



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 350-2005

ROOF REPLACEMENT AT BERTRAND ARENA – 294 BERTRAND AVENUE

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 ROOF REPLACEMENT AT BERTRAND ARENA – 294 BERTRAND AVENUE

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, June 23, 2005.

B2.2 Bid Submissions determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to GC:3.1, the Contract Administrator or an authorized representative will be available at the Site from 10:00 a.m. to 10:30 a.m. on June 16, 2005 to provide Bidders access to the Site.

B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda shortly before submitting his Bid.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B7. BID SUBMISSION

B7.1 The Bid Submission consists of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;
- (c) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft.

B7.2 All components of the Bid Submission shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely in ink, to constitute a responsive Bid.

B7.3 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.

B7.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.5 Bid Submissions shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management Branch
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B8. BID

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
 - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.
- B8.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid Submission and the Contract, when awarded, shall be both joint and several.

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10. QUALIFICATION

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
 - (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
 - (c) be financially capable of carrying out the terms of the Contract;
 - (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
 - (e) have successfully carried out work, similar in nature, scope and value to the Work;
 - (f) employ only Subcontractors who:
 - (i) are responsible and not suspended, debarred or in default of any obligation to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
 - (ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;

- (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba).

B10.2 Further to B10.1(g), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program - Option 1 administered by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association; or
- (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt.>)

B10.3 The Bidder shall be prepared to submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.4 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B11. BID SECURITY

B11.1 The Bidder shall provide bid security in the form of:

- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B11.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

B12.1 Bid Submissions will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.

B12.1.1 Bidders or their representatives may attend.

B12.1.2 Bid Submissions determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.

B12.2 After the public opening, the names of the Bidders and their Total Bid Prices as read out (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B12.4 The Bidder is advised that any information contained in any Bid Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B13. IRREVOCABLE BID

B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.

B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

B14. WITHDRAWAL OF BIDS

B14.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B14.1.1 Notwithstanding GC:23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials shall:

- (a) retain the Bid Submission until after the Submission Deadline has elapsed;

- (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B15. EVALUATION OF BIDS

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements if the interests of the City so require.

B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid Submission or in other information required to be submitted, that he is responsible and qualified.

B15.4 Further to B15.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices adjusted, if necessary, as follows:

- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
- (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting the sum of the quantities multiplied by the unit prices shown on Form B: Prices for the following items in the order listed until a Total Bid Price within the budgetary provision is achieved.

<u>Item No.</u>	<u>Description</u>
2.	Roof Section D1
3.	Roof Section E1
4.	Roof Section A1

B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B16. AWARD OF CONTRACT

- B16.1 The City will give notice of the award of the Contract by way of a letter of intent, or will give notice that no award will be made.
- B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

PART C - GENERAL CONDITIONS

C1. GENERAL CONDITIONS

C1.1 The *General Conditions for Construction Contracts* (Revision 2000 11 09) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

- D1.1 In addition to the *General Conditions for Construction Contracts*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.2 The General Conditions are amended by striking out "The City of Winnipeg Act" wherever it appears in the General Conditions and substituting "The City of Winnipeg Charter".
- D1.3 The General Conditions are amended by striking out "Tender Package" wherever it appears in the General Conditions and substituting "Bid Opportunity".
- D1.4 The General Conditions are amended by striking out "Tender Submission" wherever it appears in the General Conditions and substituting "Bid Submission".
- D1.5 The General Conditions are amended by deleting GC:6.16 and GC:6.17. The City of Winnipeg is now within the jurisdiction of the Manitoba Ombudsman pursuant to The Ombudsman Act.

D2. SCOPE OF WORK

- D2.1 The Work to be done under the Contract shall consist of Roof Replacement at Bertrand Arena – 294 Bertrand Avenue.
- D2.2 The major components of the Work are as follows:
- (a) Roof Replacement – Arena Ice Shed;
 - (b) Roof Replacement of Sections A1 – D1 – and E1;
 - (c) Work shall be coordinated.

D3. CONTRACT ADMINISTRATOR

- D3.1 The Contract Administrator is:
- Norm Carrothers
Contracts Officer
Main Floor, 100 Main Street
Winnipeg, Manitoba R3C 1A4
- Telephone No. (204) 986-7280
Facsimile No. (204) 986-7311
Cell No. (204) 794-4400
- D3.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4. NOTICES

- D4.1 Except as provided for in GC:23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

- D4.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D4.3, D4.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.
- D4.3 All notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:
The City of Winnipeg
Chief Administrative Officer Secretariat
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174
- D4.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:
The City of Winnipeg
Corporate Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1
Facsimile No.: (204) 947-9155

SUBMISSIONS

D5. INSURANCE

- D5.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) all inclusive, with The City of Winnipeg being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned and non-owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D5.2 Deductibles shall be borne by the Contractor.
- D5.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.
- D5.3.1 The certificate of insurance for the commercial general liability insurance must clearly state "operations to include demolition work".
- D5.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

D6. PERFORMANCE SECURITY

- D6.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D6.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D6.2 If the bid security provided in his Bid Submission was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

D7. SUBCONTRACTOR LIST

- D7.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

SCHEDULE OF WORK

D8. COMMENCEMENT

- D8.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D8.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
 - (ii) evidence of the workers compensation coverage specified in GC:6.14;
 - (iii) evidence of the insurance specified in D5;
 - (iv) the performance security specified in D6;
 - (v) the Subcontractor list specified in D7.
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D8.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D9. WORKING DAYS

D9.1 Further to GC:1.1(gg), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.

D9.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.

D9.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.

D9.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

D10. SUBSTANTIAL PERFORMANCE

D10.1 The Contractor shall achieve Substantial Performance by September 2, 2005..

D10.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D10.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D11. TOTAL PERFORMANCE

D11.1 The Contractor shall achieve Total Performance by September 30, 2005..

D11.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D11.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D12. LIQUIDATED DAMAGES

- D12.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City one thousand dollars (\$1000) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.
- D12.2 The amount specified for liquidated damages in D12.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.
- D12.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D13. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D13.1 Further to GC:6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D14. WORKPLACE SAFETY AND HEALTH

- D14.1 All Work shall be performed in compliance with the Manitoba Workplace Safety and Health Act.
- D14.2 All Work must be performed in compliance to the Manitoba Health and Safety Fall Protection Guidelines.
- D14.3 The Contractor must be fully aware of all Work involving hazardous material. All Work shall be performed in compliance to the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification of the contract Administrator of his/her encountering of suspected hazardous material during their course of Work.
- D14.4 The Contractor shall comply with all laws, by-laws, ordinances, regulations, codes and orders of authorities having jurisdiction which are to come into force during the performance of the Work and which relate to the Work. Where there are two or more laws, by-laws, ordinances, regulations or codes applicable to the Work, the most restrictive shall apply.

WARRANTY

D15. WARRANTY

- D15.1 The Soprema 15 year Platinum Warranty shall be provided for this project. (Manufacturer's Warranty on roofing membrane)
- D15.2 The Contractor warrants that the Work will be free of any and all defects or deficiencies for a period of one (1) year from the date of Total Performance, except that the warranty periods shall be longer where specified in the Specifications.
- D15.3 Upon notification by the Contract Administrator, the Contractor shall at his/her sole cost and expense, remedy any defect or deficiency identified by the Contract Administrator during the warranty period and any damage that may arise or result from the defect or deficiency or as a result of the correction of same.

- D15.4 Notwithstanding 14.2 and 14.3 above, if any statute in force in the Province of Manitoba or in the jurisdiction where materials were manufactured requires, or if the manufacturer provides, a longer warranty period or a warranty that is more extensive in its nature, then the provisions of such statute or manufacturer's warranty shall apply.
- D15.5 At least two (2) weeks prior to the expiration of the Warranty or upon correction of defects and deficiencies, whichever is later, the Contractor shall arrange, attend and assist in the acceptance inspection of the Work. The Contract Administrator shall, on being satisfied that all outstanding defects and deficiencies in the Work have been corrected, issue a Certificate of Acceptance for the Work to be dated not earlier than one (1) year after the date of the Certificate of Total Performance, or the date that the Contractor corrects the final defects and deficiencies, which is the later, thereby terminating the Warranty Period. The Certificate of Acceptance will indicate acceptance of the due performance of the Contract.
- D15.6 In the event that all outstanding defects and deficiencies have not been corrected to the satisfaction of the Contract Administrator at least one (1) week prior to expiration of the Warranty Period, then the Contractor shall be required to provide and maintain, at his sole cost and expense, an extension of the Performance Bond for a further one (1) year term with regard to those items of Work that have been identified by the Contract Administrator as still being defective and/or deficient. Failure to do so may result in the City realizing on the Performance Security.

FORM H1: PERFORMANCE BOND
(See D6)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee dated the

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 350-2005

ROOF REPLACEMENT AT BERTRAND ARENA – 294 BERTRAND AVENUE

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D6)

(Date)

The City of Winnipeg
Corporate Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 350-2005

ROOF REPLACEMENT AT BERTRAND ARENA – 294 BERTRAND AVENUE

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

E1.1 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
R-1	Roof Plan
D-1	Roof Details

MATERIALS

E2. ICE SHED ROOF (SHINGLE AREA)

E2.1 DIMENSIONAL LUMBER

This shall be construction grade spruce of the dimensions as outlined under the Description of Work.

E2.2 INSULATION FASTENERS

These are to be #12 Insul-Fix screws and 3" galvanized plates as manufactured by SFS Stadler or approved equal such as manufactured by Deck Fast.

E2.3 VAPOUR BARRIER

This shall be 1 ply Soprema Lastobond PG or approved equal.

E2.4 ROOFING INSULATION

- (a) 2" Expanded Polystyrene Type II as manufactured by Plastifab Ltd. or Insulation Industries Ltd. Maximum sheet size is to be 4' x 8'.
- (b) 1" Soprema colvent A polyisocyanurate insulation or approved equal. Maximum sheet size is to be 4' x 8'.

E2.5 POURABLE SEALER

This is to be Lexcan 2 part Pourable Sealer or approved equal. This is to be used to fill all pitch boxes or as otherwise specified.

E2.6 MODIFIED BITUMEN MEMBRANE

This shall be Soprema Unilay cap sheet used with Soprema Sopralene Flam Stick base sheet, Sopralene Flam 180 base sheet and Sopralene Flam 250 Gr. cap sheet or approved equal.

E2.7 MODIFIED PRIMER

This shall be Elastocol Stick as manufactured by Soprema or approved equal.

E2.8 CAULKING

This shall be Tremco Vulkem 931 or approved equal.

E2.9 ALUMINUM PAINT

This shall be Tremco Double Duty or approved equal.

E2.10 VENT STACKS

These shall be Insulated Stack Jack Flashings (with metal cap not neoprene seal) SJ-21 as manufactured by Thaler. Vent flashings are to be fully insulated with injected polyurethane insulation. Order vent flashing to match roof slope.

E2.11 METAL FLASHING

The base and cap flashings shall be a minimum of 24 gauge in thickness. Chimney storm collars and skirt flashing are to be a minimum of 22 gauge. Finishes are as outlined in the scope of work.

E2.12 ACCESSORIES

All nails, bolts, screws and other fasteners etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E3. ROOF AREA A1 AND E1

E3.1 DIMENSIONAL LUMBER

This shall be construction grade spruce of the dimensions as outlined under the Description of Work.

E3.2 PLYWOOD SHEATHING

(a) This shall be 1/2" standard Grade spruce plywood.

(b) This shall be 5/8" O.S.B T&G.

E3.3 POURABLE SEALER

This is to be Lexcan 2 part Pourable Sealer or approved equal. This is to be used to fill all pitch boxes or as otherwise specified.

E3.4 MODIFIED BITUMEN MEMBRANE

E3.5 This shall be the following:

(a) Membrane:

Soprema Colvent 810 self adhering base sheet membrane with a Sopraply Cap-560 cap sheet (heavy traffic) or approved equal.

(b) Stripping:

Soprema Sopraflash Flam Stick self adhering base sheet with a Sopraply Cap-550 cap sheet or approved equal.

E3.6 MODIFIED PRIMER

This shall be Elastocol Stick as manufactured by Soprema or approved equal.

E3.7 CAULKING

This shall be Tremco Vulkem 931 or approved equal.

E3.8 ALUMINUM PAINT

This shall be Tremco Double Duty or approved equal.

E3.9 VENT STACKS

These shall be Insulated Stack Jack Flashings (with metal cap not neoprene seal) SJ-20 as manufactured by Thaler.

E3.10 METAL FLASHING

The base and cap flashing shall be a minimum of 24 gauge in thickness. Finishes are to be chosen from the standard in stock range of Stelco 8000 series of colors.

E3.11 ACCESSORIES

All nails, bolts, screws and other fasteners etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E4. ROOF AREA D1

E4.1 DIMENSIONAL LUMBER

This shall be construction grade spruce of the dimensions as outlined under the Description of Work.

E4.2 PLYWOOD SHEATHING

This shall be 1/2" standard Grade spruce plywood.

E4.3 DRYWALL SHEATHING

This shall be 1/2" roof grade drywall or better.

E4.4 DRYWALL & INSULATION FASTENERS

These are to be #12 Insul-Fix screws and 3" galvanized plates as manufactured by SFS Stadler or approved equal such as manufactured by Deck Fast.

E4.5 VAPOUR BARRIER

This shall be 1 ply Soprema Soprapap'r or approved equal.

E4.6 ROOFING INSULATION

(a) Expanded Polystyrene Type II with a minimum slope of 1/8" per foot and a minimum thickness of 2". This shall be as manufactured by Plastifab Ltd. or Insulation Industries Ltd. Slopes are to be as per the attached Drawings.

(b) 1 1/2" Soprema Colgrip polyisocyanurate insulation

E4.7 POURABLE SEALER

This is to be Lexcan 2 part Pourable Sealer or approved equal. This is to be used to fill all pitch boxes or as otherwise specified.

E4.8 MODIFIED BITUMEN MEMBRANE

This shall be the following:

(a) Membrane:

Soprema Colvent 810 self adhering base sheet membrane with a Sopraply Cap-560 cap sheet (heavy traffic) or approved equal.

(b) Stripping:

Soprema Sopraflash Flam Stick self adhering base sheet with a Sopraply Cap-550 cap sheet or approved equal.

E4.9 MODIFIED PRIMER

This shall be Elastocol Stick as manufactured by Soprema or approved equal.

E4.10 RUBBERIZED MASTIC

This shall be Polyroof as manufactured by Tremco Ltd., or approved equal. All exposed rubberized asphalt shall be coated with aluminum paint.

E4.11 CAULKING

This shall be Tremco Vulkem 931 or approved equal.

E4.12 ALUMINUM PAINT

This shall be Tremco Double Duty or approved equal.

E4.13 VENT STACKS

These shall be Insulated Stack Jack Flashings (with metal cap not neoprene seal) SJ-20 as manufactured by Thaler.

E4.14 METAL FLASHING

Flashing shall be a minimum of 24 gauge in thickness. Finishes are to be chosen from the standard in stock range of Stelco 8000 series of colors.

E4.15 ACCESSORIES

All nails, bolts, screws and other fasteners etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E4.16 ELECTRICAL FLASHING

This shall be the Flash-Tite Wire and Cable Flashing as manufactured by Lexcor.

E4.17 SPLASH PADS

Splash Pads shall be 51" natural # 45-41001 as manufactured by Barkman Concrete LTD.

E4.18 METAL SIDING

This shall be Behlen AK 36 and shall be a minimum of 24 gauge in thickness. Finish is to be selected from the standard range of the Stelco 8000 series of colors.

E5. ROOFING PROCEDURES – BERTRAND ARENA

E5.1 Protect all new Work and the existing building and its contents against inclement weather. Supply and install equipment and enclosures necessary to provide this protection from beginning to completion of the Work.

E5.2 Do not apply any roofing whatsoever during any inclement weather including when the temperature may fall lower than 10 degrees Celsius.

E5.3 Do not expose roofing materials, vulnerable to water or sun damage, in quantities greater than can be weatherproofed in one day. Use only clean and dry materials and apply only during weather that will not introduce moisture into the roof system. This would include days of excessively high relative humidity. Undertake only that amount of roofing that can be completed as specified in the same day or prior to inclement weather forcing a shutdown of the operations.

E5.4 Apply roofing over clean and dry surfaces and in accordance to C.R.C.A. and /or manufacturers guidelines and as amended herein.

E5.5 All materials on the roof shall be stored in such a manner as to prevent blow-offs during high winds.

E5.6 Protect the surrounding surfaces against damage from the roofing operations. Where hoisting is necessary protect the buildings by hanging tarpaulins. Should equipment be parked on the surrounding lawn, it shall be protected with 3/4" plywood. Materials nor debris shall be stored or stock piled on adjoining roof areas that are not being replaced.

E5.7 Provide protection for the public using walkways, grounds, entrances, etc., by using proper warning signs, hoarding, shelters, or barricades as agreed to by the Contract Administrator.

E5.8 Where Work must or will continue over the finished roofing membrane, the Contractor will protect it with plywood sheathing.

E5.9 Removal of (opening up) existing roof membrane shall be done only after consultation with and agreement by the Contract Administrator. Remove only that portion that can be fully completed as specified within the same day work period.

E5.10 Employ qualified mechanical tradesmen to disconnect existing roof top units and to move the units to allow complete installation of roofing membrane, insulation and vapor barrier as specified herein. The Contractor shall be responsible for any required alterations, such as extending ducts or electrical, as is required to properly reconnect of the units. The Contractor

shall be held responsible for any damage to mechanical units from the roofing operations. Contact Contract Administrator prior to any disconnection's.

- E5.11 Notify Contract Administrator and ensure he has proper time to appear on Site during application period. Failure to do so may result in the total rejection of all Work completed prior to notifying the Contract Administrator.
- E5.12 Inspect all roof decking prior to installation of roofing system and report all defects or unsuitable conditions to the Contract Administrator and correct deficiencies as directed.
- E5.13 The Site shall be inspected prior to commencement of Work to ensure no current anomalies are present such as lawn damage, asphalt on walls, broken windows. etc. All anomalies shall be reported to the Contract Administrator . They shall then be recorded and photographed by both parties at that time. Should no anomalies be reported prior to Work commencing it shall be assumed that none existed prior to commencement.
- E5.14 Use only equipment in good working order. Locate equipment as instructed by the Contract Administrator.
- E5.15 All applicable safety regulations as indicated by Manitoba Health and Safety must be strictly followed at all times.

DESCRIPTION OF WORK

E6. ICE SHED ROOF

- E6.1 The existing sheet metal flashing including the perimeter fascia metal, eave trough, and all related lumber blocking are to be removed and discarded from site to an authorized grounds.
- E6.2 The existing roof assembly (shingles) is to be removed to the deck and discarded from site to an authorized nuisance grounds.
NOTE: ALL LOADS OF DEBRIS REMOVED FROM SITE SHALL BE PROPERLY TARPED
- E6.3 Temporarily disconnect and remove mechanical units as required to allow roofing operations to continue. Ensure all units are in working condition prior to removal. Should the unit be malfunctioning advise the Consultant prior to removal. If this is not done the Contractor may be held responsible for the repair of the unit. Use only qualified mechanical trades people for these operations.
NOTE: Engineer approval shall be obtained for any increase in dead load of the new roof onto the existing structure. Engineered drawings or letter are to be submitted to the Contract Administrator for approval prior to the project start.
- E6.4 Repair all deteriorated or otherwise damaged decking. Replacement of any decking is to be done with decking of the same type and style as that being replaced.
- E6.5 Install the self adhering vapour barrier in strict accordance to manufacturers guidelines. It is to be folded 1" down the outside face of the perimeter edges to allow the roof membrane to tie into it. Fold it 1" down the inside face of curb openings to allow the curb vapour barrier liner to be tied into it.
- E6.6 New perimeter blocking shall be installed at this time to maintain a height of 3" above the top of the new vapour barrier so as to accommodate the new 3" of insulation being installed. This shall be done with solid 2x4 spruce blocking. Leave temporary drain openings in the perimeter blocking.

- E6.7 Fabricate and install new curbs for all chimneys, ventilators and other roof top equipment. This shall include the construction of new curbs for units or chimneys that do not currently have curbs in place. The lowest point of the curbs shall be a minimum of 8" above the top of the roof. Curbs are to be fabricated from solid lumber blocking set on edge. The inside of the curbs are to be lined with vapour barrier. Wrap the vapour barrier onto the top of the curbs and nail in place to prevent slippage. Prime all blocking prior to installation of self adhering membrane. This is to tie into the roof vapour barrier.
- E6.8 A bead of mastic shall be applied around the base of all plumbing stacks so as to ensure a continuous seal to the vapour barrier. This is to be done at both the vapour barrier level and at the membrane. Install new riser extensions as required on any plumbing vents on the arena roof. The riser is to be securely clamped to the existing plumbing with a Fernco Coupler.
- E6.9 Loose lay the 2" expanded polystyrene insulation overtop of the vapour barrier. Stagger the rows of insulation from one another.
- E6.10 Loose lay the base layer of 1" polyisocyanurate insulation over the 2" insulation. Stagger the rows of insulation from one another. Offset this layer from the first layer.
- E6.11 The minimum fastening required for insulation is a minimum of 5 screws and plates per 4' x 4' sheet of insulation. The perimeter edges are to have the number of fasteners increased by 50% and the outside corners are to be increased by 75%. The perimeter edge distance is defined as the lesser of:
- (i) 10% of the building width or,
 - (ii) 40% of the eave height, with a minimum of 4'.
- E6.12 Install a width of Sopralene Flam Stick along the eave of the roof and around all curbed openings. The underlying substrate is to be fully coated with the specified primer. The membrane is to extend a minimum of 18" onto the insulation surface. Carry the membrane to the bottom edge of the roof decking. Carry it up onto the top of all curbs. Burn the poly film off all outside corners and apply corner gussets.
- E6.13 Install a drip edge flashing along the perimeter edges of the roof. The flashing is to be secured in place with 2 rows of nails. The nails in each row shall be no more than 6" on centre and the two rows shall be offset from one another. Standard roofing nails are to be used. Seal the edge of the flashing with a 12" width of Sopralene Flam 180 base sheet membrane stripping.
- E6.14 Set the base flanges of the Thaler Stackjacks in a bed of Soprocol Mastic and seal in with a single ply Sopralene Flam Stick. The ABS riser shall extend 1" above the top of the base. Insulate the area between the riser and the Stack Jack housing with batt insulation. A bead of sealant is to then be applied to the top lip of the riser and the top cap installed.
- E6.15 Install the Unilay membrane in strict accordance to manufacturers guidelines. Secure to meet a 90 m.p.h. wind uplift. Torch adhere the side laps of the membrane as well as torch adhere the membrane to all underlying base sheet at curbs, walls, and perimeter edges of the roof and other roof projections.
- E6.16 Torch apply the cap sheet stripping in strict accordance to the manufacturers guidelines. The stripping shall be terminated on the top of all curbs. The membrane shall be carried to the outside edge of roof edge drip flashing.
- E6.17 Install the new flashing on all curbs, sleepers, parapets, and other items requiring metal flashing. This is to include for new storm collars and skirts for all chimneys. The edges of the skirt shall fold a minimum of 1" down the outside face of the curbs. Do not reinstall the existing chimney straps.

- E6.18 Reinstall all roof top units. Extend all duct work, gas lines, and electrical as required to allow proper installation.
- E6.19 Fabricate and install new eave trough and fascia fabricated from the specified sheet metal. The trough shall be a minimum of 6" x 6". Install water deflectors at all beams to replace the existing deflectors. A sample length of trough and sample deflector are to be installed for approval by the Contract Administrator prior to all being installed. The trough is to be secured in place with 14 gauge aluminum straps spaced at 18" on centre. These are as supplied by Wilton Aluminum or approved equal. Install new scupper hoppers fabricated as detailed. Install in locations to be determined on site by the Contract Administrator. Sheet metal down pipes are to be sized to accommodate the structural steel bottom sections as detailed.

E7. ROOF AREA A1 & E1

- E7.1 The existing sheet metal flashing are to be removed and discarded from site to an authorized grounds.
- E7.2 The existing roof assembly including any lumber cant strip, is to be removed to the deck and discarded from site to an authorized nuisance grounds.
- NOTE: ALL LOADS OF DEBRIS REMOVED FROM SITE SHALL BE PROPERLY TARPED**
- E7.3 Install the 1/2" plywood on the inside face and on top of all parapets as well as up the elevation change to the sloped roof. Securely fasten in place with 1 1/2" x # 8 deck screws. Install 5/8" T&G O.S.B. smooth side up over the existing deck and secure in place with 24 - 1 1/2" x # 8 deck screws per sheet.
- E7.4 Adhere the modified bitumen base sheet to the deck. All application is to be as per Soprema guidelines. Mechanically fasten the perimeter edges and around all curbs using 2" Soprema plates and screws. The membrane stripping is to cover all plates.
- E7.5 Install the self adhering modified bitumen base sheet stripping in strict accordance to manufacturers guidelines. All blocking is to first be coated with the appropriate primer. The stripping shall be terminated 1" down the outside face of the parapets and 12" up the adjoining walls. Corner gussets shall be installed on all inside and outside corners.
- E7.6 Set the base flanges of the Thaler Stackjacks in a bed of mastic. Seal in with a single ply of torch applied base sheet membrane. The ABS riser shall extend 1/2" above the top of the base and a bead of sealant is to then be applied to the top lip of the riser and the top cap installed.
- E7.7 Install new scupper hoppers fabricated as detailed. Install in locations to be determined on site by the Contract Administrator. Sheet metal down pipes are to be sized to accommodate the structural steel bottom sections as detailed.
- E7.8 Torch adhere the cap sheet to the base sheet once again ensuring no wrinkles are present and that a minimum of 1/8" asphalt flow is present along the edges of all laps. Excessive seepage is not acceptable.
- E7.9 Torch apply the cap sheet stripping in strict accordance to the manufacturers guidelines. The stripping shall be carried to the outside face of the parapets and 12" up the chimney.
- E7.10 Install the new cap flashing on all parapets in a manner as the enclosed details. Install a new chimney skirt flashing and storm collar.

E8. ROOF AREA D1

- E8.1 The existing sheet metal flashing are to be removed and discarded from site to an authorized grounds.
- E8.2 The existing roof assembly including perimeter blocking is to be removed to the deck and discarded from site to an authorized nuisance grounds. Any existing concrete block parapets with solid lumber blocking on top are to have additional lumber blocking installed on top to ensure a minimum height of 6" above the top of the new roofing.
- E8.3 ALL loose vapor barrier is to be scraped from the deck and also discarded as above. The roof deck is to then be swept clean of all dirt and debris.
- NOTE: ALL LOADS OF DEBRIS REMOVED FROM SITE SHALL BE PROPERLY TARPED**
- E8.4 Install the 1/2" drywall using 20 deck screws per 4' x 8' sheet. Install an 8" width of 1/2" plywood around the perimeter edges.
- E8.5 Install the self adhering vapour barrier to the drywall substrate. Carry the vapour barrier to the outside face of the exterior walls. Carry the vapour barrier up all sleepers and curbs to ensure that the roof membrane will tie in to create an envelope.
- E8.6 New parapets are to be constructed using 2x8 studs and plates with 1/2" plywood on both sides. The pony wall is to be fully insulated with batt insulation. The vapor barrier is to extend to the outside edge of the building. The parapets shall be securely fastened in place with 3" # 12 wood screws at 16" on center. The new parapets are to be installed flush with the outside face of the existing walls. Shim as required to provide continuous support on top of any masonry. The parapets are to be installed level vertically. The new parapets are to be a minimum of 6" above the top of the new roofing. (all parapets are to be of the same height) The new divider is to be fabricated from 2 x 6 lumber.
- E8.7 Raise all curbs and sleepers with lumber of the same width as is currently in place to ensure they are a minimum of 8" above the top of the new roofing.
- E8.8 Install plywood sheeting along the base of the adjoining south high wall. The sheeting is to extend 12" above the top of the new roofing. Install building wrap such as Tyvek over the wall in it's entirety. Seal all laps with Tuck Tape. Extend any wall ducting as required to accommodate the new wall system. Install 1/2" x 1 1/2" x 1 1/2" z bars horizontally across the adjoining south wall. Space at 48" on centre up the height of the wall. New siding complete with a all applicable drip and other flashing is to then be installed upon completion of the installation of the new roofing. Siding is to be terminated about 8" to 10" up from the roof. The siding, Tyvek and z-bars are to be installed on the entire wall adjacent to areas C1 and D1.
- E8.9 Loose lay the layer of sloped foam insulation
- E8.10 Loose lay the Colgrip insulation. Offset the layers from one another.
- E8.11 Mechanically fasten the insulation. This is to be a minimum of 5 screws and plates per 4' x 4' sheet of insulation. The perimeter edges are to have the number of fasteners increased by 50% and the outside corners are to be increased by 75%. The perimeter edge distance is defined as the lesser of:
- (i) 10% of the building width or,
 - (ii) 40% of the eave height, with a minimum of 4'.
- E8.12 Adhere the modified bitumen base sheet to the insulation. Ensure no wrinkles are present and that all side and end laps are properly sealed. Install screws and plates spaced 12" on centre

around the perimeter edge of the roof as well as 12" on centre around all curbed openings, sleepers and other such projections. The membrane stripping is to cover all plates.

- E8.13 Install the self adhering modified bitumen base sheet stripping in strict accordance to manufacturers guidelines. All blocking is to first be coated with the appropriate primer. The stripping shall be terminated 1" down the outside face of the parapets and 12" up the adjoining walls. Corner gussets shall be installed on all inside and outside corners.
- E8.14 Install new scupper hoppers fabricated as detailed. Install in locations to be determined on site by the Contract Administrator. Sheet metal down pipes are to be sized to accommodate the structural steel bottom sections as detailed.
- E8.15 Set the base flanges of the Thaler Stackjacks in a bed of mastic. Seal in with a single ply of base sheet membrane. Burn the poly film off underlying membrane. The ABS riser shall extend 1/2" above the top of the base and a bead of sealant is to then be applied to the top lip of the riser and the top cap installed.
- E8.16 Torch adhere the cap sheet to the base sheet once again ensuring no wrinkles are present and that a minimum of 1/8" asphalt flow is present along the edges of all laps. Excessive seepage is not acceptable.
- E8.17 Torch apply the cap sheet stripping in strict accordance to the manufacturers guidelines. The stripping shall be carried to the outside face of the parapets and up and over all sleepers.
- E8.18 Install the new cap flashing and metal siding on all parapets in a manner as the enclosed details. Install new cap flashing on all sleepers. Install a sheet metal hood to shed water off the chiller pipe chase.
- E8.19 Reconnect and insulate all ducts. Coat with an appropriate fibrated emulsion. Coat all surfaces with aluminum paint.
- E8.20 All vent curbs are to be filled with spray in place polyurethane foam insulation. The insulation is to be installed to the top of the curb so as to drain moisture out.
- E8.21 Reinstall all roof top units. Extend all duct work, gas lines, and electrical as required to allow proper installation.