughout the life of the Warranty.

Provide details of any environmentally sustainable or ‘green’ features of the turf system including recycled content, alternate infill material(s) proposed, recyclability of turf system when replaced in future, heavy metal content of fibre, and other relevant information.

A17:

**VALUED ADDED SERVICES**

Preferred Supplier Services - Proponents are to provide information on what makes your firm innovative, what is your competitive advantage, and what other services your firm provides that would assist or would be of benefit to the City:

**SUSTAINABLE INITIATIVES AND LEADERSHIP**

Corporate - Please provide information on any initiatives, programs, and product choices that the Proponent has implemented that could be considered environmental, financial/economic, social/ethically sustainable value:

**EQUIPMENT**

Describe efficiencies or innovations in manufacturing, maintenance benefits, replacement components that contribute to overall best value and total cost of ownership:

**TECHNICAL PRODUCT DATA SHEET (Page 1)**

Provide the following information for each Synthetic turf system proposed in the Response.

Product Name: \_\_\_\_\_

Proponent Name: \_\_\_\_\_

Product Construction (Check as applicable): **PRODUCT MUST BE MONOFILAMENT**

- Monofilament
- Tufted  Knitted
- Secondary Thatch Layer

<u>Property</u>	<u>Minimum Spec. Units</u>	<u>ASTM</u>
-----------------	----------------------------	-------------

Pile Yarn Composition _____		
Minimum Yarn Denier _____		D1577
Maximum Yarn Denier _____		D1577
Yarn Breaking Strength _____ gms/denier		D2256
Yarn Melting Point _____ degrees F		D789
Minimum Pile Height _____ inches		D418
Maximum Pile Height _____ inches		D418
Yarn Ends per Stitch _____		D418
Pile Weight _____ oz. /sq. yd		D418
Primary Backing Wt _____ oz. /sq. yd		D418
Secondary Backing Wt _____ oz. /sq. yd		D418
Total Weight _____ oz. /sq. yd		D418
Tuft or Stitch Spacing _____ per inch		D418
Gauge _____ per inch		D418
Tuft Bind (without infill) _____ lbs.		D1335
Grab Tear Strength _____ lbs.		D1682
Roll Width _____ ft.		

Impact Attenuation (max):

At Installation	_____ Gmax	D355
At 12 months	_____ Gmax	D355
At 24 months	_____ Gmax	D355
At 48 months	_____ Gmax	D355
At 60 months	_____ Gmax	D355
At 84 months	_____ Gmax	D355
At 96 months	_____ Gmax	D355
At 102 months	_____ Gmax	D355

Pill Burn Test (Pass) \_\_\_\_\_ D2859

Drainage Rate (including infill) \_\_\_\_\_ mm/hr

Heavy Metal Content of System (attach material safety data sheets)

Continued on next page.....

**TECHNICAL PRODUCT DATA SHEET (Page 2)**

Infill Material

Indicate the technical specifications and detailed description of the components comprising the infill material of the synthetic turf system. Attach a separate specification sheet(s) where the proposed infill is a material other than recycled crumb rubber or recycled crumb rubber/silica sand blend.

Total Depth of Infill Material \_\_\_\_\_ inches (minimum)

Minimum Number of Infill Material Applications \_\_\_\_\_

Maximum Depth of Infill Material per Application \_\_\_\_\_ inches

Type of Infill \_\_\_\_\_

Infill Material – Check one:	
<input type="checkbox"/>	100% Crumb Rubber
<input type="checkbox"/>	Crumb Rubber/Silica
<input type="checkbox"/>	Sand Blend
	____% Sand by volume
	____% Rubber by volume
<input type="checkbox"/>	Other (Describe and attach specifications) _____

For Crumb Rubber and Rubber/Sand Infills (Check as applicable):

- Ambient Ground Rubber
- Cryogenic Ground Rubber
- Recycled Truck Tires (check if applicable)

Crumb Rubber Supplier (Company name/address) \_\_\_\_\_

Crumb Rubber Particle Size Distribution (complete or attach sieve analysis)

mm	mm	%	%
mm	mm	%	%
mm	mm	%	%
mm	mm	%	%

The sand gradation (wet sieve analysis):

Sieve Size	% Passing (max – min)	Sieve Size	% Passing (max – min)
#8		#40	
#16		#50	
#20		#100	
#30			

Sand Description (Silica, ceramic-coated silica, etc.) \_\_\_\_\_  
 \_\_\_\_\_% minimum rounded, compaction resistant, washed and dried \_\_\_\_\_

**-TECHNICAL PRODUCT DATA SHEET (Page 3)**

Property	Test Method	Test Conditions			Two Star Req's	One Star Req's	Results
		Preparation	T°C	Cond.			
Vertical ball rebound	FIFA 01 & FIFA 09	Pre-Cond.	23°	Dry	0.60 – 0.85m	0.60 – 1.0m	
				Wet			
		Sim. Wear 5,200 cycles		0.60 – 0.85m	NA		
		Sim. Wear 20,200 cyc.		NA	0.60 – 1.0m		
Angle ball rebound	FIFA 02	Pre-cond.	23°	Dry	45 - 60%	45 - 70%	
				Wet	45 - 80%		
Ball Roll	FIFA 03	Pre-cond.	23°	Dry	4 – 8m	4 – 10m	
				Wet			
Shock absorption	FIFA 04a & FIFA 09	Pre-cond.	23°	Dry	60 - 70%	55 - 70%	
				Wet			
		Sim. Wear 5,200 cycles		60 - 70%	NA		
		Sim. Wear 20,200 cyc.		NA	55 - 70%		
		Pre-cond.	40°	Dry	60 - 70%	55- 70%	
	FIFA04a 1st impact	-	-5°	Frozen	60 - 70%	55- 70%	

**Proposed product is to perform to the minimum testing requirements equivalent to FIFA Recommended One Star. FIFA Certification is NOT required.**



**TECHNICAL PRODUCT DATA SHEET (Page 4)**

Property	Test Method	Test Conditions			Two Star Req's	One Star Req's	Results
		Preparation	T°C	Cond.			
Vertical deformation	FIFA 05a & FIFA 09	Pre-cond.	23°	Dry	4 – 10mm	4 – 11mm	
		Pre-cond.		Wet			
		Sim. Wear 5,200 cycles		Dry	4 – 10mm	NA	
		Sim. Wear 20,200 cyc.		NA	4 – 11mm		
Rotational resistance	FIFA 06 & FIFA 09	Pre-cond.	23°	Dry	30 – 45Nm	25 – 50Nm	
				Wet			
		Sim. Wear 5,200 cycles		Dry	30 – 45Nm	NA	
		Sim. Wear 20,200 cyc.		NA	25 – 50Nm		
Linear friction – Stud Decel. Value	FIFA 07	Pre-cond.	23°	Dry	3.0 – 5.5g	3.0 – 6.0g	
		Wet					
Linear friction – Stud Slide Value		Pre-cond.	23°	Dry	130 - 210	120 - 220	
				Wet			
Skin / surface friction	FIFA 08	Pre-cond.	23°	Dry	0.35 – 0.75		
Skin abrasion	FIFA 08	Pre-cond.	23°	Dry	±30%		

**Proposed product is to perform to the minimum testing requirements equivalent to FIFA Recommended One Star. FIFA Certification is NOT required.**



Corporation of the City of  
**NEW WESTMINSTER**

**RFP NUMBER**

**APPENDIX A**

**Declaration – Living Wage Employer**



### DECLARATION – LIVING WAGE EMPLOYER

I, \_\_\_\_\_ as a duly authorized signing officer of

Company: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_, confirm that all employees and sub-contractors under our contract with the City as outlined below, are paid not less than the “Living Wage” as calculated by the Living Wage for Families Campaign.

I understand that this requirement extends only to those employees and sub-contractors’ employees that perform work while on City premises and property for durations in excess of one continuous hour per occasion.

I understand that the City will conduct audits if and when notification of breach of this compliance is received by the City. I understand that in the event any breach of this declaration is found to be true, the City reserves the right to cancel its contract without penalty at any time once said authentication of the breach is made.

Contract Name: \_\_\_\_\_

Authorized Signatory:

Dated:

\_\_\_\_\_

\_\_\_\_\_



Corporation of the City of  
**NEW WESTMINSTER**

**NWRFP-15-29**

**APPENDIX B**

**Supplementary Conditions to CCDC 2-2008**

The Supplementary Conditions revise the General Conditions in the CCDC 2-2008 Stipulated Price Contract as follows:

#### **ARTICLE A-5 PAYMENT**

Paragraph 5.3 Interest –

Paragraph 5.3.1 (1) – Delete “..2%..” and substitute “..0%..”

Paragraph 5.3.1 (2) – Delete “..4%..” and substitute “..0%..”

#### **GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT**

##### **PART 1 GENERAL PROVISIONS**

##### **GC 1.1 CONTRACT DOCUMENTS,**

1.1.7.1 Between “the Agreement between the *Owner* and the *Contractor*” and “Definitions” –  
Insert “Addenda”

##### **PART 2 ADMINISTRATION OF THE CONTRACT**

##### **GC 4.2 CONTINGENCY ALLOWANCE**

Delete in its entirety.

##### **PART 5 PAYMENT**

##### **GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER**

Delete in its entirety.

##### **GC 5.3 PROGRESS PAYMENT**

5.3.2 Delete “10 calendar days” and substitute with “thirty (30) calendar days”

##### **PART 6 CHANGES IN THE WORK**

##### **GC 6.2 CHANGE ORDER**

Add

“6.2.3: The allowance for overhead and profit charged by the *Contractor* and subcontractors shall be as follows:

- .1 Cost of materials and labour plus 10% mark-up by the *Contractor* for changes in the work performed by the Contractor.
- .2 Cost of labour and materials plus 10% mark-up by the Contractor on changes in the work performed by the subcontractors.
- .3 Cost of labour and materials plus 10% mark-up by the subcontractors for changes in the work performed by the subcontractors.
- .4 The overhead and profit for changes in the work shall include supervision, administrative costs, small tools, miscellaneous materials, layout, additional bonding costs, and recording of the changes on the record drawings.

## **PART 11 INSURANCE AND CONTRACT SECURITY**

### **GC 11.1 INSURANCE**

**11.1.1.1** *Delete in its entirety and replace with the following:*

- .1 General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner*, the *Consultant*, *sub-consultants* and *special consultants* as identified by the *Owner* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Substantial Performance of the Work*. Liability coverage shall be provided for completed operations hazards from the date of *Substantial Performance of the Work*, as set out in the certificate of *Substantial Performance of the Work*, on an ongoing basis for a period of not less than twenty-four months following *Substantial Performance of the Work*.
- .4 In line 1, after “*Owner and the Consultant*” insert “, *sub-consultants and special consultants* as identified by the *Owner*,”

11.1.1.3 Delete in its entirety

11.1.1.5 Delete in its entirety

### **GC 11.2 CONTRACT SECURITY**

**11.2.2** *Delete in its entirety and replace with the following:*

**11.2.2** If the *Contract Documents* require surety bonds to be provided, such bonds shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the *Place of the Work* and shall be maintained in good standing until the fulfilment of the *Contract*. The form of Performance Bond shall be in accordance with the latest edition of the CCDC approved Performance Bond form. The Labour and Materials Payment Bond shall be a Broad Form bond, protecting all companies with a direct contract with the Principal or any Sub-Contractor of the Principal.

## **CCDC 41 – CCDC INSURANCE REQUIREMENTS**

Delete paragraphs 3 and 5



Corporation of the City of  
**NEW WESTMINSTER**

**NWRFP-15-29**

**APPENDIX C**

**Performance Specifications**

## PERFORMANCE SPECIFICATIONS

### PART 1 - GENERAL

#### 1.1 SCOPE OF WORK

The scope of work includes the provision of all labour, material, equipment, transportation and services to supply and install complete a new vertical draining synthetic turf surfacing system and associated work on one multi-use sports field at Mercer Stadium. The synthetic turf is to be suitable for soccer, lacrosse and football games and practices as well as physical education and general sports use. The scope of work for the synthetic turf surfacing system is to be as shown on the Project Drawings and specified in this RFP. The general components of work include:

- a) Design, manufacture, and install a new infilled synthetic turf surface to accommodate in the order of 3,000 hours of organized sport related use per year.
- b) The synthetic turf system shall be designed to meet the minimum performance testing requirements outlined in the Specifications and Technical Product Data Sheets. A portion of the technical requirements includes meeting the minimum FIFA One Star testing. Note that post construction FIFA certification will not be required as part of this RFP.
- c) Coordination and cooperation with the City-retained civil contractor responsible for constructing the field base, concrete edge anchor and drainage systems improvements (as applicable)
- d) Review and acceptance or certification of installed work of other trades directly affecting the Work of this Contract, especially of the gravel base as it applies to installation of the turf system and the Warranty.
- e) Supply and installation of a complete synthetic turf surfacing system including the synthetic turf, all infill material, shock pad (if applicable) and other items described in the Specifications. The total surface area of the new synthetic surface is approximately 10,300 square metres. This area refers to the finished surface area of the turf (as measured at the face of the concrete edge anchor) and does not account for any additional material required for either joining seams, inlaying lines and markings or anchoring the turf around the edges of the field. The amount quoted will apply provided the actual total surface area of the synthetic turf field at completion is within 1% (one percent) of the field area as described above.
- f) Installation and final survey of all tufted in and inlaid (as applicable) field sport lines and markings in accordance with the Specifications
- g) Provide extra turf materials to the City for future repair and protective purposes as described in the Specifications.
- h) Provide maintenance and operating manual (in electronic format) on a compact disk, as described in the Specifications.
- i) Hire an independent testing agency approved by the City to complete all laboratory testing in accordance with the Specifications.
- j) Hire an independent testing agency approved by the City to complete G-Max testing in accordance with ASTM F355 Procedure A.



- k) Provide one four-hour (minimum) workshop for City staff for the purposes of routine maintenance training and instruction on minor turf repairs. The workshop will be held at a location provided by the City on a date and time determined by the City. The Contractor will supply any equipment needed for the workshop and will also provide at least one experienced synthetic turf installer to demonstrate proper turf repair methods. Efforts will be made to accommodate any reasonable requests of the Contractor with respect to scheduling of the workshop.
- l) Provide full replacement minimum eight (8) year Warranty in accordance with the requirements of the Warranty section of this document.

## **1.2 STANDARD SPECIFICATIONS FOR RULES**

- a) Federation Internationale de Football Association (FIFA) – Soccer
- b) Federation of International Lacrosse (FIL) – Lacrosse
- c) Canadian Football League (CFL) – Football (Community)
- d) BC High School Sports (BCHSS) – Football (High School/NFL)

## **1.3 STANDARD SPECIFICATIONS**

- a) American Standard Testing Materials, (ASTM)
- b) Synthetic Turf Council Suggested Guidelines for the Essential Elements of Synthetic Turf Systems

## **1.4 FIBBER MANUFACTURERS**

- a) The synthetic turf manufacturer shall furnish written documentation certifying the source of the fibre used for the field including both green and any other colours used for the lines and markings.

## **1.5 PROJECT SUBMITTALS**

- a) Field Shop Drawing Submittal: Submit the field Shop Drawings to the Consultant for review and approval. The submittal shall include an electronic copy of the plans and the Specifications. The plans shall include field edging details, insert details, seam details, seam layout, gluing patterns, provisions for goals, dimensional Shop Drawing for all field lines, markings, and boundaries.
- b) Schedule: Submit a schedule for all activities indicating dates and locations of specific tasks to be completed. Provide clarification and additional information as directed by Consultant. Update as needed and submit corrected schedule to the Consultant prior to dates altered on the schedule.

## **1.6 CONSTRUCTION SUBMITTALS**

- a) Submit the following synthetic turf samples to the Consultant for approval prior to commencing with the production of the synthetic turf field:
  - 1) One 50 cm x 50 cm sample of turf showing backing with perforations
  - 2) One 50 cm x 50 cm sample of turf showing method of seam makeup with perforations. One sample to have example of inlaid lines.
  - 3) One 20 cm x 30 cm sample each of the other colours proposed for use on the field for lines and markings.
  - 4) One 1-kg samples of the proposed infill materials, each type.

- 5) One 50 cm x 50 cm sample of shock pad perforations and seam makeup.
- b) Submit the synthetic turf *Warranty* package and a computer diskette (CD) containing the operation and maintenance manual to the *Consultant* for approval prior to commencing with the field construction. Provide descriptions of any equipment required or recommended for field area conversions, maintenance and repair, citing specific vendors for each unit. Provide a separate section stating the approved activity usage for the turf and activities not recommended, all relative to the *Warranty*. Include maintenance recommendations including recommended coverings for special events, small repair procedures, minor seam repair, discussion of precautions to be practiced, general maintenance, and uses to avoid to protect turf surface and to maintain installation's *Warranty*.
- c) Synthetic Turf Testing and Quality Control: Submit to the *Consultant* results certified by an independent testing laboratory experienced in synthetic turf testing for the following tests performed on the synthetic field surfacing system:

<u>Pile Yarn Type</u>	<u>FTIR Spectrograph</u>
Yarn Denier	ASTM D1577
Yarn Breaking Strength	ASTM D2256
Yarn Melting Point	ASTM D789
Pile Height	ASTM D5823-13
Pile Weight ASTM	D5848-10e1
Total Weight	ASTM D5848-10e1
Backing Perforations	Perforation Diameter and Spacing
Tuft Bind (without infill)	ASTM D1335
Grab Tear Strength	ASTM D5034-09
Impact Attenuation	ASTM D355
Pill Burn Test	ASTM D2859
Permeability (with infill)	ASTM WK22081 (or approved equivalent)
Total Lead Content	ASTM F2765 - 09
Gradation Analysis (infill only)	ASTM D5644-01 (2008)
FIFA performance testing	Standard FIFA 1 Star/2 Star testing

- d) Site Acceptance: Submit a letter confirming that an inspection of the finished field base has been conducted, noting all discrepancies, problems, and conflicts. If no problems are found, this shall be so indicated. The *Contractor's* inspection shall include acceptance of the field base materials for both planarity and permeability, as well as any other factors the *Contractor* considers relevant to the synthetic turf installation. The *Contractor's* certification letter shall also include acceptance of the field subgrade and base as being totally suitable for the application of the *Work*, with the assurance that the synthetic turf installation work carried out on the fields' subgrade and base will result in a "superior quality" athletic surface, fully warranted for the period and conditions specified herein. The *Owner* will provide permeability testing results conducted on the field bases to the *Contractor* for the *Contractor's* review and acceptance. The *Consultant* will produce a field base planarity inspection report summarizing the fields' planarity. This planarity report will be provided to the *Contractor* for the *Contractor's* review and acceptance. Note that the *Contractor* will not be held responsible for any hidden substandard field subgrade and base conditions, or for the repair of field(s) subgrade and base work installed by others outside of the *Contract* (unless expressly provided for in the *Contract*).

**1.7 PRE-INSTALLATION CONFERENCE**

- a) The *Consultant* will conduct a conference at the *Project* site. The following issues shall be discussed at this meeting:
  - 1) Schedule;
  - 2) Submittal and approval of materials;
  - 3) Coordination issues with other contractors;
  - 4) Stockpiling of materials;
  - 5) Testing and inspection of materials and installation;
  - 6) Coordination with turf manufacturer;
  - 7) Acceptance of work area from other contractors;
  - 8) Field protection during and upon completion of surface installation;
  - 9) Turnover to *Owner*.

**1.8 QUALITY CONTROL**

- a) Submit to the *Consultant* for approval a quality control plan. The plan shall designate a quality control representative for the *Contractor's* team. The plan shall also clearly specify the testing procedures for the field materials.
- b) Prior to shipment of the synthetic turf material for the field to the job site, synthetic turf material from every sixth roll shall be randomly sampled and then tested by an independent testing laboratory experienced with testing synthetic turf materials. The testing laboratory shall be completely independent with no ties to the turf manufacturer. The testing shall include the following:

Item	ASTM	Property
1	FTIR Spectrograph	Pile Composition
2	D5848-10e1	Pile Weight
3	D5848-10e1	Total Weight
4	D5823-13	Pile Height
5	D418	Backing Perforation Diameter and Spacing
6	D1335	Tuft Bind (without infill)
7	D5054-09	Grab/Tear Strength.

- c) Copies of the test results shall be transmitted to the *Owner* and *Consultant* directly from the testing laboratory. The synthetic turf materials shall not be shipped to the site without written authorization from the *Consultant* after the *Owner* and *Consultant* have approved the test results.
- d) Samples of the synthetic turf material tested from every sixth roll shall also be transmitted to the *Consultant* for approval by the independent testing laboratory prior to shipment of the synthetic turf materials to the job site. Sample size shall be minimum 20 cm x 20 cm.
- e) All fees and costs associated with the pre-shipment sampling and testing outlined above shall be paid by the *Contractor*.
- f) Infill Testing: At least three weeks prior to the installation of the synthetic turf, the infill material shall be delivered to the site for the purposes of toxicity testing by a qualified testing company retained and paid for by the *Owner*. The infill material will be sampled and tested for the following:
  - 1) Extractable Heavy Metals,
  - 2) Polycyclic Aromatic Hydrocarbons,
  - 3) Phthalates,

- 4) Benzene, and
- 5) Phenols

Infill test results exceeding the British Columbia Ministry of Environment's soil characterization limits (Commercial for PAH's and Urban Park quality for all other components) will be rejected.

## **1.9 CONSTRUCTION SUPERINTENDENCE**

- a) The Contractor at all times shall employ personnel who are skilled in their respective work areas. Incompetent, careless, or negligent employees or agents shall be forthwith discharged upon written request of the Consultant.
- b) All Work under the Contract shall be performed under the continuous on-site supervision of a competent superintendent who is thoroughly experienced in the class of work specified. There shall be on site at all times Work is being performed, a designated superintendent in the employ of the Contractor, and approved by the Consultant, in responsible charge, managing the Project construction. The superintendent shall have the authority to make decisions for the Contractor.
- c) The superintendent shall be satisfactory to the Consultant in all respects, and Consultant shall have the right to require the Contractor to dismiss from the Project any superintendent whose performance is not satisfactory to Consultant, and to replace such superintendent with a superintendent satisfactory to Consultant. The lack of proper supervision by the Contractor or supervisory personnel, at the Owner's sole discretion, shall be just cause for suspension of the Work or termination of the Contract by the Owner.

## **1.10 TRAFFIC REGULATION**

- a) Conduct operations in such a manner to avoid unnecessary interference to existing traffic. Minimize heavy vehicle traffic to and from site during peak traffic hours. Do not park vehicles in traffic lanes. Provide flag persons as required. Conform to City traffic control requirements.
- b) Contractor shall be responsible for all traffic control and emergency call outs resulting from Contractor operations.
- c) Maintain fire lanes, roadways, and alleys to existing buildings continuously, as required by the fire department having jurisdiction.

## **1.11 DELIVERY, STORAGE, AND HANDLING**

- a) Packing and Shipping:
  - 1) Deliver products in original unopened packaging with legible manufacturer's identification.
- b) Storage and Protection:
  - 1) Comply with manufacturer's recommendations.
  - 2) Store in dry place out of direct sunlight.
  - 3) Protect from damage by the elements and construction procedures.

- c) Bulk Materials:
  - 1) Deliver materials in clean, washed and covered trucks to eliminate contamination during transportation. Onsite stockpiling location is to be coordinated with Consultant. Stockpile only in areas free of debris and away from drainage routes. Cover with plastic or geotextile if material is to be stockpiled for more than 24 hours.

#### **1.12 FIELD SYSTEM HOLD HARMLESS**

- a) The Contractor shall hold the Owner, and Consultant, harmless from infringement of any current or future patent issued for the synthetic field surfacing system, pad system (if applicable), installation methods, and vertical draining characteristics of the synthetic turf system.

#### **1.13 FIELD DIMENSIONS AND LAYOUT**

- a) The Contractor will be responsible for furnishing, setting and marking of all line, grade and location stakes, including offsets and general construction staking.
- b) The Contractor shall have on site at all times when work requiring control is being performed, all necessary equipment, supplies and instruments related thereto. A qualified technician must be assigned to the crew for this Work. The equipment and technician must be available, at no additional cost, to the Consultant for checking, verifying and certifying construction control on site.

#### **1.14 PROTECTION OF UTILITIES AND STRUCTURES**

- a) The Contractor shall take special care to protect any existing structures and utilities.

#### **1.15 CONSTRUCTION RECORD "AS-BUILT" DRAWINGS AND SPECIFICATIONS**

- a) An accurately marked construction record set of Drawings and Specifications shall be kept on site as the job progresses. All changes or deviations from the original Contract Documents shall be recorded in red thereon for Work under the Contract.
- b) The record set shall be kept up-to-date at all times and shall be submitted periodically to the Consultant covering all Work for which progress payment is being requested. Failure to have the record set up-to-date, at the discretion of the Consultant, shall be reason to withhold payment until such information is recorded or submitted.
- c) Upon completion of the Project and prior to final payment, the Contractor shall forward a complete record set of Drawings and Specifications showing the as-built notations to the Consultant.

#### **1.16 WARRANTY OF SYNTHETIC TURF SYSTEM**

- a) Refer to the Form of Warranty indicated below for the detailed requirements of the synthetic turf system warranty.
- b) The warranty is to be provided in the same format as specified in the Form of Warranty. Any changes are to be agreed to by the Owner prior to execution of the Contract.
- c) The warranty shall be signed by a principal of the applicable firm(s), duly authorized to make contracts at the same time as the Contract is executed.

- d) If the firm manufacturing and supplying the synthetic turf system is not the same entity as the Contractor, the warranty shall be co-signed by the turf manufacturer/supplier. Should the warranty be co-signed by the turf manufacturer/supplier, both the Contractor and the turf manufacturer/supplier will be jointly and equally liable for all commitments made under the warranty.
- e) Warranty shall cover, in general, the usability of the turf surface, accessories, use characteristics, and suitability of the installation. All items covered by the Warranty are to be replaced or repaired with new materials, including installation at the sole expense of the warranting Contractor for the period of eight (8) years to the Owner, for the designated uses enumerated as follows:
  - 1) Soccer
  - 2) Lacrosse
  - 3) Field Hockey
  - 4) Rugby
  - 5) Baseball
  - 6) Softball
  - 7) Football
  - 8) Ultimate (Frisbee)
  - 9) Marching band
  - 10) Physical exercises
  - 11) Physical education activities
  - 12) Pneumatic rubber-tired maintenance and service vehicles
  - 13) Field cover for special events and concerts
  - 14) Pedestrian traffic and other similar uses
  - 15) Military/Police marching drills
  - 16) Other miscellaneous sport and recreation activities, except where the Contractor, acting reasonably, has provided written notice to the Owner prohibiting any such activity.
- f) The Warranty shall be signed by a principal of the applicable firm, duly authorized to make contracts. The term "Contractor" contained in the Warranty means the firm furnishing the Warranty. "Owner" is the City of Burnaby (the "City"). Warranty period shall be a minimum of eight (8) years from date of acceptance of the installed system(s) by the Owner.

#### **1.17 FORM OF WARRANTY OF SYNTHETIC TURF SYSTEM**

- a) Contractor hereby warrants to the Owner, subject to the limitations and conditions set forth below, that its synthetic turf system(s) consisting of synthetic turf described as \_\_\_\_\_, and the adhesives used in the installation, are free from defects in material and workmanship and shall, for a period of eight (8) years from the date of acceptance by the Owner, remain serviceable for multiple sports activities.
- b) Contractor warrants to the Owner that its synthetic turf materials shall not fade, fail, shrink, wrinkle, or reflect excessive wear. Contractor shall replace, at the Contractor's sole expense and cost, such areas of the synthetic turf system(s) not performing to these standards for the life of the Warranty.
- c) Definitions:
  - 1) The term "not fade" in the context of this Warranty shall mean that the synthetic turf material shall remain a uniform shade of green, or other colours installed, with no significant loss of colour.
  - 2) The term "not fail" or "excessive wear" as used in the context of this Warranty shall mean that the length and weight of the face yarn or pile material in the synthetic turf surface

above the infill materials shall not have been decreased by more than 10% per year according to ASTM D418, nor exceed 50% during the Warranty period. In the event that the synthetic turf system(s) do/does not retain its fibre height or shock absorbency and is consequently no longer serviceable during the Warranty period, the Contractor shall, at the Contractor's sole expense, replace such portion of the system(s) that is no longer serviceable.

- 3) The term "serviceable" in the context of this Warranty shall mean that the synthetic turf system(s) shall have a maximum "G" value according to ASTM F1936-98 and Procedure A, ASTM F355, not to exceed 120G's at any location upon installation and shall not exceed 165G's throughout life of the Warranty period. This shall be determined by conducting dynamic cushioning tests at the locations designated in ASTM F1936-98 and at corners of the soccer penalty boxes at opposite sides of the fields. Any increase from 120G's to allowable 165G's maximum shall be at a relative uniform rate not to exceed 10 G's in any single yearly period.
- d) Where applicable, the fabric seams shall remain attached to the underlying surface over the Warranty period and shall not separate or become unglued or unattached, as applicable.
  - e) Contractor warrants to the Owner that each permeable synthetic system shall drain vertically a minimum of 750 mm of precipitation per hour without visible surface ponding.
  - f) Contractor shall replace with new materials, at their sole expense, any damage to the synthetic turf system(s) that extends more than 1 meter beyond the location of foreign combustibles, which may ignite and fire-damage the synthetic turf system(s).
  - g) The Contractor shall not be held liable for any incidental or consequential damages. These warranties and the Contractor's obligations here-under are expressly conditioned upon:
    - 1) The Owner making all minor repairs to the synthetic turf system(s) upon the discovery of the need for such repairs;
    - 2) The Owner maintaining and properly caring for the synthetic turf system(s) in accordance with the Contractor's maintenance manual and instructions;
    - 3) The Owner complying with the dynamic and static load specifications established by the Contractor.
  - h) The Warranty is not to cover any defect, failure, damage, or undue wear in or to, the synthetic turf system caused by, or connected with, abuse, neglect, deliberate acts, act of God, casualty, static or dynamic loads exceeding Contractor's recommendations, footwear having metal cleats, metal spikes, or similar projections other than conventional baseball, football, soccer, or rugby shoes having cleats of not more than 13 mm in length, and other conventional running track shoes having spikes of not more than 7 mm in length, or use of improper cleaning methods.
  - i) Contractor shall be allowed to examine the synthetic turf system(s) regarding any claim that the Owner makes, to be present at any time, to analyze the results of all tests conducted by the Owner or others, and to conduct such tests of their own. Except where expressly provided for in the Warranty, the Contract, or other binding agreement between the Contractor and the Owner, the Contractor shall not be responsible for any costs or expenses incurred by the Owner or others with respect to such tests, except the Contractor shall pay for costs of all tests and analysis conducted or directed by their representative.
  - j) In the event the Contractor does not respond to the Owner's written notice within 10 days of receipt of notice or does not submit, schedule and execute corrective work within 30 days of

receipt of notice, the Owner has the option of having the Work performed at the expense of the Contractor.

- k) Sample form of Warranty herein set forth is a suggested form for use for the Work under this section. Manufacturer's standard form of Warranty may be used; provided all conditions specified are incorporated and any additional conditions are accepted by the Owner.

## **1.18 WARRANTY TESTING**

- a) The turf is to be tested, at the Contractor's expense, for dynamic cushioning ("G" Test) by an experienced independent licensed testing laboratory acceptable to the Consultant and Owner at the following times:
  - 1) Completion of the installation, shortly prior to acceptance of the Work by the Owner/Consultant.
- b) The City may choose to complete additional dynamic cushioning tests at their own cost. If test results from either the Warranty tests or any additional tests completed by the City indicate that the conditions of the Specifications and/or Warranty are not met, the Contractor has the option of corrective work or replacement. In the event corrective work does not meet the requirements of the Specifications after a second attempt to bring the system within these limits, then the Contractor is to replace non-conforming areas or sections, solely at the Owner's discretion and direction.
- c) Tests shall be performed in accordance with ASTM F-1936-98 and F355.
- d) Test locations as designated in F-1936-98, Paragraph 8.1. Included in the report shall be the measured depth of the infill material at all test locations.
- e) All costs for the stated testing shall be paid by the Contractor.
- f) After the completion of corrective work arising out of failed testing, the Contractor shall re-test the field(s) in the area of the corrective work within 10 days of the corrective work being completed. The re-testing shall be completed to the same standards as the Warranty testing requirements. All costs for re-testing shall be paid for by the Contractor.
- g) If the Contractor does not have the tests performed within 10 days of specified times listed, the Owner has the option of ordering the testing work at the expense of the Contractor. All claims by the Owner under this Warranty must be made in writing to Contractor's address within thirty (30) days after the Owner learns of the defect giving rise to the claim. This Warranty shall constitute a Contract made in the Province of British Columbia and shall be governed by the laws thereof.

## **PART 2 – MATERIALS**

### **2.1 GENERAL**

- a) The field shall be comprised of vertically draining synthetic turf system on a shock pad (if selected by Owner). The turf system shall consist of a synthetic grass like surface pile that shall be tufted into a synthetic backing.
- b) Infill material shall consist of clean crumb rubber and silica sand (unless the Contract provides for a City approved alternate infill material).



- c) The complete synthetic turf system shall be constructed of materials that minimize environmental impacts and risk to human health to the greatest extent feasible.
- d) All backing layers and coatings shall be firmly bonded together. Coating materials must be completely cured and bonded to the other backing layers. Synthetic turf panels or rolls that do not meet this requirement will be rejected.
- e) The entire system(s) shall be resistant to weather, insects, rot, mildew, and fungus growth, and be non-allergenic and non-toxic. The entire system shall be constructed to maximize dimensional stability, to resist damage and normal wear and tear from its designated use, and to minimize ultraviolet degradation.
- f) All adhesives used in bonding the system together shall be resistant to moisture, bacterial and fungus attacks, and resistant to ultraviolet rays at any location upon installation.

## **2.2 DYNAMIC CUSHIONING REQUIREMENTS**

- a) The dynamic cushioning of the system shall not exceed a maximum value of 120 G's per ASTM, F1936-98 and ASTM, F355, procedure A at any location upon installation.

## **2.3 PERMEABILITY REQUIREMENTS OF THE SYNTHETIC TURF SYSTEM**

- a) The system (turf, infill, and pad) shall drain vertically a minimum of 750 mm precipitation per hour without visible surface ponding.

## **2.4 SYNTHETIC TURF PILE SURFACE**

- a) The pile surface shall provide good traction in all types of weather with the use of conventional "sneaker-type shoes" and composition, moulded-sole athletic shoes.
- b) The pile surface shall be suitable for both temporary and permanent line markings using rubber-base paint where applicable.
- c) Pile surface shall be nominally uniform in length for all portions of the field. Synthetic turf panels or rolls with irregular pile heights or with "J hooked" fibres that extend more than 1/4 inch above the surrounding fibres will be rejected.
- d) The colour shall be uniform with no visible deviations in shade permitted. Rolls that do not meet this requirement will be rejected.
- e) The grass fibre height, as measured from the top of the backing layers shall be the minimum height as indicated in the Technical Product Data Sheet(s).

## **2.5 SYNTHETIC TURF FABRIC SURFACE**

- a) The fabric surface shall be constructed and installed in minimum 4.57 meter (15-foot) widths with no longitudinal or transverse seams, except for head or tee seams at field boundaries and inlaid lines within a finished roll assembly. The seams shall be 4.57 meter (15'-0") spacing.
- b) Rolls that do not lay evenly and with full dimension width will be rejected. No fitted pieces will be allowed to true alignment.

## 2.6 SYNTHETIC TURF SYSTEM MATERIAL COMPONENTS

- a) Pile fibres shall resemble freshly grown natural grass in appearance, texture, and colours.
- b) Fabric backing for the infilled synthetic turf system shall be anchored at the perimeter of the field as shown in the details.
- c) All turf seams for field areas shall be sewn with high strength, polyester fibre cord or nylon. For inlaid lines and markings where cemented seams are necessary, cemented with a supplemental backing material and/or, use supplemental backing material. If a non-permeable backing material exceeds 25 cm in width, it shall be perforated in accordance with clause 2.7 of this section. Perforations shall be drilled from the surface after the adhesive has set.

## 2.7 SYNTHETIC TURF PERFORATIONS

- a) If a permeable backing is utilized, perforations are not required. Certified independent test results indicating a minimum drainage rate of 1000 mm per hour must be provided for the backing and infill material.
- b) Synthetic turf with tufted fibres and a coated backing must include perforations in the backing for vertical drainage.
- c) Perforations in turf backing to be a minimum of 5 mm diameter clear opening and shall be spaced a maximum of 100 mm uniformly on-centre.
- d) The Consultant shall approve the turf perforations prior to shipment, upon shipment onsite, or during on-site perforating operations, as applicable.
- e) The turf shall be perforated with a minimum of 95% integrity over entire surface. Holes must be full diameter, completely through the underside of the turf backing with no material residue or fragmented fibres remaining. Rolls that do not meet this specification are to be replaced (subject to the schedule not being delayed unless approved by the Owner) or carefully drilled on site through the backing by hand.
- f) Any rolls delivered to the site that lack sufficient perforations, or have incomplete perforations shall be remediated or replaced with a roll that meets the requirements. Replacement will be of full rolls only (not partial rolls or sections of turf). Remediation measures include onsite manual perforation using a hot iron capable of burning a 5 mm diameter perforation in the turf.

## 2.8 INFILL MATERIALS

### Crumb Rubber-Based Infill

- a) Crumb rubber shall be derived from used whole vulcanized commercial truck tires. Buffings, bladders and tubes shall not be used as feedstock.
- b) Crumb rubber infill shall have a specific gravity range from 1.1 minimum to 1.2 maximum as determined by ASTM D 297.
- c) Crumb rubber infill shall have an ash content of between 5 and 15% as determined by ASTM D 297.

- d) Crumb rubber infill shall not contain more than .01% liberated fibre (no more than 0.2 lbs per ton: equivalent to 3.2 ounces of fibre per 2,000 lb 'supersack') tested per ASTM D 5603. The liberated fibre remaining in the CRI shall be free flowing and not agglomerated into clumps of fibre as received at the job site.
- e) Crumb rubber infill shall be dry and free flowing.
- f) Crumb rubber infill shall be produced cryogenically, ambiently, or a combination.
- g) Where crumb rubber/sand blend infill is utilized, the materials shall consist of a blend of clean crumb rubber and silt-free silica sand
- h) Sieve gradation specification shall be as indicated in the Technical Product Data Sheet.

Performance and Organic Infills

- i) Performance and organic infills shall be as indicated in approved technical data sheets and Manufacturers' specifications submitted at the time the Contract was executed. Performance and organic infills shall meet the same toxicological, drainage, shock attenuation and other standards as described in the Contract for crumb rubber based infills.

## 2.9 LINES AND MARKINGS

- a) A complete field lining, marking, and field boundary system shall be provided prior to installation of the surfacing system. Layouts shall be accurately surveyed and marked prior to installation. The lines and markings shall comply with the following standards (all where applicable):
  - 1) Federation Internationale de Football Association (FIFA) – Soccer
  - 2) Federation of International Lacrosse (FIL) – Unified Lacrosse
  - 3) Canadian Football League (CFL) – Football (Community)
  - 4) BC High School Sports (BCHSS) – Football (High School/NFL)
- b) The colour of the lines and markings shall comply with the following standards:
  - 1) Soccer – Yellow
  - 2) Football – White
  - 3) Lacrosse – Red
  - 4) Women's Field Lacrosse – Blue
- c) The lines and markings shall include the following, including all lines and marking indicated on the Contract Drawings:
  - 1) Soccer: All playing field boundaries, lines, and position symbols shall be fully marked in accordance with FIFA Rules.
  - 2) Lacrosse: The lacrosse field shall be marked in accordance with FIL Unified Rules. The extent of lines and markings shall be as indicated on the Drawings.
  - 3) Football: The football fields shall be marked in accordance with BCHSS and CFL Rules. The extent of lines and markings shall be as indicated on the Drawings.
  - 4) Lacrosse: The lacrosse field shall be marked in accordance with FIL Unified Rules. The extent of lines and markings shall be as indicated on the Drawings.
- d) The order of priority for lines and markings shall be as listed below (highest priority lines are indicated first). Where two lines overlap, are in conflict or share precisely the same location on the field, the higher priority line shall govern and the lower priority line will not be indicated (in the area of conflict only).

- 1) Soccer
  - 2) Football
  - 3) Lacrosse
- e) All lines and field markings shall be tufted or installed as synthetic turf inlays. Wherever possible, lines shall be tufted into the turf panels in lieu of inlays. All markings shall be uniform in colour, providing a sharp contrast with the turf colour, and shall have sharp and distinct edges. Markings shall be true and shall not vary more than 1 cm from specified width and location, except that no line or marking shall be uniformly smaller or larger than specified.
  - f) Manufacturer shall guarantee that synthetic turf is adaptable to painted lines in the event painting is utilized in the future.
  - g) For cemented seams, the supplemental backing material shall bridge all inlaid lines and markings a minimum of 10 cm on each side of the seam. Supplemental backing material that is greater than 30 cm in width shall be perforated in accordance with clause 2.07 of this section. Perforations shall be drilled from the surface after the adhesive has set.

## **2.10 MINIMUM SPECIFICATIONS FOR SYNTHETIC TURF SYSTEM MATERIALS**

- a) The minimum material standards shall be as established by Specifications and the Technical Product Data Sheets provided by the Contractor prior to Contract execution. These standards will be verified and enforced and will be the basis for the Owner's testing. Material that fails to meet these minimum standards will be rejected. The Contractor, or the manufacturer of the synthetic turf fibre and fabric, may elect to exceed these Specifications to insure compliance with all requirements and the Warranty as specified in this section.
- b) The maximum deviation with respect to the individual test results and the target standard tested against shall be plus or minus 5%, except that the material shall not be uniformly low.
- c) The minimum material standards for all synthetic turf materials must also meet or exceed those of the Synthetic Turf Council Suggested Guidelines for the Essential Elements of Synthetic Turf Systems. The minimum material standards will therefore be those combined requirements of the Technical Product Data Sheets, Contract Specifications, and the Synthetic Turf Council Suggested Guidelines for the Essential Elements of Synthetic Turf Systems.
- d) Where there is a conflict between the standards, the order of priority shall be the (1) Technical Product Data Sheets, (2) the Specifications, and (3) the Synthetic Turf Council Suggested Guidelines for the Essential Elements of Synthetic Turf Systems.
- e) Colour of synthetic turf to be green as approved by Owner with yellow/gold, white, red, and black, as called for in Section 2.08 for the lines and markings. The fibre used for the lines and markings shall be of the same composition as that used for the green field areas.

## **2.11 DRAINAGE/SHOCK PAD – MINIMUM PERFORMANCE QUALITIES**

- a) Drainage/Shock Pad shall provide impact attenuation and drainage conveyance as follows:
  - 1) Impact Attenuation – 135 max (tested without turf), 110 max (tested with turf)
  - 2) Drainage Conveyance - In-plane water flow capacity at a slope of 1% shall be a minimum of 0.155 l/s.m (0.75 gpm/ft), as tested per EN-ISO 12958 at a load of 2 kPa (0.3 psi)

- b) Product to meet the specified performance drainage and shock attenuation criteria under temperatures ranging from -20 degree Celsius to +40 degrees Celsius.
- c) Product thickness is to be uniform without any deviations.
- d) Product shall include continuous drainage channels to provide for unobstructed subsurface flow across adjacent panels in the direction of the field slope.
- e) Provide a full replacement, non-prorated twenty (20) year warranty for the Drainage/Shock Pad covering defects in products and workmanship. The warranty will cover the following:
  - 1) Infiltration rate throughout the warranty period to be at least 85% of the specified infiltration rate at installation.
  - 2) Product thickness (depth) throughout the warranty period to be not less than 70% of the specified depth at installation.
  - 3) Product to remain flat and true to the underlying granular surface and not exhibit any signs of warping or buckling of joints and edges.
  - 4) Product to not split, crack or otherwise deteriorate.
- f) Shock pad warranty is to identify the specific synthetic turf system installed over the Drainage/Shock Pad with a statement confirming the compatibility of the pad and turf system selected. The shock pad warranty is to include provision for an equivalent amount of turf supply and installation should the shock pad require repair or replacement.
- g) Shock pad warranty is to be signed by the Drainage/Shock Pad manufacturer.
- h) Pre-approved shock pad products include the following:
  - 1) Schmitz Foam Products- ProPlay Sport 23D
  - 2) Brock International – Powerbase PB2000B
  - 3) Brock International – SP14
  - 4) Brock International – Powerbase YSR

## **PART 3 – EXECUTION**

### **3.1 CERTIFICATION OF FIELD BASE INSTALLATION**

- a) The Contractor shall perform an inspection of the field base and submit written certification of acceptance of the base for the installation of the synthetic turf system. The inspection and certification shall be completed at least two working days prior to turf installation. When planning the installation schedule, the Contractor shall allow for minor field base restoration work to be performed by the field base contractor.
- b) Summary of certification shall include, but not be limited to:
  - 1) Acceptance of the base construction "finish surfaces" (planarity, granular surface stability, etc.) as being totally suitable for the application of Work specified under this section, and with the assurance that the synthetic turf installation work carried out on the field subgrade and base will result in a "superior quality" athletic surface, fully warranted for the period and conditions specified herein. The Consultant will produce a field base planarity inspection report summarizing the field planarity. This planarity report will be provided to the Contractor for the Contractor's review and acceptance.
  - 2) Verification and certification of the infiltration and permeability rates of the permeable base as applying to the Warranty. The Owner will provide permeability testing results conducted on the field base to the Contractor for the Contractor's review and acceptance.

- c) All discrepancies between the required materials, application and tolerance requirements noted by the Contractor shall be brought immediately to the attention of the Consultant. Failure of the Contractor to inform immediately the Consultant of any prior work that does not meet the required Specifications will result in the turf installer being required to perform any work needed to bring the base to acceptable condition. Note that the Contractor will not be held responsible for any hidden substandard field subgrade and base conditions.

### **3.2 SYNTHETIC TURF INSTALLATION**

- a) Perform all Work in strict accordance to the Drawings, Shop Drawings and manufacturer's specifications and instructions.
- b) Verification: The Contractor is responsible for inspecting, verifying, and accepting all installed Work of this section.
- c) Environmental Conditions: Do not apply adhesive materials or infill material when:
  - 1) Ambient air temperature is below 10 degrees C.
  - 2) Material temperatures are below 10 degrees C.
  - 3) Rain is falling or pending.
  - 4) Conditions exist, or are pending, that will be unsuitable to the installation of the system(s).
- d) Preparation:
  - 1) Accept bases onto which the synthetic turf surfacing system(s) and the anchoring system(s) are to be applied, as specified above.
  - 2) Immediately prior to application of the synthetic turf, the bases shall be thoroughly cleaned of all foreign material, soil, or any other substances that may be detrimental to permeability and the installation of the turf system(s).

### **3.3 INSPECTION OF MATERIALS**

- a) Prior to installation, and immediately upon delivery of synthetic turf system(s) materials to the Project site, the Contractor shall inspect material as follows:
  - 1) General inspection for damaged or defective items;
  - 2) Measure turf pile height and thickness of each roll;
  - 3) Measure backing perforation diameter and spacing;
  - 4) Reject damaged materials and all materials out of tolerance with the Specifications.
  - 5) Conduct such additional inspections as are required to ensure quality control is maintained to a high level.
- b) After installation, inspect Project area for acceptable seaming, adhesive bonding, uniformity of colour of turf, bubble-free surface smoothness as laid, field lines and markings, insert installations, edge details. Remove and/or repair deficient workmanship prior to requesting the Consultant's inspection pursuant to completion and acceptance of the Work.

### **3.4 OWNER'S TEST**

- a) Owner may have samples of the turf submitted and tested for verification of conformance to Specifications. Turf system acceptance is subject to the results of these tests.

- b) Any material so tested and found not conforming to the Specifications will be rejected and replaced with material conforming to the Specifications at the Contractor's expense. Re-submittal shall be required.

### **3.5 IN-FILLED SYNTHETIC TURF INSTALLATION**

- a) The fabric surface shall be constructed and installed in 4.57 meter (15 –foot) minimum widths with no longitudinal or transverse seams, except for head or tee seams at each field's boundaries and inlaid lines within a finished roll assembly.
- b) No head seams shall be permitted inside of the soccer field boundaries. A single head seam will be permitted in the quarter turned panels outside of the soccer sidelines.
- c) Rolls that do not lay evenly and with full dimension width will be rejected. No fitted pieces will be allowed to true alignment.
- d) Bonding of Material Surfaces: The bonding or fastening of all system material components shall provide a permanent, tight, secure and hazard-free, athletic playing surface. System material components include:
  - 1) Bonding all seams and inlaid line and markings.
  - 2) Bonding and seaming must maintain their integrity for total length of Warranty period.
- e) Seams (Joint)
  - 1) All turf seams shall be sewn with high strength polyester fibre cord or nylon.
  - 2) Where cemented seams are required for inlaid lines and markings, the supplemental backing material shall bridge all seams a minimum of 100 mm on each side of the seam. Supplemental backing material that is greater than 250 mm in width shall be perforated in accordance with paragraph 2.07 of this section. Perforations shall be drilled from the surface after the adhesive has set.
  - 3) Backing layers must lie flat on the field base to provide a uniform pile surface.
  - 4) The width between fibre rows at the seam locations shall not exceed that of the tufting gauge of the turf materials.
  - 5) All sewn seams shall be brushed to provide full coverage of fibre over the thread.
  - 6) All cemented seams shall be brushed to eliminate any adhesive materials from the fibres.
- f) Turf Edges: Turf edges to be as shown on the edge fastening detail and specified herein.

### **3.6 LINING / MARKING INSTALLATION**

- a) Complete field markings shall be provided with the initial installation of the surfacing system. The Contractor shall provide lines and markings in conformance with these Specifications. Layouts shall be accurately surveyed and marked prior to installation.
- b) If overlapping backing materials are utilized for the inlaid lines and markings resulting in a non-permeable surface in excess of 250 mm wide, the backing materials shall be perforated in conformance with section 2.07 from the surfacing after gluing and prior to installation of the infill material.

### **3.7 INFILL INSTALLATION**

- a) The infill material shall be applied in a dry condition and when the synthetic turf is dry.

- b) For 100% rubber infill installations, the rubber infill material shall be applied in uniform layers with a minimum of five applications. For sand and rubber infill systems, the infill materials will be installed with a minimum of eight applications.
- c) The infill installation shall not result in fibre material trapped below the surface of the infill material. If fibre is trapped below the surface, a portion or all of the infill material must be removed and reinstalled.
- d) The infill material shall be installed at a uniform depth across each entire field area. Infill depths shall not vary by more than 5 mm across each field area.
- e) The brushing of the infill material shall provide fibre fibrillation resulting in a natural surface appearance.
- f) The infill materials shall be water settled to provide accelerated consolidation of the infill material prior to use by the Owner. The Contractor shall utilize portable sprinkler heads to apply evenly a minimum of 20 mm of water over each entire field area for water settlement. Upon completion of the initial water settlement, each surface will be inspected by the Owner and Consultant for footing stability and infill consolidation. The Contractor shall provide any additional water settling as required by the Owner and Consultant to achieve the desired level of infill stability and consolidation.

### **3.8 CLEANING**

- a) The Contractor shall remove all excess materials of all types, equipment, debris, etc., from the site immediately after completion of the Work. Remove all stains and other blemishes from all finished surfaces. Leave Work in a clean, new appearing condition, ready for use by Owner.
- b) The Contractor shall inspect each entire field area with a hand held metal detector to identify any construction materials or tools left on the field. All such materials shall be removed prior to Owner occupancy of the fields.

### **3.9 PROTECTION**

- a) Adequate protection of materials and Work from damage will be the responsibility of the Contractor during installation and until acceptance of the Work. The Contractor will be responsible for protection after the acceptance of the Work until final acceptance of all Contract Work by the Owner. All material damaged or stolen prior to acceptance by the Owner shall be replaced at no cost to the Owner.

### **3.10 EXTRA MATERIALS**

- a) Deliver to Owner extra materials herein specified. Receive Owner's written receipt for all materials. Deliver receipt to Consultant.
- b) Infill Materials: Provide four (4) 120-litre rubber trash containers with lids of each infill material used.
- c) Turf for Future Repairs: Material may be roll ends or cut-offs; however, each piece of fabric shall be at least 2 meters x 3 meters. At least one green turf piece shall be at least 3 meters x 4.5 meters. The following are minimum areas for the extra synthetic turf materials to be provided by Contractor to the Owner:
  - 1) Green Turf: 100 square meters



- 2) Yellow Turf: 30 lineal meters of 100 mm wide lines
- 3) White Turf: 30 lineal meters of 120 mm wide lines
- 4) Red Turf: 30 lineal meters of 100 mm wide lines

**\*\*END OF SECTION\*\***



Corporation of the City of  
**NEW WESTMINSTER**

**NWRFP-15-29**

**APPENDIX D**

**Project Drawings**

Drawings posted in separate file.