



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 20-2009**

**ROOF REPLACEMENT AT ROLLAND MICHENER ARENA 1121 WABASHA  
STREET**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 ROOF REPLACEMENT AT ROLLAND MICHENER ARENA 1121 WABASHA STREET

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, February 6, 2009.

B2.2 Bids 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 C3.1, the Contract Administrator or an authorized representative will be available at the Site from 11:00 to 11:30 on January 22, 2009 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 Division website 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 Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.2.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 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 may 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 B14.
- 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.

B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations in consistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

## **B7. BID COMPONENTS**

B7.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid 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, to constitute a responsive Bid.

B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.

B7.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:

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

B7.5.1 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.

B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B14.1(a).

B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.

B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B7.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

## **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 10 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;
- (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 should be printed below such signatures.

B8.4.2 All signatures shall be original.

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 and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

B9.1 The Bidder shall state the lump sum price in Canadian funds for the Work 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; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations 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 Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and

- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B10.4 Further to B10.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractors 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 administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) 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 Division website at <http://www.winnipeg.ca/matmgt>)

B10.5 The Bidder shall 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.

B10.6 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. OPENING OF BIDS AND RELEASE OF INFORMATION**

B11.1 Bids will not be opened publicly.

B11.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (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 Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

B11.3 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 Division website at <http://www.winnipeg.ca/matmgt>

B11.4 The Bidder is advised that any information contained in any Bid 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.

## **B12. IRREVOCABLE BID**

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 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 for the time period specified in Paragraph 9 of Form A: Bid.

## **B13. WITHDRAWAL OF BIDS**

B13.1 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.

B13.1.1 Notwithstanding C23.3, 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.



- B13.1.2 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 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
  - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.
- B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 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.

#### **B14. EVALUATION OF BIDS**

- B14.1 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 or acceptable deviation there from (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.
- B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid 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 or minor informalities or irregularities, if the interests of the City so require.
- B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B14.4 Further to B14.1(c), the Total Bid Price shall be the lump sum price shown on Form B: Prices.
- B14.4.1 If there is any discrepancy between the lump sum price written in figures and the lump sum price written in words, the price written in words shall take precedence.

#### **B15. AWARD OF CONTRACT**

- B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B15.2 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.
- B15.2.1 Without limiting the generality of B15.2, 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.

B15.3 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, in accordance with B14.

B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B15.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

#### **D2. SCOPE OF WORK**

D2.1 The Work to be done under the Contract shall consist of roof replacement at Roland Michener Arena – 1121 Wabasha as per specifications.

D2.2 The major components of the Work are as follows:

- (a) Replace roof sections A1, B1 and C1 as per specifications.
- (b) Work shall be performed in cooperation with Roland Michener Arena activities and programs.

#### **D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is:

Norm Carrothers  
100 Main Street  
Winnipeg, Manitoba R3C 1A4  
Telephone No. (204) 794-4400  
Facsimile No. (204) 986-7311

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. CONTRACTOR'S SUPERVISOR**

D4.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

#### **D5. NOTICES**

D5.1 Except as provided for in C23.2.2, 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.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 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.

D5.3 Notwithstanding C21., 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 Financial Officer  
Administration Building, 3rd Floor  
510 Main Street

Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-1174

- D5.4 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  
Internal Services Department  
Legal Services Division  
Attn: City Solicitor  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
Facsimile No.: (204) 947-9155

## **SUBMISSIONS**

### **D6. AUTHORITY TO CARRY ON BUSINESS**

- D6.1 The Contractor shall 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, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

### **D7. SAFE WORK PLAN**

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

### **D8. INSURANCE**

- D8.1 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) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) automobile liability insurance for 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;
- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.

D8.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

#### **D9. PERFORMANCE SECURITY**

D9.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), 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.

D9.1.1 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.

D9.2 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 Purchase Order and prior to the commencement of any Work on the Site.

#### **D10. SUBCONTRACTOR LIST**

D10.1 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 seven (7) Calendar Days from notification of the award of Contract.

### **SCHEDULE OF WORK**

#### **D11. COMMENCEMENT**

D11.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

D11.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
  - (i) evidence of authority to carry on business specified in D6;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D7;
  - (iv) evidence of the insurance specified in D8;
  - (v) the performance security specified in D9;
  - (vi) the Subcontractor list specified in D10; and
- (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.

D11.3 The Contractor shall not commence the Work on the Site before receipt of the purchase order.

## **D12. SUBSTANTIAL PERFORMANCE**

- D12.1 The Contractor shall achieve Substantial Performance by May 15, 2009.
- D12.2 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.
- D12.3 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.

## **D13. TOTAL PERFORMANCE**

- D13.1 The Contractor shall achieve Total Performance by May 29, 2009.
- D13.2 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.
- D13.3 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.

## **D14. LIQUIDATED DAMAGES**

- D14.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City one hundred dollars (\$100.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.
- D14.2 The amount specified for liquidated damages in D14.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D14.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **CONTROL OF WORK**

### **D15. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D15.1 Further to C6.24, 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).

## **WARRANTY**

### **D16. WARRANTY**

- D16.1 The Soprema 15 year Platinum Warranty is to be provided for this project
- D16.2 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.

- D16.3 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.
- D16.4 Notwithstanding D16.1, D16.2 and D16.3 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.
- D16.5 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.
- D16.6 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 D9)

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 for

BID OPPORTUNITY NO. 20-2009

ROOF REPLACEMENT AT ROLLAND MICHENER ARENA 1121 WABASHA STREET

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 as to Principal if no seal)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)  
(See D9)**

\_\_\_\_\_  
(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 20-2009

ROOF REPLACEMENT AT ROLLAND MICHENER ARENA 1121 WABASHA STREET

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)



## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

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

#### E2. MATERIALS

##### E2.1 DIMENSIONAL LUMBER

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

##### E2.2 PLYWOOD SHEATHING

This shall be ½" Standard Grade spruce plywood.

##### E2.3 INSULATION FASTENERS

These are to be #12 Dekfast screws with Sentri XP coating and 2 7/8" Hexagonal Galvalume Steel Stress Plate for all Deck Types as manufactured by SFS Stadler. Fasteners shall penetrate STEEL DECKING a minimum of ¾" and wood a minimum of 1".

##### E2.4 VAPOR BARRIER

This shall be ply Soprema Sopraflash Flam Stick.

##### E2.5 ROOFING INSULATION

- (a) Expand Polystyrene Type II with a minimum slope of 3/16" per foot and a minimum thickness of 1". This shall be as manufactured by Plastifab Ltd. Or AMC Insulation corp. Slopes are to be as per the attached Drawings.
- (b) 1" Soprema Colgrip A polyisocyanurate insulation with acrylic facer. Paper facers will not be accepted.

##### E2.6 INSULATION ADHESIVE

- (a) This shall be INSTA-STICK™ Professional Roof Insulation Adhesive as manufactured by the Dow Chemical Company and distributed by Brock White or HV Adhesive as distributed by Soprema. Adhesive shall be applied to obtain a minimum 90 M.P.H. wind uplift rating or as otherwise indicated within the Description of Work.
- (b) Adhesive can be used only in areas with excessive conduit. Any such areas must first be confirmed by the Contract Administrator.

##### E2.7 POURABLE SEALER

This is to be Sonolastic SL 2 two part self levelling pourable polyurethane as manufactured by Sonneborn and Distributed by Brock White. This is to be used to fill all pitch boxes or as otherwise specified. Any surfaces to come in contact with the sealer are to be first coated with Sonneborn Primer 733.

##### E2.8 MODIFIED BITUMEN MEMBRANE

This shall be the following:

- (a) Membrane:  
Soprema Sopralene Flam 180 base sheet with a Sopralene Flam 250 Gr. cap sheet; IKO Torchflex 180 FF with an IKO Torchflex 250 cap
- (b) Stripping:

Soprema Sopraflash Flam Stick self adhering base sheet with a Sopralene Flam 180 Gr. cap sheet; IKO Armourbond Flash with IKO Torchflex 180 cap

- E2.9      **MODIFIED PRIMER**  
Soprema Elastocol 500 primer for use with the Soprema torch grade membrane and Elastocol Stick for use with the self adhesive membranes.
- E2.10     **RUBBERIZED ASPHALT**  
Soprema Soprocol for use with the Soprema membrane.
- E2.11     **PLASTIC CEMENT**  
This shall be to CGSB specification 37-GP-5M and shall only be used for temporary sealing during the roofing operations. None shall be accepted on the finished roofing.
- E2.12     **REINFORCING MASTIC**  
This shall be Polyroof as manufactured by Tremco Ltd. All exposed rubberized asphalt shall be coated with aluminum paint.
- E2.13     **REINFORCING FABRIC**  
This shall be Tremco Burmesh. This is to be used in conjunction with rubberized asphalt on all drains, scuppers etc.
- E2.14     **CAULKING**  
This shall be Tremco Dymonic FC.
- E2.15     **ALUMINUM PAINT**  
This shall be Tremco Double Duty.
- E2.16     **ROOF DRAINS**  
These shall be Ancon RD-100-BE standard drains with cast dome. Size is to match existing plumbing. If the existing drains being replaced are control flow, then Ancon RD-100-BE control flow drains with optional deck clamp, and cast dome shall be used.
- E2.17     **VENT STACKS**  
These shall be Insulated Vandal Proof Stack Jack Flashings SJ-31 as manufactured by Thaler. Size is to match existing plumbing.
- E2.18     **METAL FLASHING**  
The base and cap flashing shall be minimum of 24 gauge in thickness. Metal is to be pre-finished and is to be chosen from the standard in stock range of Stelco 8000 series of colors.
- E2.19     **SIDING**  
The siding is to match the siding band on lower roof of pool building. The siding is to be a minimum of 24 gauge in thickness with the color matching that of the existing siding band. The finish is to be chosen from the Stelco 8000 series of colors.
- E2.20     **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.
- E2.21     **SPLASH PADS**  
Splash Pads shall be 51" natural #45-41001 as manufactured by Barkman Concrete Ltd.

- E2.22 **GAS LINE SUPPORTS**  
These shall be C-Port CX series rubber gas line sleepers with a proper size base for to provide bearing on the new roofing.
- E2.23 **DUCT SUPPORTS**  
These shall be C-Port DSA Duct supports with a proper size base and supports for the existing ducting on the new roofing.
- E2.24 **RECOVERY BOARD**  
This shall be Soprema  $\frac{1}{8}$ " Sopraboard.

### **E3. ROOFING PROCEDURES**

- E3.1 The Contractor is to have their Insurer view the work premises prior to the start of any roofing or set up. The Insurer is to document any existing interior water damage. Any existing damage is to be photographed and the locations documented. This is to minimize any conflicts between the Owner and Roofer should any leaks occur during construction.
- E3.2 Shop drawings are to be provided for the new siding installation. Shop drawings are to detail all applicable flashing being incorporated.
- E3.3 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.
- E3.4 Do not apply any roofing whatsoever during any inclement weather including when the temperature may fall lower than twenty degrees below Celsius or when the wind-chill is equal to or greater than 1700.
- E3.5 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.
- E3.6 Apply roofing over clean and dry surfaces and in accordance to C.R.C.A. and / or manufacturers guidelines and as amended herein.
- E3.7 Heat bitumen in accordance to the manufacturer's recommendations. Do not exceed the flash point or finished blowing temperature. Apply bitumen at temperature recommended by manufacturer.
- E3.8 All materials on the roof shall be stored in such a manner as to prevent blow-offs during high winds.
- E3.9 Should the roofing operations be terminated during the day for unforeseen circumstances all exposed vapor barrier, felts or drywall **MUST** be fully glaze coated with bitumen prior to leaving the Site that day.
- E3.10 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  $\frac{3}{4}$ " plywood. Neither materials nor debris shall be stored or stock piled on adjoining roof areas that are not being replaced.
- E3.11 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.
- E3.12 Where Work must or will continue over the finished roofing membrane, the Contractor will protect it with plywood sheathing.



- E3.13 Removal of (opening up) existing roof membrane shall be done only after consultation with and agreement by the Contractor Administrator. Remove only that portion that can be fully completed as specified within the same day of work period.
- E3.14 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 to the units. The Contractor shall be held responsible for any damage to mechanical units from the roofing operations. Contact Contract Administrator prior to any disconnections.
- E3.15 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.
- E3.16 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.
- E3.17 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 the time. Should no anomalies be reported prior to Work commencing it shall be assumed that none existed prior to commencement.
- E3.18 Use only equipment in good working order including all thermometers and gauges. Locate equipment as instructed by the Contract Administrator. Maintain continuous supervision while kettles in operation.
- E3.19 Propane bottles must be removed from the roof and site each night.
- E3.20 All applicable safety regulations as indicated by Manitoba Health and Safety must be strictly followed at all times.
- E3.21 Any damage to the existing lawn is to be repaired with new sod. Topsoil and seed will not be accepted
- E4. DESCRIPTION OF WORK – ROOF AREAS A1, B1, C1**
- E4.1 The existing sheet metal flashing are to be removed and discarded from site to an authorized grounds.
- E4.2 The existing roof assembly is to be removed to the deck and discarded from site to authorized grounds.
- E4.3 The existing perimeter blocking including divider blocking shall be removed and discarded.
- E4.4 The existing perimeter wood siding shall be removed and discarded.
- E4.5 Temporarily disconnect and remove mechanical units as required to allow roofing operations to continue. Ensure all units are in working conditions prior to removal. Should the unit be malfunctioning; advise the Contract Administrator 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.
- E4.6 **ALL** loose vapor barrier shall be scraped from the deck and also discarded as above. The roof deck shall be swept clean of all dirt and debris.

- E4.7 Structural steel stands are to be fabricated and installed for the large mechanical units currently sitting on sleepers. The stands are to be fabricated from a minimum of 1½" x ¼" square steel tubing. All components of the stands are to be hot zinc dipped. The stands are to be such as to ensure that the units have a minimum of 30" clearance underneath for future roof repairs. The existing sleepers are to be replaced with new pressure treated lumber sleepers of minimally the same dimensions as those currently in place. Ducts are to be kept a minimum of 24" off the roof. Shop drawings are to be submitted complete with engineers stamp. Engineers are to be licensed to practice in the Province of Manitoba. Engineer design is to be for the stand as well as to confirm that the existing structure can handle any increase in snow loading that may occur as a result of raising the unit.
- E4.8 If there is exposed conduit on top of the deck a layer of 1" Soprema Colgrip B is to be first installed and fitted around all electrical boxes and conduit. Any conduit are to be covered with 1" high 18 ga. hat bars prior to insulation being fitted in place to protect from puncturing with screws.
- E4.9 If 1" insulation is used as the base layer then 2 layers or 12" wide strips of ½" plywood is to be installed around the perimeter edges of the roof and under all sleeper locations. This is to allow the vapor barrier to run continuous.
- E4.10 All pitch boxes shall be replaced with wood curbs. These are to be constructed as detailed. All items entering the curbs shall do so through the sides. The curbs shall be designed so as to ensure any entry points are a minimum of 8" off the roof. The curbs shall be fully insulated and a plywood and metal cover installed.
- E4.11 Adhere the vapor barrier to the insulation or plywood. Install the specified membrane stripping up all adjoining high walls and up and onto the top of all curbs. Carry the vapor barrier slightly down the outside face of the exterior walls.
- E4.12 New parapets and dividers are to be constructed using 2 x 6 studs and double top plates with ½" 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. 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.
- E4.13 All wood blocking on all curbs shall be raised with solid wood blocking to maintain a minimum height of 12" above the top of the new roof assembly. A minimum of a 2 x 4 shall be installed on all curbs and ½" plywood installed over the sides of the old portion of the curbs to provide a clean substrate for the new self adhering membrane stripping. The 2 x 4 is to be set back slightly to accommodate the unit size.
- E4.14 Make good the finish on the inside face of the skylight curb.
- E4.15 Install the new roof drains(s) and maintain a height ½" below the top of the insulation. Hang plumbing lines with appropriate threaded rod hangers. Insulate the drain lines. Box in all drain lines down the inside face of walls. This is to be done with appropriate steel studs and drywall. Tape drywall, prime drywall, and paint to match existing wall finish. The plumbing penetrating exterior walls are to be a minimum of 6" diameter. Extend a minimum of 6" out past the exterior face of the wall. Make good any wall finishes. The new drain lines are to be fully insulated with white all service jacket rigid fibreglass. All insulation joints are to be taped with applicable product. Insulation is to be PVC wrapped wherever left exposed. Drain lines can only be left exposed with approval from the Contract Administrator.
- E4.16 Existing drains are to also be replaced with new.
- E4.17 Loose lay the layer of sloped foam insulation.
- E4.18 Loose the layer of Colgrip insulation. Stagger the rows of insulation as well as this layer from the underlying layer.

- E4.19 If the layer of 1" insulation was not installed on the deck then it is to be installed as the second layer of Colgrip A over the sloped foam insulation.
- E4.20 Install a single layer of  $\frac{1}{8}$ " recovery board.
- E4.21 Mechanically fasten the insulation system. This is to be a minimum of 5 screws and plates per 4' x 4' sheet of insulation. Note that Soprema Coltack adhesive can be used in areas of excessive conduit. This must first be accepted by the Contract Administrator. Grey color screws are to be used in the exposed steel deck areas. Care must be taken to ensure that the screws do not penetrate the underside of any exposed cedar decking. The screws in the steel deck areas must not extend below the bottom of the low ribs. 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 lesser of:
- (i) 10% of the building width or,
  - (ii) 40% of the eave height, with a minimum of 4'.
- E4.22 All insulation is to be covered by tarps in good condition at the end of every work day. This includes all forms of insulation. No exceptions will be allowed.
- E4.23 Install Soprema 6" Firestop along all parapet roof connections as well as around all curbed openings. The membrane is to extend 3" up the vertical and 3" onto the top of the insulation.
- E4.24 Torch adhere the modified bitumen base sheet to the recovery board. 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.
- E4.25 Apply the modified bitumen base sheet stripping in strict accordance to manufacturer's 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. Install a minimum of 1 row of roofing nails spaced at 12" on center. The nails are to be half way up the height of the stripping.
- E4.26 Set the base flanges of the Thaler Stack Jacks in a bed of mastic. Seal in with a single ply of torch applied base sheet membrane. The ABS riser shall extend  $\frac{1}{2}$ " 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.
- E4.27 Torch adhere the cap sheet to the base sheet once again ensuring no wrinkles are present and that a minimum of  $\frac{1}{8}$ " asphalt flow is present along the edges of all laps. Excessive seepage is not acceptable.
- E4.28 All base sheet and cap sheet rolls are to be relaxed a minimum of 4 hours prior to installation. This will help to greatly reduce any buckling in the membrane.
- E4.29 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.
- E4.30 All plumbing vents are to be extended at this time. Existing cast hubs are to be removed (as required) and the appropriate length black ABS extensions securely clamped to the existing plumbing using Fernco couplers.
- E4.31 Install new cap flashing on all sleepers and roof dividers.
- E4.32 Install new gas line sleepers and space in strict accordance to the local gas utility requirements.
- E4.33 Reconnect all ducts. Install new insulation. Clad all ducting with 0.020" aluminum.
- E4.34 Install the new structural steel down pipes and sheet metal drop pipes. The structural steel sections are to be Powder Coated. The pipes are to be fabricated and installed as detailed. The color is to be selected by the Contract Administrator.

- E4.35 Reinstall all roof top units. Extend all duct work, gas lines, and electrical as required to allow proper installation.
- E4.36 Install the fastening bar flashing with gum cup (as detailed) along the adjoining walls. Fasten through the flashing and membrane as maximum of 12" on center with TEK screws. Fill the gum cup with the approved caulking.
- E4.37 Install all new 22 ga. galvanized skirt flashing and storm collars on all chimneys. The skirt flashing flange is to fold a minimum of 1" down the outside face of the curbs. The connection between the skirt and base flanges are to be lock seamed.
- E4.38 Paint all gas lines in a manner and with materials as acceptable to the local gas utility.
- E4.39 Install Tyvek on the outside face of the parapets and this in turn is to be followed by the installation of the new siding, drip flashing and other related flashing. Siding direction is to match that of the siding band on the pool area.
- E4.40 Install the new cap flashing on all parapets.