



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 679-2005**

**SECOND FLOOR RENOVATIONS  
510 MAIN STREET**

## TABLE OF CONTENTS

### PART A - BID SUBMISSION

Form A: Bid	1
Form B: Prices	4
Form G1: Bid Bond and Agreement to Bond	5
Form G2: Irrevocable Standby Letter of Credit and Undertaking	7

### PART B - BIDDING PROCEDURES

B1. Project Title	1
B2. Submission Deadline	1
B3. Site Investigation	1
B4. Enquiries	1
B5. Addenda	1
B6. Substitutes	2
B7. Bid Submission	3
B8. Bid	3
B9. Prices	4
B10. Qualification	4
B11. Bid Security	5
B12. Opening of Bids and Release of Information	5
B13. Irrevocable Bid	6
B14. Withdrawal of Bids	6
B15. Evaluation of Bids	7
B16. Award of Contract	7

### PART C - GENERAL CONDITIONS

C1. General Conditions	1
------------------------	---

### PART D - SUPPLEMENTAL CONDITIONS

#### General

D1. General Conditions	1
D2. Scope of Work	1
D3. Contract Administrator	1
D4. Contractor's Supervisor	1
D5. Notices	1
D6. Furnishing of Documents	2

#### Submissions

D7. Insurance	2
D8. Performance Security	3
D9. Security Clearance	3

#### Schedule of Work

D10. Commencement	4
D11. Substantial Performance	4
D12. Total Performance	4
D13. Liquidated Damages	5

#### Control of Work

D14. Job Meetings	5
D15. Prime Contractor – The Workplace Safety and Health Act (Manitoba)	5

#### Measurement and Payment

D16. Payment Schedule	5
-----------------------	---

#### Warranty

D17. Warranty	5
Form H1: Performance Bond	7
Form H2: Irrevocable Standby Letter of Credit	9

## **PART E - SPECIFICATIONS**

### **General**

E1. Applicable Specifications, Standard Details and Drawings	1
--	---

### **Second Floor Plan - Demolition & Floor Patching**

E2. General Provisions Section 01000	2
E3. Project Coordination Section 01040	5
E4. Cutting & Patching Section 01045	6
E5. Field Measurement Section 01055	9
E6. Cleaning Section 01740	10
E7. Concrete Floor Finishing Section 03355	11
E8. Rough Carpentry section 06100	13
E9. Finish Carpentry Section 06200	17
E10. Sound Insulation Section 07212	21
E11. Fire Stopping Section 07270	22
E12. Sealants Section 07900	23
E13. Metal Doors and Frames Section 08100	25
E14. Wood Doors, Frames and Sidelights Section 08211	28
E15. Finish Hardware Section 08710	31
E16. Glass and Glazing Section 08800	33
E17. Gypsum Board Systems Section 09260	35
E18. Suspended Acoustic Ceilings Section 09511	38
E19. Painting Section 09900	41

## **PART B - BIDDING PROCEDURES**

### **B1. PROJECT TITLE**

- B1.1 SECOND FLOOR RENOVATIONS  
510 MAIN STREET

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, December 6, 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 11:00 a.m. to 12:00 noon on Thursday, November 24, 2005 and Friday, November 25, 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 the lump sum price in Canadian funds for the Work on Form B: Prices.
- B9.1.1 Notwithstanding GC.12.2.3(c), the price on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.

## **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 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.

B10.3 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 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 B14.1.3b), 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 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 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 c), the Total Bid Price shall be the lump sum price shown on Form B: Prices.

B15.4.1 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.

## **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 general office renovations to the Second floor Administration Building – 510 Main Street.
- D2.2 The major components of the Work are as follows:
- a) Interior renovations and construction of Second Floor Offices;
  - b) Construction of barrier free washrooms.

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

- D3.1 The Contract Administrator is:
- Jeff Dibley  
Project Officer  
3<sup>rd</sup> floor – 65 Garry Street  
Telephone No. (204) 986-2889  
Facsimile No. (204) 947-2284
- 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 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.

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 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

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  
Corporate Services Department  
Legal Services Division  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
Facsimile No.: (204) 947-9155

## **D6. FURNISHING OF DOCUMENTS**

D6.1 Upon award of the Contract, the Contractor will be provided with ten (10) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

## **SUBMISSIONS**

### **D7. INSURANCE**

D7.1 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;
- c) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, at all times during the performance of the Work and until the date of Total Performance.

D7.2 Deductibles shall be borne by the Contractor.

D7.3 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.

#### **D8. PERFORMANCE SECURITY**

D8.1 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.

D8.1.1 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.

D8.2 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.

#### **D9. SECURITY CLEARANCE**

D9.1 Each individual proposed to perform Work:

- a) on private property;
- b) within City facilities.

shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.

D9.1.1 The Criminal Records Search shall include a Vulnerable Sector Search.

D9.2 Prior to the commencement of any Work, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform Work within City facilities or on private property.

D9.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person, will not be permitted to perform any Work within City facilities or on private property.

D9.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

- D9.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform Work under the Contract within City facilities or on private property.

## **SCHEDULE OF WORK**

### **D10. COMMENCEMENT**

- D10.1 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.
- D10.2 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 D7;
    - (iv) the performance security specified in D8; and
    - (v) the security clearances specified in D9.
  - 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.
- D10.3 The Contractor shall commence the Work on the Site within fifteen (15) Working Days of receipt of the letter of intent.
- D10.4 The City intends to award this Contract by December 31, 2005.

### **D11. SUBSTANTIAL PERFORMANCE**

- D11.1 The Contractor shall achieve Substantial Performance by April 21, 2006.
- D11.2 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 re-inspected.
- D11.3 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.

### **D12. TOTAL PERFORMANCE**

- D12.1 The Contractor shall achieve Total Performance by May 31, 2006.
- D12.2 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 re-inspected.

D12.3 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.

### **D13. LIQUIDATED DAMAGES**

D13.1 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 two-hundred dollars (\$200.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.

D13.2 The amount specified for liquidated damages in D13.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D13.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

### **CONTROL OF WORK**

#### **D14. JOB MEETINGS**

D14.1 Regular bi-weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D14.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever deemed necessary.

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

D15.1 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).

### **MEASUREMENT AND PAYMENT**

#### **D16. PAYMENT SCHEDULE**

D16.1 Further to GC:12, payment shall be in accordance with:

Monthly progress claims. The City shall only be required to pay the Contractor for materials and equipment required for the work upon the installation and total incorporation of same permanently into the work.

### **WARRANTY**

#### **D17. WARRANTY**

D17.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the



respective Specification sections, unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.

- D17.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.
- D17.2 Notwithstanding GC:13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.
- D17.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in GC:13.2 for the warranty period to begin.

**FORM H1: PERFORMANCE BOND**  
(See D8)

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. 679-2005

SECOND FLOOR RENOVATIONS  
510 MAIN 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)

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

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

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

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

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D8)

\_\_\_\_\_  
(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. 679-2005  
  
SECOND FLOOR RENOVATIONS  
510 MAIN 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, STANDARD DETAILS AND DRAWINGS**

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

Second Floor Renovations – 510 Main Street - Project No. 2004-180-06

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
A1	Second Floor Plan - Demolition & Floor Patching
A2	Second Floor Plan - Renovation & Schedules
A3	Second Floor Plan - Reflected Ceiling
A4	Second Floor Plan – Furniture & Millwork & Elevations
A5	Second Floor Plan - Millwork Sections
M1	Second Floor Plan – Mechanical Demolition
M2	Second Floor Plan – Mechanical Renovation
M3	Second Floor Plan – Sprinkler System
M4	Second Floor Plan – Plumbing Demolition
M5	Second Floor Plan – Plumbing Renovation
M6	Second Floor Plan – Mechanical & Plumbing Specifications
E1	Second Floor Plan – Electrical Demolition
E2	Second Floor Plan - Electrical Renovation
E3	Second Floor Plan - Electrical Lighting Renovation
E4	Second Floor Plan - Electrical Specifications
T1	Second Floor Plan - Data & Phone Renovation & Specification

## **E2. GENERAL PROVISIONS SECTION 01000**

### **E2.1 COORDINATION AND COOPERATION:**

#### **E2.1.1 OTHER TRADES**

- a) Further to GC:6.1, Specifications shall be read by all trades to acquaint them with the nature of the Work required. Failure to do so will not relieve them of any responsibilities for cooperation in coordinating the Work and preventing delay and for the supply and installation of materials required for this Work.

#### **E2.1.2 CUTTING AND PATCHING**

- a) Each trade shall do all necessary cutting and patching required for their Work. Existing adjacent surfaces shall be accurately matched. Cutting through any structural member shall only be done with the prior written approval of the Contract Administrator.
- b) Perform all cutting and patching required, to make all parts of the Work be assembled properly.

### **E2.2 MATERIALS**

#### **E2.2.1 C.S.A.**

- a) All materials, where applicable, shall be CSA approved.

### **E2.3 SUBMITTALS**

#### **E2.3.1 SHOP DRAWINGS**

- a) Further to GC:6.9, the Contractor shall submit for approval, five (5) sets of detailed shop drawings for all Work as requested by the Contract Administrator at the initial site meeting and as required thereafter.

### **E2.4 QUALITY CONTROL**

#### **E2.4.1 INSPECTING AND TESTING MATERIAL**

- a) The City reserves the right to inspect and test all materials at its own expense and to reject any materials, which are not in accordance with the requirements of the specifications. The Contractor shall furnish, at the Contractor's expense, such specimens and samples of materials as may be required for testing.
- b) The Contractor shall allow the City to test any equipment, and shall provide power, fuel or material required for these standard performance tests on the equipment.

### **E2.5 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS:**

#### **E2.5.1 SITE PROTECTION**

- a) The Contractor shall provide adequate protection to prevent any damage to existing structures, furnishings, finishes, etc. during construction. Temporary ramps, barricades, hoardings as required shall be provided to the approval of the Contract Administrator.

- b) The Contractor shall exercise care in the operations relative to the Site. Any unnecessary destruction of the Site will not be permitted. The Contractor shall exercise care in the movement of equipment and materials especially during regular business hours. The Contractor shall be held responsible for the repair of damages to the Site, boulevards, roads, other pavements, etc. in the surrounding area of the immediate Site.
- c) The existing HVAC system on the second floor ceiling space supplies air to both the second and third floors of the building. The Contractor shall exercise care during alterations to the HVAC system to minimize disturbance to the building occupants. Some ventilation Work may require to be done after regular working hours.

#### E2.5.2 LAYOUT OF WORK

#### E2.5.3 EXISTING SERVICES AND UTILITIES

- a) Further to GC.3. (3.1) of the General Conditions, it shall be the responsibility of the Contractor to verify the location of all existing utilities, pipes and other objects and, if encountered, to adequately protect them during the construction period. Contractor to replace or reset to their original position any item disturbed or damaged after construction is completed at no cost to the City of Winnipeg.
- b) Contractor to notify the Contract Administrator 24 hours prior to any disconnecting or shutting down any service, which may affect the building occupants.

#### E2.6 PROJECT INFORMATION SIGNS

##### E2.6.1 SIGNS

- a) No project information signs shall be allowed without the written approval of the Contract Administrator. Any project information signs approved during construction are to be removed by the Contractor upon completion of the project.

#### E2.7 REQUIREMENTS FOR SUBSTANTIAL PERFORMANCE:

##### E2.7.1 OPERATIONS, MAINTENANCE AND INSTRUCTION MANUALS

- a) The Contractor shall provide the Contract Administrator with four copies of all manuals showing:
  - i. Service Instruction - including a list of spare parts and replacement parts and the full names, addresses and contact information of all equipment suppliers.
  - ii. Installation Instructions.
  - iii. Maintenance Instructions.
  - iv. Operating Instructions.
  - v. Electrical and Mechanical Schematics.
- b) Detailed electrical and electronic circuit diagrams (wiring and schematic) showing all wiring connections; all electrical component values; all component parts manufacturers; and servicing procedure for all electrical and electronic equipment utilized to approval



of the City. Substantial Performance of the equipment is contingent on the provision of the above information.

E2.7.2 OCCUPANCY PERMIT

- a) The Contractor shall obtain an Occupancy Permit as required under the Building By-Law, along with the Mechanical and Electrical Certificate of Inspection from the City of Winnipeg, Planning, Property and Development Department, Permits Branch.

E2.7.3 APPLICATION FOR SUBSTANTIAL PERFORMANCE

- a) Prior to application for Certificate of Substantial Performance, carefully inspect the Work and ensure it is complete, major and minor construction deficiencies are corrected, and building is clean and in condition for occupancy. Notify Contract Administrator in writing of satisfactory completion of inspection and request a Contract Administrator inspection.
- b) During Contract Administrators inspection a list of deficiencies and defects will be tabulated. Contractor to correct deficiencies, as soon as possible and request a re-inspection once completed.
- c) Contractor to apply for Certificate of Substantial Performance, once the deficiencies have been corrected.

### **E3. PROJECT COORDINATION SECTION 01040**

#### **E3.1 General**

##### **E3.1.1 REQUIREMENTS INCLUDED**

- a) Coordinate the Work of all Sub-trades.

##### **E3.1.2 DESCRIPTION**

- a) Coordinate submittals, use of Site, temporary utilities, construction facilities and use of service elevator.

##### **E3.1.3 EXISTING CONDITIONS**

- a) The operation of this facility is to remain uninterrupted during the duration of this project. The Contractor is to minimize interference to the staff of this building on the other floors.
- b) All procedures affecting existing building operation or building occupants must be coordinated with the Contract Administrator prior to work being done.
- c) Construction hours of work shall be approved by the Contract Administrator to minimize disturbance to building occupants.
- d) Power actuated fastening devices or other noise generating equipment shall not be used without approval of the Contract Administrator. Some work may be required to be done outside of regular office hours.
- e) Only the service elevator identified by the Contract Administrator shall be used for the transporting of equipment and materials to and from the work area. The Contractor shall take precautions to protect the elevator used during the progress of the Work.
- f) The Contractor shall repair any damage done to the elevator or building structure caused during the construction use at his expense.

## **E4. CUTTING & PATCHING SECTION 01045**

### **E4.1 General**

#### **E4.1.1 SECTION INCLUDES**

- a) Requirements and limitations for cutting and patching the Work.

#### **E4.1.2 RELATED SECTIONS**

- a) Individual Sections: cutting and patching incidental to work of the section.

#### **E4.1.3 SUBMITTALS**

- a) Submit written request in advance of cutting or alteration which affects:
  - i. Structural integrity of any element of the structure.
  - ii. Integrity of weather-exposed or moisture resistant elements.
  - iii. Efficiency, maintenance, or safety of any operational component.
  - iv. Visual qualities of sight-exposed elements.
- b) Include in request:
  - i. Project identification
  - ii. Location and description of affected work.
  - iii. Statement on necessity for cutting or alteration.
  - iv. Description of proposed Work and products to be used.
  - v. Alternatives other than cutting.
  - vi. Resultant effect of proposed Work to the City.
  - vii. Date and time requested work is to be executed.

### **E4.2 Products**

#### **E4.2.1 MATERIALS**

- a) Required for original installation.

### **E4.3 Execution**

#### **E4.3.1 GENERAL**

- a) Grout in all depressions and voids in terrazzo and tile floors, at all locations where walls are removed. Hand trowel to smooth finish flush with adjacent floor line to accept carpet.

- b) Execute cutting, fitting and patching to complete the Work.
- c) Fit the parts together, to integrate with other Work.
- d) Uncover work to install ill-timed work at Contractors expense.
- e) Remove and replace defective and non-conforming work to Contract Administrators approval.
- f) Provide openings for penetrations of mechanical, electrical or other Work.

#### E4.3.2 INSPECTION

- a) Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- b) After uncovering, inspect conditions affecting performance of Work.
- c) Beginning of cutting or patching means acceptance of existing conditions.

#### E4.3.3 PREPARATION

- a) Provide supports to assure structural integrity of surroundings; devices and methods to protect other portions of project from damage.
- b) Protect any areas from the elements, which may be exposed by uncovering work.
- c) Conduct Work to minimize the interference and disturbance of occupants in the existing facility.

#### E4.3.4 PERFORMANCE

- a) Execute Work by methods to avoid damage to other work and to provide proper surfaces to receive patching and finishing.
- b) Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements and sight-exposed surfaces.
- c) Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools are not allowed without prior written approval from Contract Administrator.
- d) Restore work with new products in accordance with requirements of Contract Documents.
- e) Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- f) At penetration of fire-rated wall, ceiling or floor construction, completely seal voids with fire-rated material, full thickness of the construction element.
- g) Refinish surfaces to match adjacent finishes: for continuous surfaces refinish to nearest intersection or as indicated on schedule and drawings; for equipment refinish entire unit.
- h) Provide and install steel lintels for new openings in existing masonry construction.

- i) Restore surfaces and finishes in areas of electrical and mechanical work to match surrounding substrate.

**E5. FIELD MEASUREMENT SECTION 01055**

**E5.1 General**

**E5.1.1 SECTION INCLUDES**

- a) Verification of building dimensions.
- b) Site measurement for new construction.

**E5.1.2 RELATED SECTIONS**

- a) General Provisions Section 01000
- b) Individual Sections – Site measurements prior to fabrication.

**E5.1.3 PROJECT CONDITIONS**

- a) The drawings in these construction documents are based on drawings of the existing facility, actual on Site conditions may vary.

**E5.2 Products**

**E5.2.1 Not Used**

**E5.3 Execution**

**E5.3.1 SITE MEASUREMENT**

- a) Verify all dimensions prior to commencing with Work.
- b) Site check all dimensions on pre-fabricated equipment prior to fabrication.
- c) Notify Contract Administrator of any discrepancies between Site checked dimensions and drawing dimensions.

## **E6. CLEANING SECTION 01740**

### **E6.1 General**

#### **E6.1.1 SECTION INCLUDES**

- a) Progressive cleaning.
- b) Final cleaning.

#### **E6.1.2 MATERIALS**

- a) Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by material manufacturer.

#### **E6.1.3 CLEANING DURING CONSTRUCTION**

- a) Maintain project grounds and public properties free from accumulations of waste material and rubbish.
- b) Provide on Site containers suitable for collection of waste materials and rubbish.
- c) Remove waste material and rubbish from Site.
- d) Vacuum clean interior building areas when ready to receive finish painting, and continue vacuum cleaning on an as needed basis until building is ready for substantial completion or occupancy.
- e) Schedule cleaning operations so that resulting dust and other contaminants will not fall on wet newly painted surfaces.
- f) Clean on a daily basis, through construction, those areas used by the public and the residents of the building, including elevators, stairwells, corridors and entry ways.

#### **E6.1.4 FINAL CLEANING**

- a) In preparation for substantial completion or occupancy, conduct inspection of Site exposed interior and exterior surfaces.
- b) Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight exposed interior and exterior finished surfaces including glass and other polished surfaces.
- c) Clean lighting fixtures and reflectors, lenses and other lighting surfaces.
- d) Broom clean paved surfaces, rake clean other surfaces of grounds affected by the construction or the storage of construction materials and equipment.
- e) Clean existing tyndall stone with an approved masonry cleaning system such as CPD Sure Klean Masonry prewash and CPD Sure Klean Limestone afterwash or approved equal.
- f) Clean existing brick masonry with an approved masonry cleaning system recommended by masonry manufacturer.

## **E7. CONCRETE FLOOR FINISHING SECTION 03355**

### **E7.1 General**

#### **E7.1.1 SECTION INCLUDES**

- a) Preparation of existing concrete flooring.
- b) Core patching and finishing, monolithic floor slab, and separate floor toppings.
- c) Surface treatment with sealer and epoxy coating.

#### **E7.1.2 REFERENCES**

- a) ACI 301 - Structural Concrete.
- b) ACI 302 - Guide for Concrete Floor and Slab Construction.
- c) ASTM E1155/E1155M - Determining Floor Flatness and Floor Levelness Numbers.

#### **E7.1.3 SUBMITTALS**

- a) Submission procedures. Section 01000:
- b) Product Data: Provide data on concrete hardener, sealer, and epoxy coating, compatibilities, and limitations.

#### **E7.1.4 MAINTENANCE DATA**

- a) Submission procedures. Section 01000:
- b) Maintenance Data: Provide data on maintenance renewal of applied coatings.

#### **E7.1.5 QUALITY ASSURANCE**

- a) Perform Work in accordance with ACI 301 and ACI 302.

#### **E7.1.6 DELIVERY, STORAGE, AND HANDLING**

- a) Deliver, store, protect, and handle products on Site to Section 01000.
- b) Deliver materials in manufacturer's packaging including application instructions.

#### **E7.1.7 ENVIRONMENTAL REQUIREMENTS**

- a) Temporary Lighting: Minimum 200 W light source, placed 2.4 metres above the floor surface, for each 50 sq m of floor being finished.
- b) Temporary Heat: Ambient temperature of 10 degrees C minimum.



- c) Ventilation: Provide sufficient ventilation to prevent injurious gases from temporary heat or other sources affecting concrete. Ensure fumes do not travel into building ventilation system.

#### E7.1.8 COORDINATION

- a) Coordinate work. Section 01040:
- b) Coordinate the work with concrete floor patching and concrete epoxy coating.

#### E7.2 Products

##### E7.2.1 MANUFACTURERS

- a) Detergent: Tamms Industries, Sure Clean 600.
- b) Fill: 25 mpa concrete with 10 mm aggregate concrete.
- c) Bonding product: Acryl-stix latex polymer, mixed 1:1 with Portland cement.
- d) Coating: Dura Coat epoxy
- e) Substitutions: Refer to B6.

#### E7.3 Execution

##### E7.3.1 EXAMINATION

- a) Verify Site conditions. Section 01000
- b) Verify that floor surfaces are acceptable to receive the work of this section.

##### E7.3.2 FLOOR FINISHING

- a) Grind smooth any remaining raised terrazzo or floor surfaces in preparation of surfaces. Shot blast existing concrete areas to be repaired and apply Sure Clean 600 detergent to ensure surfaces are clean to bond old with new concrete.
- b) Brush on 1:1 mix of Acryl-Stix latex polymer and Portland cement.
- c) Patch using Ready Mix, or similar, 25 mpa concrete with 10mm aggregate.
- d) Steel trowel surfaces which are scheduled to be exposed. Edge-in to adjacent surfaces.
- e) Apply epoxy coating, white or closest colour to match adjacent surfaces. Apply according to manufacturers instructions.

## **E8. ROUGH CARPENTRY SECTION 06100**

### **E8.1 General**

#### **E8.1.1 SECTION INCLUDES**

- a) Supply and install all labour, materials, equipment, services and supervision to complete all carpentry Work associated with the repair, modification, additions to framing and other Work to permit completion of the finishes, drywall supports and door opening provisions for trades following. This section includes but is not limited to the following.
- b) Remove, modify and add all framing for the repair of wall finishes for trades following.
- c) All framing changes required to permit the trades following to repair, add, modify and do their Work.
- d) Supply all material, labour, and plant necessary for the framing, furring, sheathing, and strapping as shown on drawings
- e) Install all door, window and other frames required to be fastened to the structure.
- f) Install finish hardware and specialties
- g) Wood furring, duct enclosures

#### **E8.1.2 RELATED SECTIONS**

- |                                      |               |
|--------------------------------------|---------------|
| a) Finish Carpentry                  | Section 06200 |
| b) Sealants                          | Section 07900 |
| c) Metal Doors and Frames            | Section 08100 |
| d) Wood Doors, Frames and Sidelights | Section 08211 |
| e) Glass and Glazing                 | Section 08800 |

#### **E8.1.3 QUALITY ASSURANCE**

- a) Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- b) Plywood identification: by grade mark in accordance with applicable CSA Standards.

#### **E8.1.4 REFERENCE STANDARDS**

- a) Softwood Lumber to CSA/CAN 0141 latest edition, CLA specification, and sawn lumber shall bear grade stamp of certified agency of Canadian Lumber Standards Board.
- b) Douglas Fir Plywood - CSA/CAN 0121
- c) Canadian Softwood Lumber – CSA/CAN 0151 latest edition

- d) Aspenite sheathing shall comply with CSA 0188 for "Mat-Formed Wood Particleboard".
- e) Pressure treat wood in accordance with CSA 080-Series - 97
- f) Nailing shall comply with requirement of the National Building Code, Manitoba Building Code, and CSA B11- latest edition
- g) Erect to CSA 086-latest edition

## E8.2 Products

### E8.2.1 LUMBER MATERIALS

- a) Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
  - i. CSA 0141. –
  - ii. NLGA Standard Grading Rules for Canadian Lumber, 1987 edition.
- b) Machine stress-rated lumber is acceptable for all purposes.
- c) Glued end-jointed (finger-jointed) lumber is not acceptable.
- d) Framing and board lumber: in accordance with NBC 1995 with Manitoba amendments, Sub-section 9.3.1, except as indicated or specified otherwise.
  - i. Rough carpentry: S.P.F. species, NLGA select structural grade, rough lumber, S4S, 19% moisture content.
- e) Furring, cants, blocking, nailing strips, grounds, rough bucks and brick mould:
  - i. S4S is required.
  - ii. Board sizes: "Standard" or better grade.
  - iii. Dimension sizes: "Standard" light framing or better grade.
- f) All sawn lumber shall be Common Construction Grade S-P-F No. 2 or better

### E8.2.2 PANEL STANDARDS

- a) Panel standards: type, grade and thickness as indicated, in accordance with following standards:
  - i. Douglas Fir Plywood (DFP): to CSA 0121,G1S, standard construction.
  - ii. Canadian Softwood Plywood (CSP): to CSA 0151,G1S, standard construction

### E8.2.3 FASTENERS

- a) Nails, spikes and staples: to CSA B111 . All nailing shall be carried out with spiral wire nails. Stapling shall only be used for fastening of paper

- b) Bolts: ½" diameter unless indicated otherwise, complete with nuts and washers.
- c) Screws: to CSA A82.31-M1980.
- d) Proprietary fasteners: Tapper screws, Rawl bolts, toggle bolts, expansion shields and lag bolts, "Wafer Reamer", "Dekfast" screws and lead or inorganic fibre plugs, explosive actuated fastening devices, recommended for purpose by supplier.
- e) Nailing discs: flat caps, minimum 1" diameter, minimum 1/16" thick, steel metal, fibre, formed to prevent dishing. Bell or cup shapes not acceptable.

### E8.3 Execution

#### E8.3.1 CONSTRUCTION

- a) Comply with requirements of 1995 National Building Code with Manitoba amendments, Part 9 supplemented by the following paragraphs.

#### E8.3.2 ERECTION OF FRAMING MEMBERS

- a) Install members true to line, levels and elevations.
- b) Construct continuous members from pieces of longest practical length.
- c) Install spanning members with "crown-edge" up.
- d) Install permanent bracing and related components prior to application of loads.
- e) Tighten loose connectors
- f) Make adequate provision for possible erection stresses
- g) All Work shall be performed by skilled tradesmen
- h) Use wall and floor sheathing of thickness detailed or match existing
- i) Stagger joints of wall sheathing

#### E8.3.3 FURRING AND BLOCKING

- a) Provide wood furring and blocking as required to space-out and support accessories, column, wall, sill and ceiling finishes, facings, cants, blocking, duct work and other work as required.
- b) Align and plumb faces of furring and blocking to tolerance of 1:600.

#### E8.3.4 NAILING STRIPS, CANTS, GROUNDS AND ROUGH BUCK

- a) Provide rough bucks, blocking, nailers and linings to rough openings, walls, columns, etc. as required to provide backing for frames, finishes and other Work.

#### E8.3.5 WORKMANSHIP

- a) Scribe and cut as required to fit abutting walls and surfaces, to fit properly into recesses and to accommodate penetrating objects.

- b) Form joints to conceal shrinkage.
- c) All splices in continuous lengths to be by 45° overlapping mitre.

#### E8.3.6 FASTENERS

- a) Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- b) Countersink bolts where necessary to provide clearance for other Work.
- c) Position items of rough carpentry work accurately, level, plumb, true and fasten or anchor securely.
- d) Design and select fasteners to suit size and nature of components being joined. Use devices as recommended by manufacturer.

#### E8.3.7 INSTALLATION

- a) Set and secure materials and components in place, rigid, plumb and square.
- b) Provide two layers 6 mil polyethylene between top plates and wall studs where continuity of vapour barrier is required
- c) Prepare external exposed and semi-exposed surfaces ready for drywall, sealing, painting.

## **E9. FINISH CARPENTRY SECTION 06200**

### **E9.1 General**

#### **E9.1.1 SECTION INCLUDES**

- a) Finish carpentry items, including shop prefabricated casework.
- b) Hardware and attachment accessories.
- c) Glazed wall.
- d) Wood doors, screens and frames.

#### **E9.1.2 RELATED SECTIONS**

- a) Wood Doors, Frames & Sidelights Section 08211
- b) Painting Section 09900
- c) Glass and Glazing Section 08800

#### **E9.1.3 REFERENCES**

- a) AWMAC (Architectural Woodwork Manufacturer's Association of Canada) – Quality Standards for Architectural Woodwork.
- b) CAN3-A172M – High Pressure Paper Base, Decorative Laminates.
- c) NLGA (National Lumber Grades Authority) – Standard Grading Rules for Canadian Lumber.
- d) CSA –121M – Douglas Fir Plywood
- e) CSA 0141 – Softwood Lumber
- f) CSA 0151M – Canadian Softwood Plywood.
- g) CGSB 71-GP020 – Contact Cement
- h) CGSB 11-GP-3M – Hardboard
- i) CAN3-0188.1M – Interior Mat Formed Particleboard.

#### **E9.1.4 QUALITY ASSURANCE**

- a) Fabricator: company specializing in custom carpentry work.
- b) Perform finish carpentry work in accordance with AWMAC.
- c) Lumber Grading: NLGA.

#### **E9.1.5 SHOP DRAWINGS AND PRODUCT DATA**

- a) Submit shop drawings and product data to requirements of Section 01000.
- b) Indicate on shop drawings, materials, component profiles, fastening methods, jointing details, finishes accessories, dimensions and specified hardware.

#### E9.1.6 DELIVERY, STORAGE AND HANDLING

- a) Store materials in ventilated interior locations with constant minimum temperatures of 16 degrees C and maximum relative humidity of 55 percent.

#### E9.2 Products

##### E9.2.1 LUMBER MATERIALS

- a) Softwood Lumber: CSA 0141, Custom grade in accordance with AWMAC; maximum moisture content of 4 – 9 percent.
- b) Hardwood Lumber: Custom grade in accordance with AWMAC; moisture content of 4 – 9 percent, of quality capable of transparent finish.

##### E9.2.2 SHEET MATERIALS

- a) Softwood Plywood: CSA 0121M- Douglas Fir; AWMAC, Custom grade; core materials of veneer; fir species.
- b) Hardwood plywood: Conforming to requirements of CSA 0115, Architectural good sequence matched grade, core material of veneer, thickness indicated on drawings. Oak veneer, location as noted on drawings.
- c) Panolam sheets.
- d) Medium density fibreboards (MDF).

##### E9.2.3 ACCESSORIES

- a) Nails: size and type to suit application; plain finish.
- b) Bolts, Nuts, Washers, Blind Fasteners, Lags, and Screws: size and type to suit application; plain finish – interior; galvanized finish – exterior.
- c) Wood Filler: oil base, tinted to match surface finish colour.

##### E9.2.4 FABRICATION – CASEWORK

- a) Fabricate casework in accordance with AWMAC Custom quality standards and as shown on drawings.
- b) Office countertops and backsplash: MDF substrate with high pressure plastic laminate: Nevamar #MH600IT Manhattan Glamour.
- c) Washroom countertops and mirror back: ¾" MDF substrate with high premire laminate: Formica, Deco Metal Collection #4254, Brushed Black Aluminum.
- d) Office counter and upper cupboards casework Panolam sheets #P895 Ebony Sand with white interior.

- e) Gate construction to be plastic laminate clad plywood, Wilsonart #7816, "Solar Oak".
- f) Cabinet back: ½" Panolam to match cabinet interior, unless otherwise noted on the drawings.
- g) Cabinet Base: Formica #2126 Brushed Bronze Aluminium as indicated on drawings.
- h) When necessary to cut and fit on Site, provide materials with ample allowance for cutting provided. Trim for scribing and Site cutting.
- i) Obtain governing dimensions before fabricating items that are to accommodate or abut other equipment.

#### E9.2.5 HARDWARE

- a) Hinges: Blum cup hinges, 170° opening, spring closed. 2 pairs on each cabinet door.
- b) Drawer Slides: K&V 8400 full extension side.
- c) Pulls:
  - i. Cabinet and Drawer pulls: Hafele #117.31.320

#### E9.2.6 FINISHES

- a) Shop applied polymerizing two-component catalytic conversion varnish system. The individual components of the system used must be chemically compatible to assure perfect adhesion and top quality, durable final finish.
- b) All surfaces shall be carefully prepared and sanded free of machine marks before and between finish coats.
- c) All exposed hardwood including doors, window frames and doors frames shall be finished as follows:
  - i. One coat sealer.
  - ii. Two clear top coats.
  - iii. Sand and wipe clean with tack rags between each coat.
  - iv. All hardwood to be stained and varnished to match other existing oak pieces on Site.
- d) Door edges and any other surfaces not exposed to view shall be given one coat of moisture repellent sealer.
- e) All doors, frames and other exposed hardwood shall be constructed and finished by the same fabricator to ensure uniformity in construction and colour.

#### E9.3 Execution

##### E9.3.1 INSPECTION

- a) Verify that surfaces are ready to receive work and field measurements are as shown on shop drawings.



- b) Verify mechanical, electrical and building items affecting work of this section are placed and ready to receive this work.
- c) Beginning of installation means acceptance of existing conditions.

#### E9.3.2 PREPARATION

- a) Before installation, seal surfaces of items or assemblies to be in contact with cementitious materials.
- b) Sand all work smooth and set all exposed nails and screws. Apply wood filler in all exposed nail and screw indentations and leave ready to receive applied finishes. Use wood filler on items to receive transparent finishes, which matches surrounding surfaces and of type recommended for applied finishes.

#### E9.3.3 INSTALLATION

- a) Install work in accordance with AWMAC Custom quality standard.
- b) Set and secure materials and components in place, plumb and level.
- c) Install components with purpose-designed fasteners.
- d) Carefully scribe cabinet work which is against other building components leaving gaps of 1/16" maximum.
- e) Provide cut outs for fixtures, inserts, appliances, outlet boxes and other items.
- f) Install hardware accurately and securely in accordance with manufacturer's recommendations.
- g) Apply small uniform bead of sealant at junction of countertop and adjacent wall finish.

#### E9.3.4 WOOD TRIM

- a) Wood trim shall be installed using the longest possible lumber lengths. Adjacent boards shall be selected and positioned for matching colour and grain. Butting joints shall be scarfed. Nails shall be set and holes filled to match wood colour.

#### E9.3.5 PROTECTION

- a) Protect millwork from damage until final inspection.

**E10. SOUND INSULATION SECTION 07212**

E10.1 General

E10.1.1 SECTION INCLUDES

- a) Acoustic Batt Insulation.
- b) Polyurethane wrapped Acoustical Batt Insulation (Gordon).

E10.1.2 RELATED SECTIONS

- a) Sealants                                  Section 07900
- b) Gypsum Board Systems                  Section 09260

E10.1.3 REFERENCES

- a) CAN2-51.33M – Vapour Barrier, Sheet for Use in Building Construction.
- b) CSA 101M – Thermal Insulation, Mineral Fibre for Buildings.

E10.2 Products

E10.2.1 SOUND INSULATION

- a) Where indicated in walls, 3 ½” Glass fibre sound attenuation batt insulation, friction fit, noise stop blanket as manufactured by Owens Corning Canada. Other acceptable manufacturers; CertainTeed, Johns Manville.
- b) Where indicated, laid on top of suspended ceiling, Gordon Interior Specialties, 2’ x 4’, 1” thick, 1.5 lb density fibreglass, PVC wrapped, sound insulating pads, as distributed by Reiger Architectural Products, (204) 654-9704.

E10.2.2 ACCESSORIES

- a) Tape: permanent acrylic adhering back, polypropylene, 3M Contractors Sheathing Tape.
- b) Sealant: Type ‘B’ as specified in Section 07900.

E10.2.3 ACOUSTIC INSULATION

- a) Comply with manufacturer's installation instructions.
- b) Install acoustic insulation to walls and screens indicated on drawings.
- c) Fit insulation tight in spaces and tight to one side of mechanical and electrical services leaving no gaps or voids.

## **E11. FIRE STOPPING SECTION 07270**

### **E11.1 General**

#### **E11.1.1 SECTION INCLUDES**

- a) Fireproof fire stopping materials.

#### **E11.1.2 RELATED SECTIONS**

- a) Gypsum Board Systems: Gypsum wallboard fireproofing      Section 09260

#### **E11.1.3 REFERENCES**

- a) ASTM E84 – Test Method for Surface Burning Characteristics of Building Materials.
- b) CAN4 – S115-M85, Standard Method of Fire Tests of Fire Stop Systems.
- c) ULC 0 Listing of Equipment and Materials.
- d) Warnock Hersey – Fire Laboratories Listings.

#### **E11.1.4 PERFORMANCE REQUIREMENTS**

- a) Fireproofing Materials: CAN4-S115 to achieve fire rating as noted on Drawings.

#### **E11.1.5 SUBMITTALS**

- a) Manufacturers Installation Instructions: Indicate preparation and installation instructions.
- b) Manufacturers Certificate: Certify that products meet or exceed specified requirements.

#### **E11.1.6 REGULATORY REQUIREMENTS**

- a) Conform to applicable code for fire resistance rating and surface burning characteristics.

## **E12. SEALANTS SECTION 07900**

### **E12.1 General**

#### **E12.1.1 SECTION INCLUDES**

- a) Clean and prepare surfaces to receive sealant materials.
- b) Install sealant and backing materials at joints between similar and dissimilar materials as indicated, and per schedule in this Section.
- c) Install acoustic sealant at interior partitions.

#### **E12.1.2 RELATED SECTIONS**

- |                         |               |
|-------------------------|---------------|
| a) Finish Carpentry     | Section 06200 |
| b) Fire Stopping        | Section 07270 |
| c) Gypsum Board Systems | Section 09260 |

#### **E12.1.3 ENVIRONMENTAL CONDITIONS**

- a) Sealant and substrata materials to be minimum 10C.
- b) Should it become necessary to apply sealants below 10c, consult sealant manufacturer and follow their recommendations.

#### **E12.1.4 REFERENCE STANDARDS**

- a) CGSB 19-GP-22M – “Sealing Compound, One Component, Silicone Base, Chemical Curing” – Mildew Resistant.
- b) CGSB 19-GP-21M – Sealing and Bedding Compound for Acoustical Purposes.
- c) CGSB 19-GP-17M – Sealing Compound, One Component, Acrylic Emulsion Base.

#### **E12.1.5 WARRANTY**

- a) Provide a three year warranty.
- b) Warranty: Include coverage of installed sealants and accessories which fail to achieve air tight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

### **E12.2 Products**

#### **E12.2.1 SEALANT MATERIALS**

- a) Sealant 'A': sealing compound, one component, silicone base to CGSB-19GP-22M. General Electric 'Sanitary 1700; Dow Corning 786. Colours as selected by Contract Administrator.
- b) Sealant 'B': sealing compound, one component, synthetic rubber, Tremco Acoustic Sealant.

- c) Sealant 'C': sealing compound, one component, paintable, acrylic base to CGSB 19.GP-17. Tremco latex 100. Colour to be selected by Contract Administrator.

#### E12.2.2 PREPARATORY MATERIALS

- a) Primer: non-staining type recommended by sealant manufacturer to suit applications.
- b) Joint Cleaners: non-corrosive types recommended by sealant manufacturer; compatible with substrate and joint forming materials.
- c) Joint Filler: round closed cell polyethylene foam rod; oversized to 50%.

#### E12.3 Execution

##### E12.3.1 PREPARATION/INSTALLATION

- a) Maintain workmanship of highest quality in accordance with best trade practices.
- b) Clean and prepare joints in accordance with manufacturer's recommendations. Remove any loose materials and other foreign matter which might impair adhesion of sealant.
- c) Ensure that joint forming materials are compatible with sealant.
- d) Examine joint dimensions and size materials to achieve required width/depth ratios. Use joint filler to achieve required joint depths, to allow sealants to perform properly. Use bond breaker(s) where required.
- e) Apply sealant within recommended temperature ranges. Advise Contract Administrator when sealant cannot be applied within recommended temperature ranges and do not proceed until so advised by Contract Administrator.
- f) Form joints as detailed on drawings and concave, free of air pockets, embedded matter, ridges and sags.

##### E12.3.2 SCHEDULE

- a) Apply sealant Type 'A' to perimeter joints of all sanitary components, vanities, counters, sinks, water closets, shower heads, etc. unless noted otherwise on drawings.
- b) Apply sealant type 'B' in two continuous beads around perimeter of plates, at top, bottom and sides of all partitions.
- c) Apply sealant type 'C' to junctures of millwork items and adjacent building components and perimeter of door frames as directed by Contract Administrator.

## **E13. METAL DOORS AND FRAMES SECTION 08100**

### **E13.1 General**

#### **E13.1.1 SECTION INCLUDES**

- a) Fire rated hollow metal doors and frames.
- b) Hollow metal doors, pressed steel frames and screens as shown on drawings.

#### **E13.1.2 RELATED SECTIONS**

- a) Wood Doors, Frames and Sidelights                      Section 08211
- b) Finish Hardware.    Section 08710
- c) Painting    Section 09900

#### **E13.1.3 REFERENCES**

- a) Canadian Steel Door and Frame Manufacturers Association – Manufacturing Standard for Steel Doors and Frames.
- b) Canadian Steel Door and Frame Manufacturers Association – Canadian Fire Labelling Guide for Steel Doors and Frames.

#### **E13.1.4 QUALITY ASSURANCE**

- a) Conform to requirements of Canadian Steel Door and Frame Manufacturers Association Standards.
- b) Fire rated construction to conform to ULC standards.

#### **E13.1.5 SHOP DRAWINGS AND PRODUCT DATA**

- a) Submit shop drawings and product data.
- b) Indicate on shop drawings, frame configuration, anchor types and spacings, location of cut outs for hardware, reinforcement and finish.
- c) Indicate on shop drawings, door elevations, internal reinforcement, and closure method, and location of cut outs for glazing.

### **E13.2 Products**

#### **E13.2.1 ACCEPTABLE MANUFACTURERS**

- a) Macotta.
- b) Steldor.
- c) Shanahans.

#### E13.2.2 FRAMES

- a) Type/Size: as shown on Drawings and Schedules
- b) Frames: 1.52 mm (16ga.) cold rolled sheet steel with ZF75 Colourbond coating.
- c) Bumpers: Resilient rubber.
- d) Anchors: purpose made to rigidly secure frames, 3 per jamb.
- e) Primer: zinc chromate type.

#### E13.2.3 DOORS

- a) Fire Rated Doors: Minimum 1.21 mm (18 Ga.) surface sheets, 1.21 mm (18 Ga.) thick top and bottom end channels, of ULC label requirements indicated on drawings.
- b) Reinforcement for hardware.
- c) Locks: minimum 1.52 mm (16 Ga.) steel.
- d) Butts: minimum 3.42 mm (10 Ga.) steel.
- e) Flush Bolts: minimum 3.42 mm (10 Ga.) steel.
- f) Door Closures: minimum 1.9 (14 Ga.) mm steel.
- g) Door Holders: minimum 1.9 mm (14 Ga.) steel.

#### E13.2.4 FABRICATION - FRAMES

- a) Fabricate frames as welded unit.
- b) Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.
- c) Prepare frame for silencers. Provide three single silencers for single doors and mullions of double doors on strike side, and two single silencers on frame head at double doors without mullions.
- d) Attach fire rated label to each frame unit, as scheduled.
- e) Attach channel spreaders at bottom of frames for shipping.
- f) Refer to frame type schedule on drawings. Provide reveals at frame as noted and provide returns where frame butts masonry or existing walls and where otherwise indicated.

#### E13.2.5 FABRICATION – DOORS

- a) Fabricate hollow metal doors and panels in accordance with requirements of “Canadian Manufacturing Standards for Steel Doors and Frames” produced by the Canadian Steel Door and Frame Manufacturer’s Association and as indicated on Drawings.
- b) Fabricate fire rated hollow metal doors in accordance with requirements of Underwriters Laboratories of Canada (ULC). Place ULC labels where visible when in installed position.

- c) Mechanically interlock longitudinal seams of doors weld seams and sand flush. Top and bottom of doors closed with end channels recessed and spot welded in place.
- d) Reinforce and prepare doors to receive hardware. Refer to drawings for hardware requirements.

### E13.3 Execution

#### E13.3.1 INSTALLATION

- a) Install doors and frames in accordance with Canadian Steel Door and Frame Manufacturers Association standards.
- b) Install roll formed steel reinforcement channels between two abutting frames. Anchor to structure and floor.
- c) After installation, touch up all scratched or damaged surface and prime.
- d) Adjust doors and hardware just prior to completion of the Work to function free and proper.

#### E13.3.2 TOLERANCES

- a) Maximum Diagonal Distortion: 1/8" measured with straight edge, corner to corner.





## E14.2 Products

### E14.2.1 MATERIALS

- a) Door materials to CSA 0132.2 except where specified otherwise.

### E14.2.2 DOOR TYPES

- a) Flush Interior Doors: 1 $\frac{3}{4}$ " thick, solid core construction.
- b) Face: No. 1 grade oak matched grain veneer.

### E14.2.3 DOOR CONSTRUCTION

- a) Solid core: AWMAC standard type, particleboard core.
- b) Acrylic insert, Lumicor Metallic Collection, Bronze Mesh #L810102HH032.

### E14.2.4 FLUSH DOOR FACING

- a) Veneer Flush Interior Doors: Oak Veneer, clear finish to match existing cabinetwork and frames in colour and sheen.

### E14.2.5 FABRICATION

- a) Fabricate doors to CSA 0132.2 except where specified otherwise.
- b) Provide flush doors with  $\frac{1}{2}$ " thick edge strips of wood species to match veneer. Veneer to extend over edge strip to door edge.
- c) Pre-machine doors for finish hardware.

## E14.3 Execution

### E14.3.1 INSPECTION

- a) Verify that prepared openings are ready to receive work and dimensions are as indicated on shop drawings.
- b) Beginning of installation means acceptance of Site conditions.

### E14.3.2 INSTALLATION

- a) Install doors and hardware in accordance with manufacturers instructions.
- b) Machine cut relief for hinges and closers and coring for handsets and cylinders.
- c) Trim door width by cutting equally on both jamb edges.
- d) Trim door height by cutting equally on top and bottom edges to a maximum of  $\frac{3}{4}$ ".
- e) Pilot drill screws and bolt holes.
- f) Conform to AWMAC requirements for fit tolerances.
- g) Adjust components for smooth and balanced door movement.

- h) Clean doors and frames prior to final inspection.

E14.3.3 TOLERANCES

- a) Maximum Diagonal Distortion: 1/8" measured with straight edge, corner to corner.

E14.3.4 ADJUSTMENT

- a) Adjust doors and hardware just prior to completion of the Work for proper function.
- b) Protect doors and hardware from damage until final inspection.



- c) Supply and install fastening devices so pull can be secured through the door from the reverse side, where pull is on one side and push plate is on the other side. Install push plate to cover fasteners.

#### E15.2.4 KEYING

- a) Doors to be master keyed as noted in hardware schedule or as directed by Contract Administrator.
- b) Provide keys in duplicate for every lock required in this Contract.
- c) Provide three master keys.
- d) Electric lockset for accessible entrance.
- e) Schlage "King Cobra" lock.

#### E15.3 EXECUTION

##### E15.3.1 INSTALLATION INSTRUCTIONS

- a) Store finish hardware in locked, clean and dry area.
- b) Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their Work to receive hardware.
- c) Furnish manufacturer's instructions for proper installation of each hardware component.
- d) Install hardware at following heights from finished floor to centre line of item:
  - (i) Door pull 1140mm
  - (ii) Push plate 1140mm
  - (iii) Door bar 1070mm
  - (iv) Door knob 1015mm
  - (v) Dead lock 1525mm
  - (vi) Panic bolt 1015mm
- e) Where door stop contacts door pulls, mount stop to strike bottom of pull.
- f) Check operation and adjust hardware prior to final inspection.

## **E16. GLASS AND GLAZING SECTION 08800**

### **E16.1 General**

#### **E16.1.1 SECTION INCLUDES**

- a) Glass and acrylic glazing for wood frames and screens, and wood doors.

#### **E16.1.2 RELATED SECTION**

- a) Finish Carpentry Section 06200
- b) Wood Doors, Frames and Sidelights Section 08210

#### **E16.1.3 REFERENCE STANDARDS**

- a) CGSB 12-GP-1M – “Glass, Safety, Tempered or Laminated”
- b) CGSB 12-GP-3M – “Glass, Polished Plate or Float, Flat, Clear”

### **E16.2 Products**

#### **E16.2.1 GLASS AND GLAZING**

- a) Safety Glass: conforming to CGSB 12-GP-1M Type 2 tempered, class b float; clear; of thicknesses determined by size of glazed openings, minimum ¼” thick.
- b) Float Glass: glazing quality, conforming to CGSB 12-GP-3M; of thickness determined by size of glazed openings, ¼” minimum.
- c) Acrylic Sheets: Lumicor, metallic collection, #L810102HH032 Bronze Mesh.

#### **E16.2.2 RELATED GLAZING MATERIALS**

- a) Glazing tape: preformed butyl type, Tremco 440 tape; paper release.
- b) Setting Blocks: neoprene; 70 – 90 durometer hardness; 4 inch long x 3/8 inch thick x ¼ inch high.
- c) Spacer Shims: neoprene; 50 durometer hardness; 3 inch long x 3/32 inch thick x ¼ inch high.
- d) Sealant: Tremglaze as manufactured by Tremco.

### **E16.3 Execution**

#### **E16.3.1 INTERIOR COMBINATION METHOD (TAPE/TAPE)**

- a) Cut glazing tape to proper length and install against permanent stop, projecting 1/16” above sightline.
- b) Place setting blocks at ¼ point.

- c) Rest glass on setting blocks and push against tape with sufficient pressure to ensure full contact and adhesion at perimeter.
- d) Place glazing tape on free perimeter of glass in same manner described above.
- e) Install removable stop, avoid displacement of tape, exert pressure on tape for full continuous contact.
- f) Knife trim excess or protruding tape.

#### E16.3.2 CLEANING

- a) After installation mark glass with an "X" by using tape or removable paste.
- b) Immediately remove droppings from finished surfaces. Remove labels after work is completed.

**E17. GYPSUM BOARD SYSTEMS SECTION 09260**

**E17.1 General**

**E17.1.1 SECTION INCLUDES**

- a) Metal stud wall framing.
- b) Acoustic sealant.
- b) Acoustic insulation.
- c) Gypsum Board.
- d) Taped and sanded joint treatment.
- e) Installation of access panels.

**E17.1.2 WORK INSTALLED BUT FURNISHED UNDER OTHER SECTIONS**

- a) Sound Insulation Section 07212

**E17.1.3 RELATED SECTIONS**

- a) Sound Insulation Section 07212
- b) Painting Section 09900

**E17.1.4 REFERENCES**

- a) CSA A82.27M – Gypsum Board Products
- b) CSA A82.30M – Interior Furring, Lathing and Gypsum Plastering.
- c) CSA A82.31M – Gypsum Board Application

**E17.1.5 REGULATORY REQUIREMENTS**

- a) Conform to applicable codes for fire rated assemblies

**E17.2 Products**

**E17.2.1 ACCEPTABLE MANUFACTURERS**

- a) Domtar Construction Materials.
- b) Canadian Gypsum Company Limited.
- c) Westroc

**E17.2.2 FRAMING**

- a) Studs and tracks: Interior Walls: CSA A82.30M, Galvanized sheet steel, 25ga., 'C' shape, with serrated faces.



- b) Slip joint head track: 25 ga., galvanized sheet steel, sizes as per drawing.
- c) Metal Furring: 25 ga., galvanized sheet steel with serrated face.
- d) Lateral Stud Bracing: 16 ga. Galvanized, cold rolled channel,  $\frac{3}{4}$ " x  $\frac{3}{8}$ ".
- e) Carrying Channels: 16 ga. Galvanized sheet steel,  $\frac{1}{2}$ " x  $\frac{3}{4}$ ".
- f) Hangers: galvanized steel wire, size to suit application, maximum deflection 1/360.
- g) Fasteners: Type S drywall screws, length to suit application.

#### E17.2.3 SHEET MATERIALS

- a) Fire Rated Gypsum Board: CSA 82.27M, fire resistive type, ULC rated; 5/8" thick, maximum permissible length; ends square cut, tapered edges.

#### E17.2.4 ACCESSORIES

- a) Acoustical Insulation: specified in Section 07212.
- b) Acoustical Sealant: non-hardening, non-skinning, for use in conjunction with gypsum board, specified in Section 07900.
- c) Corner Beads: galvanized sheet steel; tapeable.
- d) Casing Trim: Galvanized steel with 'J' type bead, tapeable.
- e) Joint Materials: CSA A82.31M, reinforcing tape, joint compound, adhesive, water, fasteners.
- f) Control Joints: back to back tapeable 'J' trim.

### E17.3 Execution

#### E17.3.1 METAL STUD INSTALLATION

- a) Install studding in accordance with manufacturer's instructions.
- b) Metal Stud Spacing: 24" o.c. unless shown otherwise.
- c) Partition Heights: Refer to drawings.
- d) Install 20 ga. Metal studs at all locations where interior stud wall heights are greater than 12 feet.
- e) Openings: Install double studs at perimeter of all openings.
- f) Coordinate installation of bucks, anchors, blocking, electrical and mechanical Work placed in or behind partition framing.
- g) Install slip joint head track where stud walls meet structure. Allow for  $\frac{3}{4}$ " deflection.
- h) Install bead of acoustic sealant at junction of track and structure, top and bottom.

#### E17.3.2 WALL FURRING INSTALLATION

- a) Erect wall furring for direct attachment to concrete and concrete block walls.
- b) Secure furring channels in place on alternate channel flanges at maximum 24" o.c.
- c) Space furring channels maximum 16" on centre.

#### E17.3.3 ACOUSTICAL ACCESSORIES INSTALLATION

- a) Place acoustical insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions and tight to items passing through partitions.
- b) Install acoustical sealant at gypsum board perimeter at base, between metal framing and substrate, and caulk all penetrations of partitions by conduit, pipe, ductwork, rough-in boxes, etc.

#### E17.3.4 GYPSUM BOARD INSTALLATION

- a) Install gypsum board in accordance with manufacturers instructions.
- b) Erect single layer fire rated gypsum board with edges and ends occurring over firm bearing.
- c) Multi-layer application: at both sides of handicapped washroom plumbing wall: secure one layer of gypsum board on the room side of a double layer of plywood. Secure all layers with adhesive and sufficient support to hold in place. Apply adhesive in accordance with manufacturers recommendations.
- d) Use screws when fastening gypsum board to metal furring or framing, 12" o.c. maximum.
- e) Place control joints consistent with lines of building spaces as directed, but not more than 25 feet o.c.
- f) Place corner beads at external corners. Use longest practical length.
- g) Place tapeable casing beads where gypsum board abuts dissimilar materials, or where gypsum board ends.

#### E17.3.5 JOINT TREATMENT

- a) Tape, fill (3 coats) and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
- b) Feather coats onto adjoining surfaces.

#### E17.3.6 TOLERANCE

- a) Maximum variation from True Flatness: 1/8" inch 10 feet in any direction.

## **E18. SUSPENDED ACOUSTIC CEILINGS SECTION 09511**

### **E18.1 General**

#### **E18.1.1 SECTION INCLUDES**

- a) Suspended metal grid ceiling system.
- b) Acoustical tile.
- c) Non-fire rated assembly.
- d) Perimeter trim.
- e) Suspended decorative metal ceiling.

#### **E18.1.2 RELATED SECTIONS**

- b) Gypsum Board Systems Section 09260
- c) Division 15 – Air diffusion devices in ceiling system as specified on mechanical drawings.
- d) Division 16 - Light fixtures in ceiling system as specified on electrical drawings.

#### **E18.1.3 REGULATORY REQUIREMENTS**

- a) Flame spread rating and smoke development to conform to current edition of the National Building Code and the Manitoba Building Code.

#### **E18.1.4 SAMPLES**

- a) Submit samples to requirements of Section 01000.
- b) Submit one 12" x 12" sample illustrating material and finish of each type of acoustic unit.
- c) Submit one sample each, of suspension system main runner, cross runner, and edge trim.

#### **E18.1.5 ENVIRONMENTAL REQUIREMENTS**

- a) Perform Work to requirements of Section 01000.
- b) Maintain uniform temperature of minimum 16 degrees C, and humidity of 20 to 40 percent prior to, during, and after installation.
- c) Store material in work area 48 hours prior to installation.

#### **E18.1.6 SEQUENCING/SCHEDULING**

- a) Do not install acoustical ceilings until overhead Work is completed, tested, and approved and dust generating activities have terminated.

- b) Schedule installation of acoustic tile only after interior wet Work is dry.

#### E18.1.7 EXTRA STOCK

- a) Provide extra quantity of acoustic units for maintenance, minimum 2% of gross ceiling area for each type required for project. Store where directed and identify contents with Project Details.
- b) Maintenance materials to be from same production run as installed materials.

#### E18.2 Products

##### E18.2.1 ACCEPTABLE MANUFACTURERS

- a) Acoustic Unit materials based on product from
  - i. Canadian Gypsum Co.
  - ii. Gordon Interior Specialties Division

##### E18.2.2 ACOUSTIC UNIT MATERIALS

- a) Acoustic Tiles: Type 1 5/8" thick mineral fibre "Standard" manufactured by CGC; square edge; 24" x 48"; Colour to be white.
- b) Acoustic Baffle Padding: manufactured by Gordon Interior Specialties; 2' x 4', 1" thick, 1.5 lb density fibreglass, PVC wrapped, sound insulating pads, as distributed by Rieger Architectural Products, (204) 654-9704.

##### E18.2.3 SUSPENSION SYSTEM MATERIALS

- a) Grid: Intermediate non-fire rated exposed T components die cut and interlocking.
- b) Accessories: Stabilizer bars, clips, splices, edge mouldings, hold down clips required for suspended grid system.
- c) Grid materials: Commercial quality cold rolled steel with galvanized coating.
- d) Grid Finish: White.
- e) Support Channels and Hangers: Galvanized steel; size and type to suit application, to rigidly secure acoustic ceiling system including integral mechanical and electrical components with maximum deflection of 1/360.
- f) Grid components: galvanized steel die cut main tee with double web, rectangular bulb and 1: rolled cap on exposed face. Cross tee with rectangular bulb; web extended to form positive interlock with main tee webs; lower flange extended and offset to provide flush intersections.

#### E18.3 Execution

##### E18.3.1 INSPECTION

- a) Verify that surfaces are ready to receive work instructed by the manufacturer.
- b) Verify that layout of hangers will not interfere with other work.

- c) Beginning of installation means acceptance of Site conditions.

#### E18.3.2 INSTALLATION

- a) Install acoustic tile and luminous grid systems in accordance with manufacturer's instructions and as supplemented in this section.
- b) Install system capable of supporting imposed loads to a deflection of 1/360 maximum.
- c) Install only after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- d) Supply hangers or inserts for installation with instructions for their correct placement.
- e) Hang system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- f) Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- g) Locate system on room axis according to reflected plan.
- h) Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability. Support fixture loads by supplementary hangers located within 6" of each corner; or support components independently.
- i) Do not eccentrically load system, or produce rotation of runners.
- j) Install specified edge moulding at intersection of ceiling and vertical surfaces, using longest practical lengths. Mitre corners. Provide edge mouldings at junctions with other interruptions.
- k) Form expansion joints to accommodate plus or minus 1" movement. Maintain visual closure.
- l) Fit acoustic units in place, free from damaged edges or other defects detrimental to appearance and function.
- m) Install acoustic units level, in uniform plane, and free from twist, warp and dents.

#### E18.3.3 TOLERANCES

- a) Variation from Flat and Level Surface: 1/8" inch 3 FT.

## **E19. PAINTING SECTION 09900**

### **E19.1 General**

#### **E19.1.1 SECTION INCLUDES**

- a) Surface preparation.
- b) Surface finish schedule at end of section.

#### **E19.1.2 RELATED SECTIONS**

- a) Concrete
- b) Finish Carpentry Section 06200
- c) Metal Doors and Frames Section 08100
- d) Wood Doors, Frames and Sidelights Section 08211
- e) Gypsum Board System Section 09260

#### **E19.1.3 REFERENCES**

- a) CPCA (Canadian Painting Contractors Association) – Painting Manual.

#### **E19.1.4 QUALITY ASSURANCE**

- a) Product Manufacturer: Company specializing in manufacturing quality paint and finish products.
- b) Applicator: Company specializing in commercial painting and finishing approved by product manufacturer.

#### **E19.1.5 REGULATORY REQUIREMENTS**

- a) Conform to National Building Code, Interior Finish, for flame/fuel/smoke rating requirements for finishes.

#### **E19.1.6 SAMPLES AND LIST OF MATERIALS**

- a) List of Materials
  - i. Before ordering materials, submit written request in form acceptable to Contract Administrator, for approval of paint materials. List each of the materials proposed and surfaces to be covered. State manufacturers name and brand name of materials.
  - ii. List of materials shall be endorsed by manufacturer as being the best material for the applicable condition.
- b) Samples
  - i. Prepare 8" x 10" samples of paint finishes (draw downs) of each colour and finish requested. Apply finishes on identical type materials to which they will be applied on the work Site.

- ii. Submit samples of stained finished on each species and grade of wood specified and indicated on the drawings.
- iii. Identify each sample as to finish, colour name and number and sheen name and gloss units.

#### E19.1.7 PROTECTION OF SURROUNDING ELEMENTS

- a) Protect elements surrounding the Work of this section from damage.
- b) Provide protection in accordance with Section 01000.

#### E19.1.8 ENVIRONMENTAL REQUIREMENTS

- a) Perform Work to requirements of Section 01000.
- b) Provide continuous ventilation and heating equipment to maintain surface and ambient temperatures above for 24 hours before and 48 hours after finish is applied 15c.
- c) Provide minimum 270 lx of lighting during finish Work.
- d) The facility will be in operation during the construction period. Contractor must notify Contract Administrator prior to start of painting and provide adequate ventilation to minimize the discomfort to the building occupants. Use low-odour paint wherever possible.
- e) Contractor to provide all MSDS on all painting and paint cleaning materials prior to start of Work.
- f) Excessive odours may require painting to be done after regular hours of work.

#### E19.2 Products

##### E19.2.1 ACCEPTABLE MANUFACTURERS

- a) Paint
  - i. Glidden Paints
  - ii. Pratt & Lambert Paints
  - iii. Para Paints
  - iv. Benjamin Moore

##### E19.2.2 MATERIALS

- a) All painting materials shall be the best quality and shall be approved by the Contract Administrator.
- b) Paint shall not be settled, caked or thickened in the container, shall be readily dispersed with a paddle to a smooth consistency, and shall have excellent application properties.
- c) Paint shall arrive on the job colour-mixed except for tinting of undercoats and possible thinning.
- d) All thinning and tinting materials shall be recommended by the manufacturer for the particular material thinned or tinted.

- e) Mixed colours shall match colour selection made by Contract Administrator prior to the application of the coating.
- f) Paint shall be ready mixed except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- g) Paint shall have good flow and brushing properties; capable of drying or curing free of streaks or sags.
- h) Paint Accessory materials: Linseed oil, shellac, turpentine, and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

#### E19.2.3 FINISHES

- a) Refer to schedule at end of Section for application schedule.
- b) Paint colours and other finishes will be selected by the Contract Administrator. Contractor shall not start Work until receipt of the final colour schedule.
- c) Colours selected by Contract Administrator will not necessarily be from the manufacturer's standard colours.
- d) A variety of colours may be used. Contract Administrator may select different colours for different elements. Some colours may be deep tone.
- e) Confirm gloss levels for all surfaces with Contract Administrator before starting Work. Unless otherwise indicated, allow for semi-gloss finish.

#### E19.3 Execution

##### E19.3.1 INSPECTION

- a) Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- b) Examine surfaces scheduled to be finished, prior to commencement of Work. Report any condition that may potentially affect proper application.
- c) Verify substrate surface temperature and ambient air temperature is above 5 degrees C before applying finishes.
- d) Minimum Application Temperatures for Latex Paints: Interiors: 7 degrees C.
- e) Minimum Application Temperature for Varnish and Urethane Finishes: 18 degrees C.
- f) Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below maximum established by the paint manufacturer.
- g) Beginning of installation means acceptance of existing surfaces.

##### E19.3.2 PREPARATION

- a) Correct minor defects and deficiencies in surfaces which affect Work of this section.
- b) Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
- c) Gypsum Board Surfaces: Remove contamination and prime paint to identify minor defects. Prime paint after defects have been remedied.
- d) Un-primed Steel Surfaces: Clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts and nuts are similarly cleaned. Prime surfaces to identify defects. Prime paint after defects have been remedied.



- e) Shop Primed and Shop Painted Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Lean surfaces with solvent. Prime bare steel surfaces.

#### E19.3.3 APPLICATION

- a) Apply products in accordance with manufacturer's instructions.
- b) Apply each coat to smooth consistency.
- c) Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- d) Sand lightly between coats to achieve required finish.
- e) Do not apply finishes to surfaces that are not dry.
- f) Allow applied coat to dry before next coat is applied.
- g) Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

#### E19.3.4 MECHANICAL AND ELECTRICAL EQUIPMENT

- a) Remove finished louvers, grilles, covers, and access panels on mechanical and electrical components from location and paint separately. Finish paint primed equipment to match adjacent work, except as noted otherwise.
- b) Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, to match adjacent work except where items are pre-finished or noted otherwise.
- c) Replace identification markings on all mechanical or electrical equipment when painted accidentally.
- d) Paint interior surfaces of air ducts, convactor and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, convactor and baseboard cabinets to match face panels.
- e) Paint exposed conduit and electrical equipment including baseboard heaters, forced air unit heaters, and electrical panels occurring in finished areas. Colour and texture to match adjacent surfaces, unless otherwise noted.
- f) Paint both sides and edges of plywood backboards for electrical equipment before installing equipment.
- g) Replace electrical plates, hardware and fittings removed prior to painting.

#### E19.3.5 PROTECTION

- a) Protect other surfaces from paint or damage. Repair if damage done by Contractor.
- b) Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- c) Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from Site.

#### E19.3.6 CLEANING

- a) As work proceeds, promptly remove paint where spilled, splashed, or spattered.
- b) During progress of work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials and debris.

#### E19.3.7 SCHEDULE – INTERIOR SURFACES

- a) Steel galvanized

- i. One coat zinc chromate primer.
  - ii. Two coats alkyd enamel, semi-gloss finish.
- b) Gypsum Board
  - i. One coat primer sealer.
  - ii. Two coats latex eggshell finish.
- c) Ceilings
  - i. One coat primer sealer.
  - ii. Two coats latex satin finish.
- d) Hollow Metal Doors and Frames
  - i. Touch-up with zinc chromate primer.
  - ii. Two coats alkyd semi-gloss finish.
- e) Oak Wood Finish
  - i. Shop finish as per Section 06200.
- f) Concrete