



THE CORPORATION OF THE TOWN OF ST MARYS

REQUEST FOR TENDER:

RFT-DEV-05-2017

Recreation & Facility Department

**Lind Sportsplex
Roof System Restoration**

CLOSING DATE: 11:00:00 a.m., March 27, 2017

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I have read this page in complete and will comply with all instructions - Initials of Proponent	
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THE CORPORATION OF THE TOWN OF ST. MARYS
Lind Sportsplex – Roof System Restoration
Recreation & Facility Department.

1. INSTRUCTIONS TO BIDDERS

- 1.1 Sealed bids must clearly identify the Bidder's Name and Company in the return address detail and be marked "Lind Sportsplex – Roof System Restoration" addressed to:
Town of St Marys, Municipal Operation Centre, ATT: Ray Cousineau BID#: RFT-DEV-05-2017
P. O. Box 998, 408 James Street, St Marys , Ontario, N4X 1B6 will be received up to:
11:00:00 a.m., Local Time, March 27, 2017 at the Front Service Desk
and opened publicly at the same location at:
11:15:00 a.m., Local Time, March 27, 2017
- 1.2 Each bid shall contain the full name of the party or parties bidding and the signature of the parties bidding shall be in their respective handwriting.
- 1.3 Bids must be submitted on the forms provided.
- 1.4 The intent of this project is to supply the necessary labour, materials, equipment and services required to complete the roof restoration of the Lind Sportsplex as per attached General Conditions, and Specifications, and as directed by Ray Cousineau, Facilities Supervisor, 519-284-2340 Ext 637 or at rcousineau@town.stmarys.on.ca .
- 1.5 All submissions shall indicate separately, Harmonized Sales Tax (H.S.T.). It is the responsibility of the bidder to verify with the Customs and Excise Branch of Canada Customs and Revenue Agency any rulings for payment of tax or tax exemptions. Prices quoted shall be in Canadian funds inclusive of customs, duty and freight and F.O.B. job site, St. Marys, Ontario.
- 1.6 Prices quoted are to remain firm for acceptance for a period of ninety (90) days after closing date unless otherwise stated herein.
- 1.7 Each Bidder must thoroughly examine all documents as well make his own estimate for the proposed work before submitting his bid and must satisfy himself by personal examinations as to the local conditions to be met while completing the specified work.
He is not to claim at any time after the submission of his bid that there was any misunderstanding of the terms and conditions of the Contract relating to the site conditions.
- 1.8 There is a Mandatory site meeting scheduled for Monday March 20, 2017 at 9:30 am. Please meet at Lind Sportsplex, south end of the building at 425 Water Street S. in St. Mary's. All bidders must be present at the site meeting to be considered for the project.
- 1.9 The bidder warrants that any goods, materials, articles or equipment to be supplied under or pursuant to any official order or contract based on this Bid, that is or are to be made or used for a particular purpose, will be fit and suitable for that purpose.

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THE CORPORATION OF THE TOWN OF ST. MARYS
Lind Sportsplex – Roof System Restoration
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- 1.10 Unless otherwise stated all goods supplied as a result of this Bid request shall be new only, never used, of the latest manufacture and not re-manufactured.
- 1.11 The bidder shall be allowed Ten (10) calendar days from the date of the notification of acceptance to either provide all required documents to the department issuing the bid and in turn they will return the contract along with all required documents to the Designated Official. The executed contract will then be signed by the Corporation and a copy will be returned to the contractor.
- 1.12 The estimated starting date for this project is April 15, 2017. The successful bidder agrees to start the work on this project within seven (7) calendar days from confirmation that the work can start, or as agreed upon between the parties, weather permitting.
- 1.13 The bidder shall complete this project to the satisfaction of the Corporation by June 30, 2017.
- 1.14 Time shall in all respects be of the essence hereof provided that the time for doing or completing or any matter provided for herein may be extended or abridged by an agreement in writing signed by the parties hereto. No addendum(s) will be issued within 48 hours prior to bid closing. All addendum(s) become part of the quotation documents and must be acknowledged and/or submitted as instructed with the bid. All addendum(s) will be posted on the Town of St. Marys website; <http://www.town.stmary.on.ca>.
- 1.15 It is the Bidder's sole responsibility to check the website for addendum(s) prior to submitting their bid. Any bid received without addendum(s) acknowledged and/or submitted as instructed will be rejected.
- 1.16 No bid will be accepted from any company inclusive of its subcontractor, which has a claim or instituted a legal proceeding or has threatened a claim or instituted a legal proceeding against The Corporation or against whom the Corporation has a claim or instituted a legal proceeding with respect to any previous contract, without prior approval by Council.
- 1.17 The lowest or any Bid will not necessarily be accepted. The Corporation of the Town of St. Marys reserves the right to accept or reject any or all bids, to award the contract on a split-order basis, lump-sum or individual-item basis, or such combination as shall best serve the interests of the Town. The award is not based solely on price but on a combination of past performance with the Town of St. Marys, satisfactory reference checks and price.
- 1.18 Instances where a bid shall be rejected as unacceptable are:**
Incomplete bids (all items put to tender are not bid).
Bids are not properly signed and dated.
Bids offered or received after the specified closing time.*
Bids that contain restrictions placed on the goods or services, by the vendor.

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Lind Sportsplex – Roof System Restoration
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- Bids completed in pencil, rather than typed or written in ink.**
- Bids withdrawn by the vendor or his agent.****
- Bids with calculations not completed as per instructions.**
- Bids completed on forms other than those supplied by The Corporation of the Town of St. Marys within this tender and specification document.**
- Bids submitted without the required documentation attached or completed, bonding, etc.**
- Bids that do not include samples and / or submittals (when requested).**
- Bids where the bidder did not attend a mandatory site meeting.**
- Bids where goods or services do not comply with called for specifications.**

***Bids received after the designated closing time and date specified, will be returned to the vendor unopened.**

**** Request for withdrawal of a bid shall be allowed if the request is made before the closing time. Requests must be directed to the Facilities Supervisor by a Senior Official of the company with a signed withdrawal confirming the details. Telephone requests will not be considered. The withdrawal of the bid does not disqualify a bidder from submitting another bid on the same contract.**

No facsimile bids accepted.

2. GENERAL TERMS AND CONDITIONS

2.1 EXTENT:

The Contractor shall be liable for all costs of doing the work, including labour, benefits, equipment, operating materials and taxes.

2.2 TENDER DEPOSIT(S)/PERFORMANCE BOND(S)/INSURANCE:

If required elsewhere in this document, the Contractor shall provide Tender/Quotation Deposits and/or Performance Bonding and Liability Insurance from financial institutions licensed to carry on operations in the Province of Ontario, Canada.

2.3 CONTRACTOR'S RESPONSIBILITY:

The Contractor, upon award of this contract, and prior signing of contract documents must complete The Corporation of the Town of St. Marys attached Certificate of Insurance, as per the following:

2.4 INSURANCE:

Before commencement of the work the Contractor must furnish to The Corporation of the Town of St. Marys, a Certificate of Insurance detailing such coverage as provided under the Commercial General Liability policy in force throughout the term of this agreement general public liability insurance with a minimum coverage of \$2,000,000 (Two Million Dollars) in accordance with the Town's practices. Coverage shall be effected by such Insurer(s) licensed in the Province of Ontario, Canada, and/or acceptable to The Corporation of the Town of St. Marys.

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The policies will not be altered to the detriment of the Town, cancelled or allowed to lapse without giving 30 days written notice to The Corporation of the Town of St. Marys and shall remain in force from Contract execution to the end of the contractors Warranty period.

The Corporation of the Town of St. Marys and the Owners Representative must be included as Additional Insured with respect to the Commercial General Liability policy.

The Contractor shall indemnify and hold harmless the Corporation of the Town of St. Marys, its officers and employees from and against any and all liabilities, claims, demands, loss, cost, damages, actions, suits or other proceedings by whomsoever made, directly or indirectly arising out of the project attributable to bodily injury, sickness, disease or death or to damage to or destruction of tangible property caused by acts or omissions of the Contractor, its officers, agents, servants, employees, customers, invitees or licensees, or occurring in or on the premises or any part thereof and, as a result of activities under this contract.

2.5 WORKPLACE SAFETY & INSURANCE BOARD:

a) The successful bidder shall furnish a WSIB Clearance Certificate indicating their WSIB firm number, account number and that their account is in good standing. This certificate must be furnished prior to commencement of work, and shall provide additional certificates prior to the expiry date of the certificate on file during the term of the contract to ensure their WSIB account in good standing throughout the contract period.

b) If the successful bidder is an independent operator, sole proprietor, partner in partnership or executive officer and is exempt from requiring WSIB coverage by being recognized as an 'independent operator' they must produce a letter from WSIB acknowledging independent operator status which confirms WSIB coverage is not required. Such evidence must be provided to the Town prior to commencement of work. Effective January 1, 2013, independent operators, sole proprietors, partners in partnership and executive officers in the construction industry will be required to have WSIB coverage and therefore subject to clause a.

2.6 OWNER'S RESPONSIBILITY:

The Owner shall indemnify and hold harmless the Contractor, his agents and employees from and against claims, demands, losses, costs, damages, actions, suits or proceeding arising out of the Contractor's performance of the Contract which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the Place of Work.

2.7 PATENTS AND COPYRIGHTS:

The Contractor shall indemnify and save harmless the Corporation from all and every claim for damages, royalties or fees for the infringement of any patented invention, trademark or copyright occasioned by him in connection with work done or material furnished by him under this Contract.

2.8 HEALTH & SAFETY:

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The Contractor shall submit one copy of each of the following items:

- a) Contractor’s written Health and Safety policy statement as required under Section 25 (2) (j) of the Occupational Health and Safety Act or where not required any other written safe work procedures applicable to the work or a written description of the safety practices applicable to the work.
- b) Proof that Personnel have received training in accordance with the requirements of the Ontario Workplace Hazardous Materials Information System.
- c) The Contractor must supply a list of the designated substance and/or bio-hazard or chemical materials that will be brought onto the worksite, as well as Material Safety Data sheets (MSDS) for same.
- d) The name of the Contractor’s Personnel who hold a valid Standard First Aid Certificate.
- e) Additional safety clauses must still be addressed in the documentation where required (ie: confined space, asbestos, lead abatement, project specific certifications and/or training.)

2.9 ACCESSIBILITY STANDARDS FOR CUSTOMER SERVICE:

The Bidder shall comply with the provisions of the *Accessibility for Ontarians with Disabilities Act, 2005*, and the Regulations thereunder with regard to the provision of its goods or services contemplated herein in persons with disabilities. Without limitation, if applicable, pursuant to section 6 of Ontario Regulation 429/07, *Accessibility Standards for Customer Service*, made under the *Accessibility for Ontarians with Disabilities Act, 2005*, the Bidder shall ensure that all of its employees, agents, volunteers, or others for whom it is at law responsible, receive training about the provision of its goods and services to persons with disabilities. The Bidder acknowledges that pursuant to the *Accessibility for Ontarians with Disabilities Act, 2005*, the Town of St. Marys must, in deciding to purchase goods or services through its procurement process, consider the accessibility for persons with disabilities to such goods or services.

2.10 MUNICIPAL FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT (MFIPPA):

In accordance with the Municipal Freedom of Information and Protection of Privacy Act, this is to advise that the personal information Bidders provide is being collected under authority of the Municipal Act and will be used exclusively in the selection process. All bids submitted become the property of The Corporation of the Town of St. Marys. Because of MFIPPA, Bidders are reminded to identify in their bid material any specific scientific, technical, commercial, proprietary, or similar confidential information, the disclosure of which could cause them injury. Complete bids are not to be identified as confidential.

2.11 ACCEPTANCE OF SURFACES:

It is the Contractors’ responsibility to examine the work of other trades on which the work of any section depends and report to the Department tendering, in writing, any unsatisfactory site conditions or defects affecting the work. Commencement of work will imply acceptance of the surface.

2.12 PERMITS, LICENSES AND REGULATIONS:

The Bidder shall apply and pay for all necessary permits and licenses, approvals and consents required for the execution of the work. The Bidder shall give all necessary notices and pay all fees required by law and comply with all laws, by-laws, rules, regulations, and requirements relating to the work and to the preservation of public health. The Bidder shall be responsible for the safety of all workers and equipment

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On the site in accordance with all applicable safety legislation passed by Federal, Provincial and Local Authorities governing construction safety.

2.13 AUTHORITY TO CHANGE:

No changes shall be made from this document without the approval of the Department tendering. Staff do not have the authority to request changes.

2.14 LOCATION OF SERVICES:

It is the responsibility of the Contractor to do a locate of services at least two (2) weeks prior to beginning work. St. Marys is now a member of Ontario One Call. Contact - phone 1-800-400-2255, fax 1-800-400-8876 or www.on1call.com. Note, you **MUST** still make separate arrangements with other utility companies such as Festival Hydro and Rogers Cable.

2.15 INSPECTION AND TESTING:

The Owner and/or its' representative shall at all times have access to the work, whether it is the preparation or progress, and the general contractor and/or contractor shall provide proper facilities for such access and inspection.

2.16 PROTECTION OF PROPERTY:

- a) The Contractor will be responsible for any damage that may occur relative to the execution of all operations arising from this Contract. Any damage done to the Town's or surrounding property must be made good to the satisfaction of The Corporation of the Town of St. Marys.
- b) The Contractor will supply adequate and competent flagmen to control traffic, if required, during the project.
- c) The Contractor shall maintain adequate fire protection at the site, portable fire extinguishers, etc., to the satisfaction of the Town Department tendering and The Corporation of the St. Marys.
- d) Temporary safeguards and protection shall be provided to adequately guard against injuries to the public, particularly children and workmen by accidents around and adjacent to the project.

2.17 PARKING/DUMPSTERS/PRODUCT AND EQUIPMENT STORAGE:

It is the responsibility of the Contractor to investigate local conditions, by-laws, restrictions etc., pertaining to parking of vehicles or equipment, location of on-site dumpsters or storage of work related materials, supplies tools and equipment with respect to this project.

2.18 MISCELLANEOUS FEES:

The Contractor will be responsible for paying any parking/meter costs, tipping fees, disposal costs (i.e. freon etc.).

2.19 REMOVAL AND DISPOSAL:

All materials as specified herein to be removed and disposed of shall be removed by the contractor and disposed of in a manner that is satisfactory to the Municipality. The entire job site shall be left in an orderly and appropriate condition upon the completion of the work.

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2.20 ON SITE BURNING/EXPLOSIVES:

No on-site burning of material or explosives will be permitted.

2.21 DELAY IN PROJECT:

All damage, loss, expense and delay incurred or experienced by the Contractor in the execution of the work, by reason of unanticipated difficulties, shall be accepted by the Contractor and shall not be the subject of a claim for additional compensation.

2.22 TERMINATION:

The Corporation of the Town of St. Marys reserves the right to cancel this agreement upon any violation of this agreement or the quality of work and/or performance of equipment with thirty (30) calendar days written notice.

2.23 ASSIGNMENT:

The Contractor shall not assign the Contract nor the proceeds without the written consent of the Town.

2.24 TAKING THE WORK OUT OF THE CONTRACTOR'S HAND:

Where the Contractor becomes bankrupt or insolvent, delays commencing or diligently executing the Work, abandons the Work or has otherwise failed to perform any of the provisions of the Contract, the Town may, without previous notice and without process or suit at law, take the work out of the hands of the Contractor and have it completed by whatever means are considered necessary. In addition to any other remedy available in law or equity, the Town may use all monies due on the Contract to correct or complete the work.

2.25 NO ADDITIONAL PAYMENT FOR INCREASED COSTS:

The amount payable to the Contractor under the contract will not be increased or decreased by reason of any increase or decrease in the cost of the work brought about by any increase or decrease in the cost of plant, equipment, labour, materials, or the wage rates set out and prescribed herein.

2.26 TERM OF CONTRACT

The Successful Proponent shall not assign transfer, convey, sublet or otherwise dispose of this agreement or his/her right, title or interest therein, or his power to execute such contract, to any other person, company or corporation, without the previous consent, in writing, of the Corporation's officials, which consent shall not be unreasonably withheld.

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3. LIST OF REFERENCES

Please provide the information requested below. Reference checks will be completed and the decision to award the tender will be based on the Town of St. Marys’ assessment of overall qualified low bidder. Experience listed below must be relevant to the current project in scope and value, completed within the past 3 years and must NOT be for Town of St. Marys jobs. If there is additional information you wish to provide with regard to reference, please do so on the reverse of this sheet. **If the Town is unable to obtain a satisfactory reference or if the reference does not respond to the reference call or if the reference chooses not to comment, the reference will be deemed unsatisfactory.**

Project Name					
Company for whom the work was complete:					
On the project did your firm act as	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">General Contractor</td> <td style="text-align: center;">Subcontractor</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	General Contractor	Subcontractor	<input type="checkbox"/>	<input type="checkbox"/>
General Contractor	Subcontractor				
<input type="checkbox"/>	<input type="checkbox"/>				
What was the value of the project or your portion of the project?	\$				
Contact Name at the owner's facility					
Telephone Number with area code					
Date of Completion of this project					

Project Name					
Company for whom the work was complete:					
On the project did your firm act as	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">General Contractor</td> <td style="text-align: center;">Subcontractor</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	General Contractor	Subcontractor	<input type="checkbox"/>	<input type="checkbox"/>
General Contractor	Subcontractor				
<input type="checkbox"/>	<input type="checkbox"/>				
What was the value of the project or your portion of the project?	\$				
Contact Name at the owner's facility					
Telephone Number with area code					
Date of Completion of this project					

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Project Name			
Company for whom the work was complete:			
On the project did your firm act as	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">General Contractor <input type="checkbox"/></td> <td style="width: 50%; text-align: center;">Subcontractor <input type="checkbox"/></td> </tr> </table>	General Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
General Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>		
What was the value of the project or your portion of the project?	\$		
Contact Name at the owner's facility			
Telephone Number with area code			
Date of Completion of this project			

Pursuant to Section 29(1a) of the Municipal Freedom of Information Act, I authorize the Town of St. Marys to contact the person or company listed for the purpose of obtaining reference information.

Signature: _____
(Authorized signing officer)

Date: _____

I have read this page in complete and will comply with all instructions - Initials of Proponent	
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THE CORPORATION OF THE TOWN OF ST. MARYS
Lind Sportsplex – Roof System Restoration
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4. BIDDER'S DECLARATION

To: The Corporation of the Town of St. Mary's

I/We _____
(Name)

(Title/position)

of _____
(Name of firm)

1. DECLARE that no person, firm or corporation other than the one who's signature or the signature of whose proper officers I attached below, has any interest in this bid or in the Contract proposed to be undertaken.
2. FURTHER DECLARE that this bid is made without any connection, knowledge, comparison of figures or arrangement with any other company, firm or person making a bid for the same requirement (unless performed under a "joint" agreement and so declared in the bid), and in all respects is fair and without collusion or fraud.
3. FURTHER DECLARE that no Town of St. Marys employee, or Member of Council is, or will become interested directly or indirectly as a contracting party unless disclosed as follows:
4. FURTHER DECLARE that all statements, schedules and other information provided in this bid are true, complete and accurate in all respects to the best knowledge and belief of the Proponent.
5. FURTHER DECLARE that I have carefully examined the bid, response requirements, general conditions, requirements and hereby acknowledge the same to be part and parcel of any contract to be let for this project therein described or defined and do all the work and to provide the services of the project mentioned for the price(s) stated.
6. FURTHER DECLARE that the agent listed below is hereby authorized by the Proponent to submit this bid and is empowered and authorized to negotiate all matters with the Town representatives on behalf of the Proponent.
7. AGREE that this bid is to continue open for acceptance until the formal Contract is executed or for ninety (90) days following the bid closing date, whichever occurs first and that the town may, at any time within that period, without notice, accept this bid whether any other bid has been previously accepted or not.

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8. Agrees to have checked the Town of St. Marys website and have allowed for Addenda numbered as follows: _____ through to _____.

Signature of Authorized Officer

Name of Authorized Officer (print)

I have read this page in complete and will comply with all instructions - Initials of Proponent	
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TENDER FORM

FOR THE PROVISION OF:	LOW ODOR, ASPHALTIC POLYURTHANE, RESTORATION SYSTEM LIND SPORTSPLEX (RFT-DEV-05-2017) (425 WATER STREET SOUTH, ST. MARYS, ON)
AS SUPPLIED BY:	FIRM NAME
	ADDRESS POSTAL CODE
	HEREINAFTER CALLED THE BIDDER

TO:	THE CORPORATION OF THE TOWN OF ST MARYS 408 JAMES STREET, ST. MARYS, ON N4X 1B6 HEREINAFTER CALLED THE BUILDING OWNER
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THE BIDDER DECLARES

1. No person(s), firm or corporation, other than the Bidder, has any personal interest in this Tender or in the award for which this Tender is made;
2. No officer or employee of the Corporation is or will become interested directly or indirectly as a contracting party, partner, shareholder, surety or in any portion of the profits thereof, or in any of the monies to be derived, therefrom;
3. This Tender is made without any connection, comparison of figures, or arrangements with, or knowledge of any other corporation, firm or person making a Tender for the same and is in all respects without collusion or fraud;
4. By signing this submission, I confirm I have read and understood the content and requirements of this Tender document;

ACKNOWLEDGEMENT TO RECEIPT OF ADDENDA

This will acknowledge receipt of the following addenda and, that the pricing tendered includes the provision set out in such addenda

ADDENDUM #	DATE RECEIVED
# _____	_____
# _____	_____
# _____	_____

Check here if NO Addenda received

LOWEST OR ANY TENDER NOT NECESSARILY ACCEPTED

DATED _____ 2017

SIGNATURE OF WITNESS

SIGNATURE OF BIDDER

By my signature, I hereby confirm I am a principal, or have been duly authorized by the principal/board, to sign on behalf of the above named.

SCHEDULE OF ITEMS AND PRICES

I/We have examined the conditions at the site, the drawings, specifications and all addenda thereto as acknowledged hereafter and hereby offer to furnish all materials, plant and labour for the proper completion of the entire work in all trades as planned and specified, and in accordance with the foregoing drawings, specifications and addendum for the sum of:

DESCRIPTION OF ITEM	PRICE
<p>LIND SPORTSPLEX ROOF RESTORATION:</p> <p>RESTORATION OF MODIFIED BUR SURFACE WITH LOW ODOR, COLD APPLIED ASPHALTIC POLYURETHANE, FULLY REINFORCED, RESTORAION TREATMENT AND HIGH STRENGTH MODIFIED BITUMEN FLASHINGS WITH REFLECTIVE SURFACE.</p> <p>PRICE COMPLETE, INCLUDING SUPPLY AND INSTALLATION OF MEMBRANE RESTORATION, SITE PREPARATION, ALL LABOUR, EQUIPMENT, MACHINERY, TOOLS AND PARTS USED, ALL WORK AS DESCRIBED, SITE CLEAN-UP, REMOVAL FROM SITE ALL PACKAGING AND RUBBISH, WARRANTIES, GUARANTEES AND ALL OTHER COSTS.</p>	\$ _____
H.S.T.	\$ _____
TOTAL	\$ _____
	\$ _____
H.S.T.	\$ _____
TOTAL	\$ _____
	\$ _____
H.S.T.	\$ _____
TOTAL	\$ _____

Bidder: _____ **Date** _____

Signature: _____

Owner Acceptance: _____ **Date** _____

BIDDER INFORMATION FORM

BIDDERS must complete this form and include with the Tender Submission
Please ensure all information is legible.

1.	Bidder's Contact Individual	
2.	Office Phone #	
3.	Toll Free #	
4.	Cellular #	
5.	Fax #	
6.	e-mail address	
7.	Website	
8.	WSIB Account #	
9.	HST Account #	

Bidder: _____ **Date** _____

Signature: _____

Owner Acceptance: _____ **Date** _____

AREAS OF ROOF RESTORATION

1.0 INVITATION TO TENDER

- .1 The Town of St. Marys invites a tender for the restoration of the existing roof above the Lind Sportsplex located at 425 Water Street South, in St. Marys, ON with a low odor, asphaltic polyurethane restoration coating with reinforcement layer and new high strength SBS/SIS Modified Bitumen flashings installed with cold applied, polymer modified adhesive and with reflective aluminized coating.
- .2 A mandatory site-meeting will be held at 425 Water Street S, in St. Marys to review the site conditions and take measurements as required on March 20th, 2017 at 9:30 AM.
- .3 The tenders shall be submitted by the bid closing date of: March 27, 2017 at 11:00 a.m. on the bid documents provided and placed in a sealed envelope and delivered in accordance with the instructions above in “Instructions to Bidders”
- .4 Questions arising from these specifications during the tender period shall be directed to:

Michael Ische	Representative
Phone:	519.860.4488
Email:	ische@garlandcanada.com
- .5 All bidding Contractors shall complete work in accordance to the standards set out by the **OIRCA** and shall meet the approval of the primary material manufacturer, with a minimum of 10-years of experience completing projects of similar type and scope.
- .6 **ISO 9002 CERTIFICATION** - The primary waterproofing membrane, mastics and resaturants shall be purchased only from companies that manufacture, produce, or purchase for resale these same products in accordance with a quality system that is currently certified and registered by an accredited registrar as meeting the minimum quality assurance standards outlined in the ISO 9001 or ISO 9002 program. The Manufacturer's ISO certification number must be included in the bid documents along with the name of the licensed quality assessment auditing firm issuing the certification.

SECTION 00 72 00 - GENERAL CONDITIONS

PART 1 — GENERAL

1.1 DEFINITIONS

- A. The contract document consists of the AGREEMENT, the GENERAL CONDITIONS of the contract, the DRAWINGS and the SPECIFICATIONS, including all revisions hereto.
- B. The Owner, the Contractor and the Owner's Representative shall be indicated as such throughout these documents. The term Contractor as used herein shall designate the successful bidder to whom the roof contract is awarded.
- C. The term Owner shall be understood to be **The Corporation of the Town of St. Marys**

1.2 OWNER'S REPRESENTATIVE STATUS

- A. The Owner's Representative shall have general Rights of Inspection of the work and is the agent of the Owner in all matters pertaining to the work as provided in the Contract Documents. The Owner's Representative has the authority to stop work whenever such stoppage may be necessary to ensure the proper execution of the contract and shall have authority to reject any and all materials, whether worked or unworked, if such materials are not in accordance with the plans and specifications.

1.3 CONDITION OF SITE

- A. The bidders shall visit the site, and attend the mandatory pre-bid site meeting, before submitting their bids and determine the field conditions affecting their work. In considering the bids, the Owner will assume that the bidders are aware of all items, pertinent to their work and have made allowance for same in their bids.

1.4 VERIFICATION OF DIMENSIONS AND ELEVATIONS

- A. Dimensions and elevations indicated on the drawings in reference to existing structures or utilities are the best available data obtainable but are not guaranteed by the Owner's Representative and the Owner's Representative will not be responsible for their accuracy. Before bidding on any work dependent upon the data involved, the Contractor shall field check and verify all dimensions, grades, lines, levels or other conditions of limitations at the site to avoid construction errors. If any work is performed by the Contractor or any of his/her sub-contractors prior to adequate verification or applicable data, any resultant extra cost for adjustment of work as required to conform to existing limitations, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

1.5 PROTECTION OF OWNER'S OPERATIONS

- A. The Contractor shall erect such barriers, tarpaulins, doors, etc., as may be necessary to protect the Owner's operations while work is in progress. Any such openings that are essential to carrying on the work shall be securely closed by the Contractor when not in use to protect the Owner's operations.

1.6 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall maintain adequate protection of all his/her work from damage and shall protect the Owner's and adjacent property from injury or loss arising from this contract. He/she shall provide and maintain at all times any danger signs, guards and/or obstructions necessary to protect the public and his/her workmen from any dangers inherent with or created by the work in progress. He/she shall hold the Owner harmless from any loss arising due to injury or accident to the public or his/her workmen, or from theft of materials stored at the job site. All materials will be stored in locations other than on roof surfaces except as necessary and shall then be placed on plywood or other type of material to protect the roof surface at all times.
- B. Before starting any work, the Contractor shall protect all grounds, copings, paving and exterior of all buildings where work will be performed.
- C. In those areas where materials and/or hot asphalt will be raised to the roof area, a protective covering shall be placed from the base of the wall extending up and over the top edge of the roof. This coverage shall be wide enough to assure that the exterior walls do not become stained or soiled during roofing operations.
- D. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.

1.7 MATERIAL STORAGE AND CLEAN-UP

- A. The Contractor shall keep the premises free from rubbish at all times and shall arrange his/her material storage so as not to interfere with the Owner's operations. At the completion of the job, all the unused material and rubbish shall be removed from the site. The ground shall be raked clean and the building shall be broom cleaned. If the Contractor refuses at any time to remove his/her debris from the premises, or to keep the working area clean, such cleaning will be completed by the Owner and deducted from the balance due the Contractor.
- B. The Contractor shall also remove drippage of bitumen or adhesive from all walls, windows, floors, ladders and finished surfaces. Failure to do so will result in the work being done by others and the cost shall be deducted from the balance due the Contractor.
- C. Materials must be delivered with manufacturer's label intact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of the manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor at no cost to the Owner.

1.8 INSPECTION OF WORK

- A. Where the drawings or specifications require the inspection and approval of any work in progress by the Owner's Representative, the Contractor shall give that Representative ample notice to allow for scheduling the inspection, which shall be made promptly to avoid delay of work. If work has progressed without the required inspections or approval by the Representative, it shall be uncovered for inspection at the Contractor's expense.

- B. Uncovering of work not originally inspected, or uncovering questioned work may be ordered by the Owner's Representative and it shall be done by the Contractor. If examination proves such work to be incorrectly done or not done in accordance with the plans and specifications, the Contractor shall bear all cost of the reexamination. If the work is proven correctly installed, all such expense shall be born by the Owner.

1.9 INSPECTION OF WORK IN PROGRESS AND UPON COMPLETION

- A. If directed by the Owner's Representative, the Contractor shall cut not more than four (4) cores, of approximately 200 square inches each, from every newly restored roof area, in order to establish the amount of materials used per square foot, and shall restore all such areas to sound and watertight conditions as prior to the core testing.
- B. In the event that such core cuts disclose any deficiency in materials, or soundness of construction, the Contractor shall, at his/her own expense, apply additional materials or otherwise correct the deficiencies to the satisfaction of the Owner's Representative.
- C. Noncompliance with the terms of this specification and ensuing contract can result in either the cancellation of the contract, or complete replacement of the defective areas at the Contractor's expense. In the event of cancellation, the Owner will not be obligated to compensate the Contractor for any work undertaken in a defective manner.
- D. Damages caused by water infiltration resulting from the failure of the Contractor to secure each day's work in a weather tight manner, will be corrected at the Contractor's expense. Included as damages will be all labor costs incurred by the Owner as a result of such water infiltration.
- E. The Owner will require the Owner's Representative to examine the work in progress, as well as upon completion, in order to ascertain the extent to which the materials and procedures conform to the requirements of these specifications and to the published instructions of the Manufacturer.
- F. The authorized Owner's Representative shall be responsible for:
1. Completing daily on-site inspection of work completed by the Roofing Contractor.
 2. Keeping the Owner informed on a periodic basis as to the progress and quality of the work;
 3. Calling to the attention of the Contractor those matters he/she considers to be in violation of the contract requirements;
 4. Reporting to the Owner any failure or refusal of the Contractor to correct unacceptable practices;
 5. Conducting preliminary and subsequent job-site meetings with the Contractor's official job representative;
 6. Supervising the taking of test cuts, and the restoration of such areas;
 7. Rendering any other inspection services which the Owner may designate; and

8. Certifying, after completion of the work, the extent to which the Contractor has complied with these specifications as well as to the published instructions of the Manufacturing Company.
- G. The presence and activities of the Owner's Representative shall in no way relieve the Contractor of his/her contractual responsibilities.

1.10 MISCELLANEOUS UTILITIES

- A. Electrical power will be furnished by the Owner for small tools only. All connections to the electrical system will be furnished by the Contractor.
- B. Water for concrete, mortar, washing and drinking purposes will be furnished by the Owner. Any connections to the water system shall be completed by the Contractor.
- C. At the completion of the work, or when the above connections are no longer required, the Contractor shall remove all connections and leave the facilities in a condition at least as satisfactory as prior to the commencement of his/her work.
- D. Toilet facilities will be provided by the Contractor. The Contractor will be responsible for supplying a portable toilet on the job-site. The Contractor's personnel are not permitted to enter the building without proper authorization from the Owner or Owner's Representative.

1.11 CHANGES OR EXTRA WORK

- A. The Owner may, without invalidating the original contract, order such changes or additions as may from time to time be deemed desirable. In so doing, the contract price shall be adjusted, as stated below, with all work being done under the conditions of the original contract except for such adjustments in extension of time as may be acceptable to the Owner. The value of such extra work shall be determined in one of the following ways:
 1. By firm price adjustment;
 2. By cost plus with a guaranteed maximum;
 3. By cost with a fixed fee; or
 4. By unit cost.
- B. If agreement is reached that the extra cost shall be handled as per methods 2, 3, or 4, the Contractor shall keep and compile a correct amount of the cost together with such vouchers, etc., as may be necessary to substantiate same for presentation to the Owner. The Owner's Representative shall have authority to make minor job changes or additions as may be necessary to expedite the job providing such changes do not involve additional material cost. No major change or addition shall be made except upon receipt by the Contractor of a signed order from the Owner authorizing such a change. No claims for an extra to the contract price shall be valid unless so authorized.
- C. All work covered by unit prices submitted by the Contractor in his/her proposal must be covered by a written work order. The Owner's Representative will prepare the work order in triplicate covering the quantity of work and the total cost of the work. The work order

which will be written at the end of the each day, will be signed by the Owner's Representative and the Contractor's foreman and/or superintendent.

1.12 CORRECTION OF WORK PRIOR TO FINAL PAYMENT

- A. The Contractor shall promptly remove any work that does not meet the requirements of the plans and specifications or is incorrectly installed or otherwise disapproved by the Owner or the Owner's Representative as failing to meet the intent of the plans and specifications. The Contractor shall promptly replace any such work without expense to the Owner and shall bear the cost of making good all work of other contractors, or the Owner, destroyed or damaged by such removal or replacement.

1.13 CORRECTION OF WORK AFTER FINAL PAYMENT

- A. The Contractor shall guarantee all materials and workmanship for two (2) years from date of final payment of the contract by the Owner. Any defects which may arise during this period shall be promptly repaired by the Contractor including any damage done to the Owner's property due to such defects.

1.14 DEDUCTION FOR UNCORRECTED WORK

- A. If the Owner deems it unacceptable to have the Contractor correct work which has been incorrectly done, a deduction from the contract price shall be agreed upon therefore. Such a deduction from the contract price shall in no way affect the Contractor's responsibility for defects which may occur nor his/her ability for correcting them, and damage caused by them.

1.15 LIENS

- A. The Contractor shall, if required by the Owner, furnish him/her with a release in full of all liens arising out of this contract or in lieu thereof, and receipts in full for all materials and labor on the job. In either case, the Contractor shall furnish an affidavit that the liens or receipts include all the labor and material for which a lien could be filed. In lieu of the above, the Contractor may at his/her option furnish a bond to indemnify the Owner against all hazard of liens. Neither part nor final payment shall in any way release the Contractor from the above obligation and in the event that part or full payment has been made and any lien remains undischarged, the Contractor shall refund to the Owner the necessary funds to discharge such a lien including all cost and attorney's fees.

1.16 JOB CONDITIONS

- A. All surfaces to be covered shall be smooth, dry, and free from dirt, debris, and foreign material before any of this work is installed. Pumping equipment shall be located on the ground at a safe distance from building; the location being subject to the approval of the Owner. The Contractor shall be responsible for guarding against fires, and shall provide suitable fire extinguishers conveniently located at the site. Competent operators shall be in attendance at all times equipment is in use. Materials shall be stored neatly in areas designated by the Owner and dispersed so as to present a minimum fire hazard. Loads placed on the roof at any point shall not exceed the safe load for which the roof is designed.

- B. There is NO SMOKING allowed inside any buildings and the Contractor shall be responsible for enforcement of this job rule at all times with his/her personnel.
- C. The Contractor should be aware of Owner's property when tearing off the existing roof. This is required for removal of dirt, silt, debris, roof membrane and insulation from the roof surface in order to preserve the ecology, eliminate unsightly conditions and protect building surfaces. Specific locations will be discussed at the pre bid conference.
- D. Rolled Roofing Materials: All rolled roofing materials must be stored standing on end on a pallet or otherwise raised off of the roof. The materials are to be covered in a proper manner to assure that they will not become wet prior to application. Any materials that becomes wet or damaged must be removed from the job-site and replaced at the Contractor's expense.
- E. Asphalt Kettle: Placement of the kettle shall be in a position so as not to interfere with the ongoing operations of the Owner. The asphalt to be used must be placed on a protective covering of some type until it is raised to the roof. A minimum of two (2) fire extinguishers and "Fire Out" must be adjacent to the kettle.
- F. Ladders: Any ladders used on this project must be in good condition. The ladder must also be secured at the roof line at all times while in use. All ladders must be O.S.H.A. approved.
- G. No drugs or alcoholic beverages are permitted on the grounds.
- H. The Contractor shall place necessary barriers and/or protection around or under all work areas where his/her operations involve risk of injury to plant personnel.
- I. The Contractor will also protect the building structure from damage in the process of the job. In the event that damage does occur to any property or equipment, or the Owner's work in process, notification must be made within two (2) working days of the incidents to the Owner and Owner's Representative.
- J. During the progress of the job, if waste material and rubbish are found or damage resulting from the Contractor's operations is found, or the Contractor does not comply with the requirement by keeping the premises free of accumulations and correct the damage, it shall be the Owner's prerogative to hire personnel to do so; and the cost of this work will be deducted from the balance due the Contractor.
- K. Existing roof top equipment walls, windows, etc. shall be completely protected by masking or other effective methods. Any mastics or asphalt must be cleaned off metal surfaces.
- L. The Contractor is responsible for protecting all materials from the elements. If any material, such as insulation, becomes wet, it cannot be installed and must be replaced at the Contractor's expense. NOTE: Insulation and rolled roofing materials must be covered with waterproof tarps at the end of each work day. Plastic wrappers supplied by the insulation manufacturer are not acceptable substitutes for tarps. The Owner's Representative will reject any covering method or material which does not adequately protect roofing materials.

- M. Anyone guilty of willful destruction or unlawful removal of company property will be dismissed from the job and is subject to prosecution by law.
- N. Any lawns damaged by Contractor vehicles will be restored with a stand of grass at the Contractor's expense. Any damaged pavements will likewise be restored and at the Contractor's expense.
- O. The Contractor must verify that all materials can be installed to accommodate the building design, pertinent codes and regulations, and the manufacturer's current recommendations.
- P. The Contractor will ensure that all substrates are clean, dry, sound, smooth, and free of dirt, debris, and other contamination before any materials are supplied.
- Q. Any isolated areas that must be torn off and replaced will be built-up to the height of the existing roof prior to the installation of the new roofing membrane system.

1.17 WORKMANSHIP

- A. All materials will be securely fastened and placed in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class or work upon which they are employed. All work shall be done in accordance with these specifications and shall meet the approval of the Owner or Owner's Representative. The Contractor's representative or job supervisor shall have a complete copy of specifications and drawings on the job-site at all times.
- B. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of work for that day.

1.18 INSULATION

- A. Insulation shall have accurate dimensional stability so as to properly conform to the surfaces of the roof, cants, curbs, pipes, etc. Joints between boards shall be tight and insulation shall be held back ½" from vertical surfaces and sumps. Insulation shall be protected from the weather at all times and remained tarped at the end of each days work. The original manufacturers wrap packaging is not an acceptable tarp. No more insulation shall be laid than can be completely covered with roof materials on the same day. A base sheet shall not be considered as a proper weather barrier.
- B. Insulation that becomes wet during or after installation shall be removed and replaced with dry insulation. If roofing is in place, the roofing shall be also replaced. All replacing work shall be done at no added cost to the Owner.

1.19 ROOF DECK

- A. Contractor shall notify the Owner or Owner's Representative of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owner's prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier, if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

1.20 SAFETY

- A. Contractor shall conform to requirements as designated by the Provincial and Federal Governments. Contractor shall abide by all regulations as outlined in the O.S.H.A. handbook and shall have a handbook on location at all times.
- B. Contractors hereby acknowledged that they and their workers have undergone Safety Training and shall at all times act in compliance with all NRCA recommended safety compliance rules and regulations.

1.21 WORK HOURS AND DAYS

- A. When the Contract is awarded, the Contractor will contact the Owner's Representative to arrange the work schedule and the hours of the day that the workmen may be on the building. The job is to be bid under the assumption that all work will be performed on a straight time basis.

1.22 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

1.23 OWNER'S RULES

- A. The Contractor and all his/her personnel/agent(s) shall abide by all rules created by the Owner. The Contractor must contact the Owner's Representative for specific information regarding the rules governing all operations of the project.
- B. The Contractor shall properly notify all employees of conditions relating to roof areas with very poor condition and which will be worked on. After such notification, the Contractor must take all necessary precautions to ensure the safety of his/her employees as well as the building personnel.
- C. THE CONTRACTOR SHALL "HOLD HARMLESS" THE MATERIAL MANUFACTURER, AGAINST ANY LITIGATION ARISING FROM ANY ACCIDENTS DURING THE COURSE OF THE CONTRACT.

1.24 SAFETY AND ECOLOGY

- A. The Contractor(s) shall conform to the requirements as designated by the Federal and Provincial Governments (e.g., O.H.S.B and W.S.I.B.).

1.25 ANTI-DISCRIMINATION IN EMPLOYMENT

- A. Contractors and subcontractors shall not discriminate against any employees or applicant for employment, to be employed in performance of his/her contract, with respect to his/her hire, tenure, terms, conditions or privileges of employment because of his/her race, color, gender, sexual preference, religion, national origin, or ancestry.

1.26 START AND COMPLETION DATE

- A. Work shall begin within thirty (30) days from the award of this contract, or as agreed upon by the parties, and shall be completed no later than June 30, 2017.
- B. The Contractor is responsible for supplying trained workmen in proper numbers and for scheduling and laying out his/her work, so that it will be started and completed in a professional manner within the time period indicated on his/her Proposal form.
- C. If the Contractor sets equipment onto the job-site without commencing work immediately, the action will be considered "Spiking the job" which is unacceptable and will be considered a breach of contract by the Contractor; thereby, the contract will be terminated and the Contractor at no cost to the Owner, must remove his/her equipment and possessions from the job-site upon notification by the Owner.

1.27 SUPERINTENDENT

- A. The Contractor shall keep a competent superintendent, satisfactory to the Owner and Owner's Representative, on the job at all times when work is in progress. The superintendent shall not be changed without notifying the Owner and the Owner's Representative unless the superintendent ceases to be in the employ of the Contractor.
- B. The superintendent shall represent the Contractor in his/her absence and all directions and instructions given to the superintendent shall be as binding as if given directly to the Contractor.
- C. The superintendent shall be responsible for the conduct of all the Contractor's employees on the premises and shall promptly take necessary measures to correct any abuses called to his/her attention by the Owner.

1.28 INSPECTIONS

- A. Before any material applications are made, the Owner or his/her representative and the material supplier representative shall be available to ensure a complete understanding of the specification.
- B. The accepted Material Manufacturer will have a factory trained representative, on site daily, to conduct daily on-site inspections of the work completed by the contractor a minimum of two times per day and to verify compliance with the specifications, answer questions that may arise and provide on-going inspection services.
- C. A final inspection shall be conducted by Owner, Contractor, the Owner's Representative, and Material Manufacturer Representative upon being notified of completion of specified work and clean-up.

1.29 ENGINEERING

- A. In addition to high-quality products, the Material Manufacturer provides recommendations and/or specifications for the proper installation of its material. However, the Material Manufacturer does not, nor does its representative, practice engineering or architecture. The Material Manufacturer makes no judgments on, and hereby disclaim any

responsibility for the soundness of any roof deck or other structural component of buildings upon which the Material Manufacturer products are applied, and further recommend a structural engineer to examine the deck conditions. Re-roofing or Ballasted Roofing Systems will require certification from a structural engineer that the structure will support the proposed additional weight.

1.30 GUARANTEES

- A. A roofing guarantee is available for review from the Material Manufacturer for the roofing systems published in these specifications. The guarantee will be issued only upon completion of all the guarantee requirements by an approved Contractor. Such guarantees cannot be altered or amended, nor may any other warranties, guarantees or representations be made by an agent or employee of the Material Manufacturer unless such alteration, amendment or additional representation is issued in writing and is signed by a duly authorized officer of the Material Manufacturer, and sealed with the Material Manufacturer seal. This guarantee does not cover cosmetic deficiencies. **THE MATERIAL MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY DAMAGES TO THE BUILDING OR ITS CONTENTS OR ANY OTHER CONSEQUENTIAL DAMAGES, AND ITS RESPONSIBILITY IS LIMITED TO REPAIRING LEAKS.** The Contractor will warranty the roof to the Material Manufacturer for a period of two (2) years. The Contractor will inspect the roof with the Owner's Representative 18 months after completion, and, at the Contractor's expense, correct any workmanship defects before the 24th month following completion of the project.

1.31 APPROVED CONTRACTORS

- A. The roof systems must be applied only by those contractors who have received approval from the Material Manufacturer for such installations. No guarantees will be issued when installation has been performed by a non-approved contractor.

1.32 ACCEPTABILITY OF COMPLETED WORK

- A. The acceptability of completed roofing work will be based on its conformance to the contract requirement. The Material Manufacturer is not obligated to accept non-conforming work, and such non-conforming work may be rejected. The rejected work shall be promptly replaced or corrected in a manner and by methods approved by the Material Manufacturer at the Contractor's expense. The Material Manufacturer will instruct the Contractor's foreman and work crew on the proper methods of installation of the roofing system, and will follow-up on a regular basis to inspect the work being done. Any deficiencies from the specified work noted by the Material Manufacturer will be immediately reported to the Owner, along with recommended corrective actions necessary. The Material Manufacturer will not act in a supervisory capacity, and will not be responsible for the Contractor's errors or omissions.

1.33 ENGINEERING AND ROOF DECK

- A. The Material Manufacturer nor its representatives, practice engineering nor architecture. It makes no judgments on, and hereby disclaim any responsibility for the soundness of any roof deck or other structural component of buildings upon which its products are applied. Re-roofing and general building structuring require certification from a structural engineer

that the structure will support the proposed additional weight. In addition, the Contractor must notify the Owner or his/her representative on the job-site of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owner's prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

1.34 ASBESTOS IDENTIFICATION

- A. The Material Manufacturer routinely conducts roof surveys and inspections in order to provide recommendations and/or specifications for the use of its products. However, the MATERIALS MANUFACTURER IS NOT, NOR ARE ITS REPRESENTATIVES, CERTIFIED TO IDENTIFY, HANDLE OR MONITOR ASBESTOS IN ROOFING, DECKING OR INSULATION. THEREFORE, IT MAKES NO JUDGMENTS ON AND HEREBY DISCLAIMS ANY RESPONSIBILITY FOR IDENTIFYING, HANDLING OR MONITORING ASBESTOS. If a building owner suspects that an asbestos condition exists on or under the roof area in question, Material Manufacturer can recommend licensed laboratories and technicians that can identify, remove, dispose of, and monitor the project.

1.35 ASBESTOS LIMITATIONS

- A. The Owner has been informed, acknowledges and agrees that Material Manufacturer is not engaged in the business of identifying, abating, encapsulating or removing asbestos or asbestos containing materials from the work site and has not agreed to do so herein.
- B. IN CONSIDERATION OF THE PROVISION HEREOF, THE OWNER HEREBY AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS THE MATERIAL MANUFACTURER, ITS OWNERS, OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS, INCLUDING THE ENGINEER FROM AND AGAINST ANY AND ALL LIABILITIES, DAMAGES, LOSSES AND EXPENSES (INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES) ARISING OUT OF, OR RELATING TO, ANY CLAIMS, DEMANDS, OR CAUSES OF ACTION OF ANY KIND, ATTRIBUTABLE TO, ARISING OUT OF, OR RELATING TO THE PRESENCE OF ASBESTOS OR ASBESTOS-CONTAINING MATERIALS ON OR AT THE WORK SITE AND/OR THE ABATEMENT, ENCAPSULATION AND/OR THE REMOVAL THEREOF.

1.36 MOLD LIMITATIONS

- A. The Garland Company makes no representation or warranty, express, implied, or otherwise, regarding mold, fungi, rust, corrosion or other bacteria or organism. Neither shall Garland have any duty to identify, nor accept any responsibility or liability for any claims associated with mold, fungi, rust, corrosion or other bacteria or organism related claims.

END OF SECTION

SECTION 2 — FLUID APPLIED ROOFING RESTORATION – COLD APPLIED – WITH REFLECTIVE SURFACING

PART 1 — GENERAL

1. SECTION INCLUDES

1 Built-Up Smooth or Mineral Modified Surface Roof Restoration (1.4.C.7/8 and 9)(2.4)

2. RELATED SECTIONS

1 Section 06100 - Rough Carpentry: Roof blocking installation and requirements.

2 Section 07620 - Sheet Metal Flashing and Trim: Metal cap flashing and expansion joints.

3 Section 07620 - Sheet Metal Flashing and Trim: Weather protection for base flashings.

4 Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia, scuppers, gutters and downspouts.

5 Section 15430 - Plumbing Specialties: Piping vents and roof drains.

3. REFERENCES

1 ASTM C 78 - Standard Test Method for Flexural Strength of Concrete.

2 ASTM C 92 - Standard Test Methods for Sieve Analysis and Water Content of Refractory Materials.

3 ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.

4 ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.

5 ASTM C 1250 - Standard Test Method for Nonvolatile Content of Cold Liquid-Applied Elastomeric Waterproofing Membranes.

6 ASTM D 5 - Standard Test Method for Penetration of Bituminous Materials.

7 ASTM D 36 - Standard Test Method for Softening Point of Bitumen.

8 ASTM D 43 - Standard Specification for Coal Tar Primer Used in Roofing, Damp proofing, and Waterproofing.

9 ASTM D 71 - Standard Test Method for Relative Density of Solid Pitch and Asphalt.

10 ASTM D 75 - Standard Practice for Sampling Aggregates.

11 ASTM D 92 - Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester.

12 ASTM D 93 - Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester.

13 ASTM D 113 - Standard Test Method for Ductility of Bituminous Materials.

- 14 ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
- 15 ASTM D 562 - Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer.
- 16 ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- 17 ASTM D 816 - Standard Test Methods for Rubber Cements.
- 18 ASTM D 1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal).
- 19 ASTM D 1370 - Standard Test Method for Contact Compatibility between Asphaltic Materials (Oliensis Test).
- 20 ASTM D 1475 - Standard Test Method for Density of Liquid Coatings, Inks, and Related Products.
- 21 ASTM D 1863 - Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
- 22 ASTM D 1876 - Standard Test Method for Peel Resistance of Adhesives (T-Peel Test).
- 23 ASTM D 2042 - Standard Test Method for Solubility of Asphalt Materials in Trichloroethylene.
- 24 ASTM D 2196 - Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer.
- 25 ASTM D 2240 - Standard Test Method for Rubber Property-Durometer Hardness.
- 26 ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.
- 27 ASTM D 2939 - Standard Test Methods for Emulsified Bitumens Used as Protective Coatings.
- 28 ASTM D 3111 - Standard Test Method for Flexibility Determination of Hot-Melt Adhesives by Mandrel Bend Test Method.
- 29 ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
- 30 ASTM D 4209 - Standard Practice for Determining Volatile and Nonvolatile Content of Cellulosics, Emulsions, Resin Solutions, Shellac, and Varnishes.
- 31 ASTM D 4212 - Standard Test Method for Viscosity by Dip-Type Viscosity Cups.
- 32 ASTM D 4402 - Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer.
- 33 ASTM D 4479 - Standard Specification for Asphalt Roof Coatings - Asbestos-Free.
- 34 ASTM D 5040 - Standard Test Methods for Ash Content of Adhesives.

- 35 ASTM D 5420 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact).
- 36 ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces
- 37 ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- 38 SRI - Solar Reflectance Index calculated according to ASTM E 1980.
- 39 South Coast AQMD Standards.
- 40 SMACNA Architectural Sheet Metal Manual.
- 41 ANSI/SPRI ES-1 - Testing and Certification Listing of Shop Fabricated Edge Metal
- 42 National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

4. SYSTEM DESCRIPTION

1 Built-Up Smooth or Mineral Modified Surface Restoration: Renovation work includes:

- 1 Surface preparation: Remove loose mineral, dust, dirt, and debris.
- 2 Fascia Edges: Prime, coat with mastic, cover with new SBS base flashing and new SBS & SIS high strength cap flashing.
- 3 Parapets and Vertical Surfaces: Prime, coat with mastic, cover with SBS base and SBS & SIS high strength cap flashings.
- 4 Metal Flashings: Replace areas of damaged metal edge flashings
- 5 Roof Repairs: Repair blisters, stressed or cracked membrane ridges. Cut back, patch with primer, cold applied mastic and new SBS & SIS/high strength membrane.
- 6 Base Coat: Apply base coat over entire roof surface.
- 7 Reinforcement: For mineral systems install full fabric reinforcement followed by topcoat containing impregnated aluminum, to provide a reflective roof surface.

5. SUBMITTALS

1 Submit under provisions of Section 01300.

2 Product Data: Manufacturer's data sheets on each product to be used, including:

- 1 Preparation instructions and recommendations.
- 2 Storage and handling requirements and recommendations.
- 3 Installation methods.

3 Specimen Warranty: Provide an unexecuted copy of the 10-year, leak free warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.

4 A copy of the Manufacturer's recommended maintenance and roof care instructions for the new roof system.

5 A letter from the Primary Material Manufacturer stating that they agree to provide a factory trained, full time employee to complete daily on-site inspections of the work completed by the contractor a minimum of two times per day, and provide reports

- detailing the daily inspections to the building's owner and owners representative.
- 6 Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the Province in which the installation is to take place. This report shall show that the submitted equal meets the Design and Performance criteria in this specification. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.
 - 7 Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
 - 8 Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, and color.
 - 9 Manufacturer's Certificates: Certify products meet or exceed specified requirements.
 - 10 Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
 - 11 Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147. Submit documentation that the modified bitumen cap ply is modified with SBS and SIS rubber has a minimum of 25% recycled content.
 - 12 Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.
 - 13 Test Reports: Submit third party validation of environmental claims, prepared UL Environment, and for all modified bituminous sheet material containing recycled content and/or bio based content.
 - 14 Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

6. QUALITY ASSURANCE

- 1 Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- 2 Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- 3 Installer Qualifications: Company specializing in performing Work of this section with minimum ten years documented experience and a certified Pre-Approved Contractor qualified by the primary material manufacturer.
- 4 Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- 5 Product Certification: Provide manufacturer's certification that materials are manufactured in Canada and / or the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- 6 Source Limitations: Obtain all components of roof system from a single manufacturer.

Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

7. PRE-INSTALLATION CONFERENCE

- 1 Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.
- 2 Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, Owners Representative, and roofing system manufacturer's representative.
- 3 Objectives include:
 - 1 Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2 Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work.
 - 3 Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 - 4 Review roofing system requirements, Drawings, Specifications and other Contract Documents.
 - 5 Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 - 6 Review required inspection, testing, certifying procedures.
 - 7 Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
 - 8 Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

8. DELIVERY, STORAGE, AND HANDLING

- 1 Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- 2 Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- 3 Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- 4 Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- 5 Avoid stockpiling of materials on roofs without first obtaining acceptance from Owner.

6 Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

9. PROJECT CONDITIONS

1 Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

2 Weather Condition Limitations: Do not apply roofing system during inclement weather or when a 40 percent chance of precipitation or greater is expected.

3 Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

4 Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

5 When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:

- 1 Close air intakes into the building.
- 2 Have a dry chemical fire extinguisher available at the jobsite.
- 3 Post and enforce "No Smoking" signs.

6 Avoid inhaling spray mist; take precautions to ensure adequate ventilation.

7 Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.

8 Take precautions to ensure that materials do not freeze.

9 Minimum temperature for application is 40 degrees F (4 degrees C) and rising for solvent based materials and 50 degrees F (10 degrees C) and rising for water based.

10. WARRANTY

1 Upon completion of the work, provide the Manufacturer's written and signed limited labor and materials Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.

1 Warranty Period:

- 1 5 plus 5 (10 years): 5 years from date of acceptance plus 5 additional years after required inspection by Primary Material Manufacturer.

2 Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.

1 Warranty Period:

- 1 2 years from date of acceptance.

1.02_ PRODUCTS

1. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1. The design is based upon roofing systems engineered and manufactured by the Garland Company or approved equals.
2. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
3. Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be signed and sealed by a professional engineer licensed in the province in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
4. Include a list of three (3) projects of similar type and extent, located within a one hundred kilometer radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Owner or Owner's Representative. Substitution requests that don't contain the required reference projects shall be rejected for non-conformance.
5. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
6. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.
7. ROOF RESTORATION SYSTEM FOR BUILT-UP SMOOTH OR MINERAL MODIFIED SURFACE ROOFS

1 Energizer LO Silver:

- 1 Coating: Energizer LO Silver.
 - 1 Minimum Non Volatile: ASTM C 1250: 78%
 - 2 Elongation @ 77 degrees 0F (25 degrees C), ASTM D 412: Typical 210%
 - 3 Density: ASTM D 1475: 9.6 lb. /gal. (1.15 g/cm³)
 - 4 Flash Point. ASTM D 93: Minimum 100 degrees F (37.7 degrees C)
 - 5 VOC: < 250 g/l
- 2 Base Flashing: Replace flashings with SBS modified bitumen
 - 1 Minimum Tensile Strength: MD: 200 lb./in XD: 200 lb./in
 - 2 Minimum Tear Strength: MD: 250 lbs. XD: 250 lbs.
 - 3 Minimum Low Temperature Flexibility: -30oF
 - 4 Minimum Nominal Thickness: 40-mils
 - 5 Minimum Recycled Content: 25%
- 3 Cap Flashing: SBS/SIS high strength modified bitumen
 - 1 Minimum Tensile Strength: MD: 450 lb./in XD: 450 lb./in
 - 2 Minimum Tear Strength: MD: 800 lbs. XD: 800 lbs.
 - 3 Minimum Low Temperature Flexibility: -30oF
 - 4 Minimum Nominal Thickness: 150-mils
 - 5 Minimum Recycled Content: 25%
- 4 Reinforcement: full fabric reinforcement.
 - 1 Polyester Firm.

- 2 Minimum Tensile Strength: MD: 70 lb./in XD: 70 lb./in
- 3 Minimum Tear Strength: MD: 15 lbs. XD: 15 lbs.
- 4 Minimum Weight per Area: 2.75 Oz / sq. yd.
- 5 Minimum Nominal Thickness: 15-mils

8. EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

- 1 Flashing Boot - Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.
- 2 Vents and Breathers: Heavy gauge, spun aluminum and fully insulated vent that allows moisture and air to escape but not enter the roof system as recommended and furnished by the primary membrane material manufacturer.
- 3 Pitch pans with Rain Collars, will be 24 gauge galvanized steel or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.
- 4 Drain Flashings should be formed from a single piece of copper, and contain a compression sealed gasket, sized to fit within the drain pipe.
- 5 Plumbing stacks shall be one piece, spun aluminum with cap. All plumbing stacks will be insulated.
- 6 Liquid Flashing - An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
 - 1 Tensile Strength, ASTM D 412: 400 psi
 - 2 Elongation, ASTM D 412: 300%
 - 3 Density @77 degrees F 8.5 lb./gal typical
- 7 Fabricated Metal Flashings: Fabricated flashings and trim are specified in Section 07620.
 - 1 Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.
- 8 Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07710.
 - 1 Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

1.03_ EXECUTION

1. EXAMINATION

- 1 Do not begin installation until substrates have been properly prepared.
- 2 Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.

3 If substrate preparation is the responsibility of another installer, notify Owner or Owners Representative of unsatisfactory preparation before proceeding.

2. ROOF PREPARATION AND REPAIR

1 General:

- 1 Reuse existing roof gravel stop flashings, and replace areas of damaged metal gravel stop edges where found removing the damaged metal down to the surface of the roof.
- 2 Remove damaged and deteriorated areas of plywood roof deck, blistered membrane or delaminated roofing membrane or insulation and fill in any low spots occurring as a result of removal work to create a smooth, even surface for application of new roof membranes.
- 3 Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
- 4 Re-roofing over coal tar pitch requires a mechanically attached recovery board or insulation and a base sheet prior to the application of roofing system.
- 5 Existing roof surfaces shall have ridges and blisters repaired and perimeter flashings installed before beginning application of restoration coatings.

2 Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3 Repair all defects such as deteriorated roof decks, replace loose or brittle membrane or membrane flashings. Verify that exiting conditions meet the following requirements:

- 1 Existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.
- 2 Application of roofing materials over a brittle roof membrane is not recommended.

4 Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.

5 Clean and seal all parapet walls, gutters and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints and penetrations where water could enter the building envelope.

6 Clean the entire roof surface by removing all dirt, algae, paint, oil, talc, rust or foreign substance. Use a 10 percent solution of TSP (tri-sodium phosphate), Simple Green and warm water. Scrub heavily soiled areas with a brush. Rinse with fresh water to remove all TSP solution. Allow roof to dry thoroughly before continuing.

7 Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects (cracks, blisters, tears) must be repaired with similar materials, patched with an SBS/SIS modified bitumen cap sheet, adhered in cold adhesive.

8 Pre-Treatment of Known Growth - General Surfaces: Once areas of moss, mold, algae and other fungal growths or vegetation have been removed and surfaces have also been thoroughly cleaned, apply a biocide wash at a maximum spread rate of 0.2 gallons/square (0.08 liters/m), to guard against subsequent infection. Allow to dry onto absorbent surfaces before continuing with the application. On non-absorbent surfaces, allow to react before thoroughly rinsing to remove all traces of the solution.

3. INSTALLATION

1 General Installation Requirements:

- 1 Install in accordance with manufacturer's instructions. Apply to minimum coating thickness required by the material manufacturer.
- 2 Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- 3 Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- 4 Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore work damaged by installation of the roofing system.
- 5 Keep roofing materials dry during application. Phased construction can be allowed as long as no, more than 7 days pass between coats.
- 6 Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
- 7 Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.

2 Smooth or Mineral Surface Restoration: Renovation work includes:

- 1 Surface preparation: Remove all loose roofing granules, dirt and foreign debris from the roof surface.
- 2 Flashing:
 - 1 Fascia Edges, Drip Edges and Gravel Stops: Prime, coat with mastic, cover with new SBS base flashing and SBS/SIS cap flashing membrane.
 - 2 Parapets and Vertical Surfaces: Prepare parapet walls and vertical surfaces where indicated on the Drawings, with asphalt primer. Allow primer to dry tack free. Apply flashing plies as follows:
 - 1 With trowel grade mastic using modified membrane as the flashing and nailed 8 inches O.C. at all vertical surfaces.
 - 2 Solidly adhere SBS base and SBS/SIS cap flashing membrane to substrate and nail using termination bar.
 - 3 Seal all vertical laps of flashing membrane with a three-course application of fiberized flashing mastic and fiberglass mesh and aluminize.
 - 4 Seal junction of flashing membrane and roof with a three-course application of fiberized flashing mastic and fiberglass mesh.
 - 3 Metal Flashings: Replace areas of damaged metal flashings, pitch pockets, etc.
- 3 Coating: Apply base coat of restoration coating to prepared surface of roof membrane at a rate of 3.0 gals per 100 sqft. Embed the polyester fabric layer and allow to soak into the fabric for approximately 20 minutes, then top coat as soon as possible after embedding reinforcement polyester layer with aluminized asphaltic polyurethane top restoration coating at a rate of 3.0 gals per 100 sqft.

4. INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

1 Fabricated Flashings: Fabricated flashings and trim are provided as specified in Section 07620.

1 Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the Copper Development Association "Copper in Architecture - Handbook" as applicable.

2 Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section 07710.

1 Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractors Association "Roofing and Waterproofing Manual" as applicable.

3 Metal Edge, Drip Edge and Gravel Stop Edge:

1 Strip in existing flange edge with base SBS flashing ply covering entire flange in cold applied fiberized mastic with 6 inches (152 mm) on to the field of roof. Assure ply laps do not coincide with metal laps.

2 Install a second ply of SBS/SIS modified flashing ply in cold applied fiberized mastic over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Seal outside edge seam between cap flashing and gravel stop edge with rubberized mastic

5. CLEANING

1 Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.

2 Remove asphalt markings from finished surfaces.

3 Repair or replace defaced or disfigured finishes caused by Work of this section.

6. PROTECTION

1 Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.

2 Protect exposed surfaces of finished walls with tarps to prevent damage.

3 Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.

4 In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.

5 Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

7. FIELD QUALITY CONTROL

1 Require attendance of roofing materials manufacturers' representatives at site during

installation of the roofing system.

2 Perform field inspection and [and testing] as required under provisions of Section 01410.

3 Correct defects or irregularities discovered during field inspection.

8. FINAL INSPECTION

1 At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.

2 Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.

3 If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.

4 Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

5 Inform Owner or Owners Representative upon completion of corrections.

6 Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

9. PROTECTION

1 Protect installed products until completion of project.

2 Touch-up, repair or replace damaged products before Substantial Completion.

10. SCHEDULES

1 Coatings:

1 Coating: Asphaltic polyurethane based, aluminum pigmented, liquid waterproofing membrane.

1 Non Volatile, ASTM C 1250: 78%

2 Ash Content, ASTM D 5040: 34%

3 Density, ASTM D 1475: 9.6 lb. /gal. (1.15 g/cm³)

4 Viscosity @ 77 degrees F (25 degrees C), Brookfield RVT, Spindle #6,
20: rpm 15,000 cP

5 Flash Point. ASTM D 93: Minimum 100 degrees F (37.7 degrees C)

6 Elongation @ 77 degrees F (25 degrees C), ASTM D 412: Typical 210%

7 Water Absorption: < 0.7%

8 Compound Stability: Passes 220 degrees F (104.4 degrees C)

9 VOC: < 250 g/l

END OF SECTION

APPENDIX A

ADDITIONAL NOTES REGARDING REPAIRS TO ROOF DECK AND MEMBRANE DEFICIENCIES

The following appendix is to inform all bidding contractors of the following requirements for the roof restoration project at the Lind Sportsplex located at 425 Water St S in St. Marys.

- 1) Each bidding contractor will carry a minimum of 15x 100 sqft rolls of SBS/SIS modified bitumen membrane to complete repairs to membrane ridgelines and blisters as identified by the Owners Representative during the project. Repairs to ridgelines and blisters will be completed in accordance to the project specifications.
- 2) Each bidding contractor will carry a minimum cost of \$5000+HST in their base bid price to complete repairs to the damaged plywood deck and replace the existing 2-ply modified bitumen membrane where damage has been identified (caused by falling tree branches) along the east edge of the building.
 - a. The damaged area is approximately 15-feet x 8-feet in size. If costs to repair do not exceed \$5000, then a credit will be issued to the building owner upon project completion.
 - b. For repair costs in excess of \$5000, additional costs will be approved based on a time and material estimate provided by the awarded contractor once the existing roof is removed and damaged to the structures deck can be determined.
- 3) The building has the following roof composition:
 - a. $\frac{3}{4}$ " Plywood deck
 - b. 2-ply modified bitumen membrane
 - c. Granule surfacing

APPENDIX B

MODIFIED MEMBRANE MANUFACTURER SERVICES

1. The modified membrane roofing manufacturer's representative, and roof installation progress and quality inspector, shall be the same person and shall meet the following qualifying requirements:
 - .1 Shall have been directly employed by the manufacturer for a minimum of five years.
 - .2 Shall have the back-up if so required, of a field manager with a minimum of 15 years experience of full term employment with the same membrane roofing manufacturer.
2. To better serve the Building Owner's needs and thus informed roofing decision making, the same roofing membrane manufacturer's representative shall meet these additional qualifying requirements:
 - .1 Initially determine roofing needs and problems.
 - .2 Conduct detailed visual roof inspections to determine these needs.
 - .3 Perform core sample analysis (as required).
 - .4 Schedule laboratory analysis (as required)
 - .5 Provide photographic records (as required).
 - .6 Provide infra-red (thermal graphic) analyses (as required).
 - .7 Prepare detailed scaled roof plan diagrams.
 - .8 Provide all above findings in a detailed roof report compilation to the Building Owner (accessed via the web as required) as well as in hard copy. This shall include, but not be limited to the following (these are minimum requirements):-
 - .1 Make maintenance and replacement recommendations.
 - .2 Assist in establishing priorities.
 - .3 Prepare planned roof management program.
 - .4 Recommend systems and materials based upon roof life-cycle costs, expected value received, regional weather conditions and long-term warranty requirements.
 - .9 To better serve the Building Owner's value received with regard to the lead up to the roofing contract, all stages of the project, and follow through to completion

and beyond; the same roofing membrane manufacturer's representative shall provide the following:

- .1 Write detailed specifications with scaled diagrams.
- .2 Assist in approved, quality roofing contractor selections.
- .3 Conduct pre-bid, on-site meetings with prospective bidding contractors.
- .4 Review bids received with the Building Owner to ensure value received.
- .5 Conduct a pre-project start-up meeting with the Building Owner and Contractor to ensure that all aspects of the project are understood and are acceptable to all parties concerned.
- .6 Shall inspect roof installation roof work in progress a minimum of twice a day for each days work undertaken to ensure full compliance with the specifications. An inspector temporarily employed by the roofing membrane manufacturer is not acceptable.
- .7 Shall provide a weekly report showing details for each days work undertaken, These details shall include pictures and notes for each stage of the work, including all layers of the built up roof system. This report shall be provided in an e-mail format.
- .8 Shall be on call to appear at the work site within 3 hours of being summoned by the Building Owner or Roofing Contractor.
- .10 The roofing membrane manufacturer shall issue to the Building Owner a 10 year (5+5) leak free warranty for the roof restoration system.
- .11 The roofing membrane manufacturer shall conduct annual follow-up inspections to ensure integrity of the roof system and maintenance (if required).
- .12 The modified bitumen membrane shall exceed the standards as listed in Appendix B (next).
 - .1 The test results for such will only be acceptable from an accredited, industry, recognized testing laboratory. The membrane manufacturer's own test results, spec/data sheets or brochures are not acceptable.
- .34 The modified bitumen membrane manufacturer shall provide and prove the recognized test for proper rubber/asphalt dispersion in a polymer modified bituminous membrane (appendix C) last.
- .14 The modified bitumen membrane shall be proved to have been in continuous manufacture for a minimum of 30 years.

- .15 The alternate modified bitumen membrane manufacturer or supplier shall be the actual membrane manufacturer. Brand naming a membrane that has been manufactured by another manufacturer other than the alternate manufacturer is not acceptable.

APPENDIX C

MODIFIED MEMBRANE MINIMUM PERFORMANCE PARAMETERS

The modified bitumen membrane to be employed shall be compliant with CGSB 37-GP-56M standards and meet the following performance criteria:

1. It shall be high strength, ultra violet resistant membrane designed for use as the top waterproofing and reinforcement layer of the built-up roofing system, and a base ply consisting of an SBS modified bitumen sheet containing a fibreglass reinforced scrim.
2. It shall be a minimum of 150 mils in thickness with dual fibreglass and polyester scrim sandwiched between a compound of high penetration index asphalt. The asphalt will be modified with a blend of styrene butadiene styrene SBS and styrene isoprene styrene SIS rubber.
3. The minimum percentage of the SBS & SIS blend shall be 22%*.
** Evenly Dispersed Rubber: Refer to attached Appendix C for "Test for Proper Rubber/Asphalt Dispersion in Polymer Modified Bituminous Products"*
4. The bitumen portion shall be entirely asphaltic hydrocarbons with no plasticizers, or other ecologically harmful fractions.
5. Physical properties.
 - a. **Tensile strength** at 77 degrees Fahrenheit (ASTM 5147)
Maximum load
Machine direction: 450 lb/in.
Cross machine direction: 450 lb/in.
 - b. **Low Temperature Flexibility** (ASTM D5147)
Passes at minus -30°F (-34°C)
 - c. **Tear Strength** at 77 degrees Fahrenheit (ASTM 5147)

Machine direction: 800 lbs
Cross Machine direction: 800 lbs.
 - d. **Elongation** (ASTM D5147)

Machine direction: 5.0%
Cross Machine direction: 5.0%
 - e. **Recycled Content**
Pre-consumer & Post-Consumer Minimum Recycled Content: 25%

APPENDIX D

TEST FOR PROPER RUBBER/ ASPHALT DISPERSION IN POLYMER MODIFIED BITUMINOUS MEMBRANES

Ultra-Violet Analysis

Criteria for Proper Mixing

For a material to be considered a proper blend, it must show certain distinguishing qualities under ultra-violet microscopy analysis. The polymer, fluorescing region, must be a continuous phase and take up the majority of the analysed area. The asphalt, non-fluorescing region, must be completely dispersed throughout the continuous polymer region and be of a small and uniform dispersion. The blend will not be considered adequately mixed if the phase shows large aggregations of either polymer or bitumen suspended throughout the main continuous phase, or if the continuous phase does not show fluorescence and in fact is comprised of non-polymeric material.

Filled or further modified blends may show some aggregation of material due to the specific reflective qualities of the additives. These results should be recorded and be used for complete and accurate analysis of the blends.

Sample and Test Procedure

The samples should be taken randomly from a stock roll of material. An analysis of the material should be run for the above criteria of blending. The compound shall be removed from the reinforcing fabric by scraping a cold sample. The sample should be cooled to at least negative 40 degrees Fahrenheit before removal should be attempted. An initial analysis of the sample should be done before the coating is removed, but the examined removed coating should be the criteria for the actual analysis of the coating.

The product should first be analysed under 20% filtered UV light and 10 power lens to avoid damaging the sample by the intense UV light. If the sample is felt to be inadequately mixed, the material will be rejected.

Results and Reports

The blend should be examined for all above criteria in the prescribed manner. Any non-compliant and compliant qualities of the blend should be noted and recorded for analysis both verbally and by photograph.

Job Site Verification

The Owner's representative reserves the right to spot check material on the job site and test the material as stated above. Any material found not in compliance will be cause to stop the project and remove all of that manufacturer's material from the job site at the expense of the manufacturer and/or contractor. The Owner's representative will have the right to require material be used from a manufacturer that can meet the testing requirement.

Test Procedure for Ultra-Violet Analysis

Criteria for Proper Mixing

For a material to be considered a proper blend, it must show certain distinguishing qualities under ultra-violet microscopy analysis. The polymer, fluorescing region, must be a continuous phase and take up the majority of the analysed area. The asphalt, non-fluorescing region, must be completely dispersed throughout the continuous polymer region and be of a small and uniform dispersion. The blend will not be considered adequately mixed if the phase shows large aggregations of either polymer or bitumen suspended throughout the main continuous phase, or if the continuous phase does not show fluorescence and in fact is comprised of non-polymeric material.

Filled or further modified blends may show some aggregation of material due to the specific reflective qualities of the additives. These results should be recorded and be used for complete and accurate analysis of the blends.

Sample and Test Procedure

The samples should be taken at the proposed completion time for blending on the batch sheet. An analysis of the material should be run for the above criteria of blending. Samples should be collected in small aluminium containers adequately sized for use under the UV microscope. Samples that contain high quantities of solvent should be dried in an air-circulated oven prior to analysis. If the product is already coated onto a scrim the modified bitumen should be removed by scraping a cold sample. The sample should be cooled to at least negative 40 degrees Fahrenheit before removal should be attempted. An initial analysis of the sample should be done before the coating is removed, but the examined removed coating should be the criteria for the actual analysis of the coating.

The product should first be analysed under 20% filtered UV light and 10 power lens to avoid damaging the sample by the intense UV light. If the sample is felt to be inadequately mixed the batch is held for continued mixing. Only after proper dispersion, in correlation to the above criteria, will the batch be considered properly mixed and okayed for shipping or dropping on membranes.

Results and Reports

The blend should be examined for all above criteria in the prescribed manner; any non-compliant and compliant qualities of the blend should be noted and recorded for analysis both verbally and visually by photograph, if necessary.
