

**AMMONIA ROOM MODIFICATIONS  
MEADOW PARK SPORTS CENTRE  
8625 HIGHWAY 99, WHISTLER, BC V0N 1B8**

**BID DOCUMENTS AND  
TECHNICAL SPECIFICATIONS**



PREPARED FOR: RESORT MUNICIPALITY OF WHISTLER  
8625 Highway 99  
Whistler, BC V0N 1B8

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RJC Job No.: VAN.020011.0025

Date: Issued for Bid – November 22, 2018

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**1.0 GENERAL**

The drawings listed below will be included in the General Contractor/ Owner agreement and will become part of the contract.

<b>Drawing No.</b>	<b>Drawing Title</b>	<b>Date</b>
<b>R-0.0</b>	<b>Cover Page and Site Plan</b>	<b>Nov 22, 2018</b>
<b>R-1.1</b>	<b>General Notes</b>	<b>Nov 22, 2018</b>
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<b>R-2.2</b>	<b>Plans and Elevations</b>	<b>Nov 22, 2018</b>
<b>R-3.1</b>	<b>Typical Details</b>	<b>Nov 22, 2018</b>
<b>R-3.2</b>	<b>Typical Details</b>	<b>Nov 22, 2018</b>
<b>S-1.1</b>	<b>Structural Details</b>	<b>Nov 22, 2018</b>
<b>M-101</b>	<b>Site Plan and Notes</b>	<b>Nov 22, 2018</b>
<b>M-102</b>	<b>Mechanical Room and Roof Renovation Plan</b>	<b>Nov 22, 2018</b>
<b>M-103</b>	<b>Mechanical Room and Roof Renovation Plan</b>	<b>Nov 22, 2018</b>
<b>M-104</b>	<b>Details and Images</b>	<b>Nov 22, 2018</b>
<b>M-105</b>	<b>Specifications</b>	<b>Nov 22, 2018</b>

**END OF SECTION**

## **1.0 GENERAL**

### **1.1 INSTRUCTIONS**

- .1 Before submitting a bid, Bidders shall:
  - .1 Examine and read the Bid Documents thoroughly.
  - .2 Examine the site and ascertain the extent and nature of all conditions, limitations, or building regulations affecting the performance of the Work. The site is open and available for review by the Bidders during normal business hours. Coordinate site access through the Consultant. All dimensions are to be confirmed by on-site measurement by the Bidder.
  - .3 Confirm all utility services in the vicinity of the Work that will require protection and maintenance during the course of the Work.
  - .4 Consider the effect of regulatory requirements applicable to the Work.
  - .5 Study and correlate Bidder's observations with the Bid Documents.
  - .6 Immediately notify Consultant of all perceived omissions and discovered conflicts, errors and discrepancies in the Bid Documents.
  - .7 Be satisfied that Bidder understands the Bid Documents and is competent to undertake and complete the Work.
- .2 Bid shall include cost of all permits required (including the building permit), royalties, freight, government duties and taxes where applicable.
- .3 The Owner reserves the right to add or delete items to be performed under this Contract before and after the Contract is awarded without any penalty. Any revisions to the submitted Contract Price as a result of these deletions are to be solely based on the unit prices (or lump sum prices) quoted by the Bidder for those items.
- .4 The Bidder shall not engage in collusion of any sort and, in particular, shall ensure that no person or other legal entity other than the Bidder has an interest in the Bidder's bid. The bidder shall prepare the bid without any knowledge of, comparison of figures with, or arrangement with any other person or firm preparing a bid for the same work.

.5 It is the Bidder's responsibility to provide all labour, material, equipment and supervision to complete the repairs outlined in these Bid Documents taking into account all site conditions, schedule and noise restrictions, work area restrictions, protection requirements, accessibility restrictions, etc. No extras will be entertained for inconveniences after award of the Contract.

.1 Bidder shall read the Bid Documents in their entirety prior to bidding in order to be aware of all project requirements.

.6 If the Bidder is a joint venture, each party to the venture must execute the bid under seal in the manner appropriate to such party.

## 1.2 CONTRACT FORM

.1 The form of Contract between the accepted Bidder and Owner will be the Standard Construction Document CCDC2 - 2008 Stipulated Price Contract, as amended by Section 00 73 00 Supplementary Conditions.

## 1.3 SITE

.1 The Work is to be performed at the Meadow Park Sports Centre located at 8625 Highway 99, Whistler, BC.

## 1.4 OWNER AND OWNER'S REPRESENTATIVE

.1 The Owner is: Resort Municipality of Whistler  
8625 Highway 99, Whistler, BC

.2 The Owner's Representative is: Gary Grant  
Telephone: (604) 935-8358  
E-Mail: ggrant@whistler.ca

## 1.5 CONSULTANT

.1 The Consultant is: Read Jones Christoffersen Ltd.  
Suite 300 - 1285 West Broadway  
Vancouver, BC  
V6H 3X8

.2 The Consultant's Representative is: Maddie Reid, EIT  
Telephone: (778) 239-4618  
E-Mail: mreid@rjc.ca

Any questions during the Bid Period shall be directed to the office of the Consultant.

## 1.6 PRE-BID CLOSING SITE MEETING

- .1 A pre-bid closing site inspection and meeting will be held on site at **11:00 am on Thursday, November 29<sup>th</sup> 2018** for the benefit of all Bidders. Bidders should meet at the front entrance of the Meadow Park Sports Centre in Whistler, BC.

## 1.7 EXAMINATION OF SITE

- .1 The onus shall be on the Bidder to investigate the Project Site and inform themselves before bidding of all physical and labour conditions and administrative practices prevailing at the project site.
- .2 The Bidder shall not claim at any time after the submission of their bid any misunderstanding of the terms and conditions of the Contract relating to the site conditions.
- .3 The Bidder shall make allowances as required for the installation of temporary exhaust, heating and ventilators into and out of the work area. No extra for this item will be entertained after bids have closed.

## 1.8 BID SUBMISSION

- .1 Completed Bid Forms together with the required bid security, consents of surety and all supplementary bid submission material shall be delivered to the office of the Consultant in a sealed envelope no later than **2:00pm on Wednesday, December 19<sup>th</sup> 2018**, and addressed as follows:

**Confidential:**                      **Bid Submission**  
**Bid For:**                              **Resort Municipality of Whistler**  
   **c/o Read Jones Christoffersen Ltd.**  
   Suite 300 - 1285 West Broadway  
   Vancouver, BC V6H 3X8

**Attention:**                              **Maddie Reid, EIT**

- .2 Bidder's name shall be typed on the reverse side of the envelope.
- .3 Bids will be opened in private at the office of the Consultant.
- .4 Using the Bid Form provided, the bid shall be filled out in ink or typed, signed in longhand by a duly authorized company official, and sealed with the Bidder's corporate seal.

- .5 The Bid Form shall not be altered and all spaces for information will be completed.
- .6 E-mail, telephone or facsimile bid proposals or bid modifications will not be considered.
- .7 The Consultant may, after bid closing time and before Contract award, require any Bidder to submit, in a form prescribed by or acceptable to the Consultant, supplementary information about any aspect of the Bidder's bid that, in the Consultant's opinion, is necessary for bid evaluation purposes.

### **1.9 SUFFICIENCY OF BID**

- .1 The submission of a bid shall constitute an incontrovertible representation by the Bidder that:
  - .1 The Bidder has complied with all bid requirements.
  - .2 The Bidder is qualified and experienced to perform the Work in accordance with the Bid Documents.
  - .3 The bid is based upon performing the Work in accordance with the Bid Documents, without exception.
  - .4 The price or prices stated in the bid cover all the Bidder's obligations under the Contract and all matters and things necessary for the performance of the Work in accordance with the Bid Documents.

### **1.10 BID IRREGULARITIES**

- .1 At the discretion of the Owner, bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations or irregularities of any kind may be accepted or declared informal.
- .2 Informal bids may or may not be considered at the sole discretion of the Owner.
- .3 The Owner may accept or waive a minor and inconsequential irregularity, or where practicable to do so, the Owner may, as a condition of bid acceptance, request a Bidder to correct a minor and inconsequential irregularity with no change in bid price.
- .4 The determination of what is, or is not, a minor and inconsequential irregularity, the determination of whether to accept, waive, or require correction of an irregularity, and the final determination of the validity of a bid, shall be at the Owner's sole discretion.

- .5 Discrepancies between words and figures will be resolved in favour of words.

### **1.11 BID WITHDRAWAL AND ACCEPTANCE**

- .1 The Owner reserves the right to reject any or all bids as the interests of the Owner may require, without stating reasons therefore, and the lowest or any bid will not necessarily be accepted.
- .2 A Bidder who has already submitted a bid may submit a further bid at any time up to the official closing time. The last bid that is received shall supersede and invalidate all previously submitted bids by that Bidder for this Contract.
- .3 A bid may be withdrawn at any time before the bid closing time, provided the request is in the form of a letter received at the office of the Consultant before the bid closing time.
- .4 Withdrawn bids may be resubmitted in accordance with these bidding requirements providing the resubmitted bid is received at the office of the Consultant before the bid closing time.
- .5 A bid may not be withdrawn at or after bid closing time and shall be open to acceptance by the Owner until whichever of the following occurs first:
- .1 Another Bidder has entered into a Contract with the Owner for performance of the Work.
- .2 Sixty (60) days after the bid closing time.
- .6 The sixty (60) day acceptance period shall commence at midnight at the date of bid closing and shall terminate at midnight of the sixtieth (60th) day thereafter. If the sixtieth (60th) day falls on a statutory holiday, such day(s) shall be omitted from the computation.
- .7 The sixty (60) day acceptance period may be extended at the Consultant's request and subject to the Bidder's written agreement to the extension.
- .8 In the case of an error in addition, the correct sum of the amounts shown for each bid item shall be deemed to be the total bid price regardless of the total amount submitted by the Bidder.
- .9 Evaluation of Bid

In evaluating the bids, the Owner may consider any criteria, with such consideration to be exercised by the Owner in its sole discretion, including the following:



- .1 The Contract Price as determined from the base bid or from the alternate bid.
  - .2 The Owner's authorized budget for the Work.
  - .3 The Contract Time.
  - .4 The Bidder's ability to effectively manage and perform the Work and work with other subcontractors.
  - .5 The Bidder's understanding of the Work.
  - .6 The Bidder's Unit Prices, Allowances, and Separate Prices, if applicable.
  - .7 The Bidder's ability to present cost saving opportunities that may be appropriate and acceptable to the Consultant and the Owner.
  - .8 The Bidder's experience, competence and past performance in undertaking work similar to the Work, as well as that of its subcontractors.
  - .9 The Bidder's financial strength and capability.
  - .10 The experience, qualifications and abilities of the Bidder's supervisory personnel.
  - .11 Aesthetic changes resulting from the Bidder's proposed approach to the Work.
  - .12 Other criteria which the Owner, in its sole discretion, may consider appropriate to its evaluation.
- .10 Acceptance of Bid
- .1 The lowest or any bid need not be accepted by the Owner. The Owner reserves the right to accept or reject any or all bids at their sole discretion on any basis at any time without further explanation or to accept any bids considered advantageous to the Owner.
  - .2 The Bidder acknowledges and agrees that the Owner will not be responsible for any costs, expenses, losses, damages or liabilities incurred by the Bidder as a result of or arising out of submitting a bid for the proposed Contract, or due to the Owner's acceptance or non-acceptance of their bid.
  - .3 The Owner may also elect not to proceed with the Project.

## **1.12 ADDENDA**

- .1 Direct all questions in writing to the Consultant.
- .2 Answers to queries are only binding when confirmed by written Addenda.
- .3 Clarifications requested by Bidders must be submitted in writing to the Consultant no less than seven (7) days before the date set for receipt of the bids. Any reply will be in the form of an Addendum, a copy of which will be forwarded to known Bidders no less than five (5) days before the date set for receipt of the bids.
- .4 Addenda may be issued by the Consultant during the bid period. Any Addenda will be issued by the Consultant via the BC Bid website.
- .5 All Addenda become part of the Bid and Contract Documents and the costs arising from any Addenda are to be included in the bid price.
- .6 Each Bidder shall ascertain before bid submission that all Addenda issued by the Consultant have been received and the Bidder shall indicate in the Bid Form the addendum number(s) of all Addendum received.

## **1.13 CONSTRUCTION SCHEDULE**

- .1 Refer to schedule requirements outlined in Section 01 10 01 – General Requirements.

## **1.14 ALTERNATIVE MATERIALS OR EQUIPMENT**

- .1 A base bid submission is to include only approved and/or specified products and methods of construction.
- .2 Alternative materials or equipment will be considered provided requests for approval have been submitted to the Consultant by a bidding Contractor per Section 01 25 13 – Alternatives.
- .3 If a Bidder wants to submit substitutes to the material, equipment, or workmanship specified or indicated, they may include the substitutes as an unsolicited alternative, and this shall be stated as such in the Alternate Prices section of the Bid Form.

## **1.15 ALTERNATE BIDS**

- .1 A Bidder may, at the Bidder's discretion, submit an alternate bid ("Alternate Bid") that varies in some manner from the Bid Documents.

- .2 Alternate Bids may only be submitted in addition to, and not in substitution of, a bid that complies with the requirements of the specifications and drawings (the “Base Bid”).
- .3 Products or systems identified in an Alternate Bid that vary from the products or systems described in the Bid Documents do not require pre-approval by the Consultant or Owner. An Alternate Bid should contain sufficient description and identification of any such varying products or systems to permit evaluation and review by the Consultant and the Owner.

### **1.16 QUALIFICATIONS**

- .1 Persons of Bidders submitting bids for this Project shall be actively engaged and experienced in the type of work required by these Bid Documents and the Bidder shall provide, on request, a statement of similar work performed by those persons.
- .2 Submit with the bid a resume of the proposed project manager and project superintendent.

### **1.17 THIRD PARTY LIABILITY CLAIM**

- .1 Upon the award of the Contract, the Owner may withhold total or partial payments to cover third party liability claims for damages. These funds are to be used by the Owner to cover third party liability claims on patron vehicles in the case of a dispute between the Owner and the Contractor regarding responsibility for the claim. Payments to the patron are to be released immediately, any unresolved disputes with respect to the responsibility of the claim shall be settled prior to total completion of the Project. The main purpose of these funds is to ensure that patrons receive compensation as soon as possible. The receipts of payments made shall be returned to the Contractor upon total completion of the Project.

**END OF SECTION**

DATE: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

OF: \_\_\_\_\_  
*(address)* *(telephone)*

To: **Resort Municipality of Whistler**  
**c/o Read Jones Christoffersen Ltd.**  
**300-1285 West Broadway**  
**Vancouver, BC, V6H 3X8**

Having examined the Project site, and having carefully examined the General Conditions of the General Contract - CCDC2 - 2008 as amended by Section 00 73 00 - Supplementary Conditions, the Specifications and Drawings, including Addenda \_\_\_ to \_\_\_ issued as supplements thereto, and having examined and complied with Section 00 21 00 - Instructions to Bidders, we hereby offer to perform the Work set forth in the aforesaid documents for the Estimated Contract Price, which includes any applicable taxes in force at this date.

Lump Sum Contract Price (NET) \$ \_\_\_\_\_

**Subtotal** \$ \_\_\_\_\_

Goods and Services Tax (5%) \$ \_\_\_\_\_

**Total Estimated Contract Price** \$ \_\_\_\_\_

**1.0 LUMP SUM PRICE ITEMS**

- .1 The following Lump Sum Prices are included in the Estimated Contract Price (NET).
- .2 Lump Sum Price items include all costs.

ITEM	REFERENCE	DESCRIPTION	LUMP SUM PRICE
1.1	Div. 1	General Requirements	\$ _____
1.2	Drawings	Construct and install a 37' steel support structure as per drawings. Price to include waterproofing of any associated penetrations into roof assemblies as per drawings, and pipe supports and attachments as required.	\$ _____
1.3	Drawings	Remove, replace and re-locate 6" diam. ammonia relief pipe (pipe size to be in compliance with CSA-B52 requirement). Price to include coring through roof slab and making roof assembly watertight at roof penetration as per drawings. Price to also include infilling of exterior wall at old penetration. New pipe to extend 17' above top of upper arena roof.	\$ _____
1.4	Drawings	Installation of new wall-mounted temperature sensor (monitored at BMS) at interior of ammonia room.	\$ _____
1.5	Drawings	Demolition and disposal of existing rooftop emergency ammonia exhaust unit, EF-8, as per drawings. Price to include removal and disposal of motorized damper at old unit as per drawings.	\$ _____
1.6	Drawings	Installation of two new rooftop exhaust units, EF-8 and EF-8B, both monitored and controlled at BMS, as per drawings.	\$ _____

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		Price to include associated duct work, including wire mesh and insulation. Price to include coring through roof slab and making roof assembly watertight at any roof penetrations related to installation as per drawings if required. Price to include new concrete support pads as per drawings, and duct supports and attachments as required. New stainless-steel duct to extend 17' above top of upper arena roof.	
1.7	Drawings	Installation of new exterior pressed steel door at boiler room at northwest corner of building as per drawings.	\$ _____
1.8	Drawings	Removal of existing 80-gal gas-fired domestic water heater. Price to include removal of the associated combustion air intake duct and exhaust outlet.	\$ _____
1.9	Drawings	Installation of new wall mounted 300MBH boiler and 80-gal indirect water heater for domestic water application. Price to include modification to the existing services (DCW, DHW, HWS, and HWR) to accommodate the installation of new boiler and hot water heater. Price to include installation of the associated heating water recirculation pump. Price to include the associated controls components, such as: localized controls for pump, boiler, and hot water heater, and temperature sensor of the hot water heater and status of the pump and boiler monitored at BMS. Price to include concrete pad for new hot water heater. Price to include installation of new combustion air intake and exhaust from wall mounted boiler up to roof through existing opening and patching and sealing of existing unused opening.	\$ _____

1.10	Drawings	Installation of new exhaust fan EF-9 for the mechanical room ventilation. Price to include the associated ductwork, localized control and an exhaust discharge louver.	\$ _____
1.11	Drawings	Removal and infill of openings at doors/louvers at the following locations in walls at the ammonia and boiler rooms, as per drawings:  a. Louver at exterior wall of boiler room.  b. Interior door between ammonia room and boiler room.  c. Plywood infilled opening at east wall of ammonia room, bordering zamboni garage room.	\$ _____
1.12	N/A	Other items not included above:  .1 _____ .2 _____ .3 _____	\$ _____ \$ _____ \$ _____
1.13	<b>TOTAL OF LUMP SUM PRICE ITEMS</b> <i>(Sum of Items 1.1 through 1.12 inclusive)</i>  <i>(The sum shall reflect the total cost of the work not including GST and Allowances)</i>		\$ _____

## **2.0 ALLOWANCES**

### **.1 Hourly rates, including the Contractor's overhead and profit.**

- .1 The following hourly rates will be used to vary the Contract Price in the event of changes in the Contract.
- .2 The final Contract Price will be determined using the total of Lump Sum Price and Unit Price items established above and actual Time and Materials required agreed upon by the Contractor and Consultant for work carried out under Section 01 21 00 - Allowances.
  - Superintendent \$ \_\_\_\_\_/hr
  - Foreman \$ \_\_\_\_\_/hr
  - Industrial Pipefitter \$ \_\_\_\_\_/hr
  - Roofer \$ \_\_\_\_\_/hr
  - Labourer \$ \_\_\_\_\_/hr
  - Welder \$ \_\_\_\_\_/hr
  - Others (List) \$ \_\_\_\_\_/hr
- .3 Hourly rates are not applicable for electrical or mechanical contractors. These will be established during construction.

## **3.0 SCHEDULE**

- .1 We agree that work must be completed in the most efficient manner, and in the phasing indicated on the drawings and in Div. 0 and 1 of the specifications.
- .2 Contract time shall be extended based on the time required to complete additional structural related repairs and other approved changes in the work.

## **4.0 SUBMITTALS**

We enclose the following with our Bid:

- .1 A complete list of Subcontractors we propose to use on this Contract, and the sections of the Work to be done by each of them.
- .2 Resume of personnel we propose to use in the capacity of Superintendent and Project Manager.

## **5.0 SUBCONTRACTORS**

- .1 We reserve the right to substitute another Subcontractor in the event that a Subcontractor should withdraw their bid or become bankrupt. All Subcontractor substitutions are subject to the Owner's approval.



- .2 Any such substitution, in order to be considered for approval, is contingent on the submission of conclusive evidence of withdrawal, bankruptcy or unsatisfactory performance.
- .3 We are responsible for all costs incurred as a result of substituting one Subcontractor for another.

## **6.0 ACCEPTANCE**

- .1 This Bid is open to acceptance for a period of sixty (60) days from the date of bid closing and is promised in consideration of the attached Bid Security. Failure to enter into a contract after contract award shall result in forfeiture up to the amount of the Bid Security.
- .2 We agree to execute a contract on the Standard Construction Document CCDC2-2008, as amended by the specification, within seven (7) days of written notification of contract award.
- .3 Submission of this Bid implies acceptance of the existing conditions at the site.
- .4 We understand that the lowest or any Bid will not necessarily be accepted, and that selected items may be deleted from the Project as represented in the Bid Form.
- .5 The Owner reserves the right to waive minor defects or irregularities in the bid.
- .6 We understand that if not more than three compliant bids are received, the Owner may re-tender the Work without adjusting scope or retribution from the compliant contractors.

Bidder: \_\_\_\_\_

Signature: \_\_\_\_\_  
*(Authorized Officer)*

Signature: \_\_\_\_\_  
*(Authorized Officer)*

*(Seal)*

**END OF SECTION**

**1.0 CONTRACT FORM**

The form of the contract between the accepted Bidder and the Owner will be the Standard Construction Document CCDC No. 2, 2008 Stipulated Price Contract revised to include amendments as set out in Section 00 73 00 – Supplementary Conditions.

**END OF SECTION**

## **1.0 AGREEMENT SUPPLEMENT**

The Agreement for the Standard Construction Document - CCDC 2 - 2008, Stipulated Price Contract is hereby amended as follows:

### **1.1 ARTICLE A.5 PAYMENT**

- .1 Insert to Paragraph 5.1: “Ten percent (10%)”  
Insert to Paragraph 5.3.1: “The Bank of Nova Scotia”

### **1.2 SUPPLEMENTARY DEFINITIONS**

- .1 Definitions used in the Standard Construction Document - CCDC2 - 2008, Stipulated Price Contract are hereby amended as follows, and wherever the Definitions are referred in the Contract Documents, it shall be understood that such reference means as amended by these Supplementary Definitions.
  - .1 Definition 20. Substantial Performance of the Work  
  
Line 4, change “certified” to “verified”.
  - .2 Paragraph 27: Add new paragraph:  
  
“27. Dictionary. In case of dispute, The Concise Oxford Dictionary of Current English (current edition), shall prevail except for those definitions given in CCDC2 - 2008 and in various other places in the Contract Documents.”

## **2.0 SUPPLEMENTARY CONDITIONS**

- .1 The General Conditions of Standard Construction Document - CCDC2 - 2008, Stipulated Price Contract are hereby amended as follows and wherever the General Conditions are referred to in the Contract Documents, it shall be understood that such reference means as amended by the Supplementary Conditions.

### **2.1 GC 1.1 CONTRACT DOCUMENTS**

- .1 Paragraph 1.1.8: Delete entirely and replace with the following:

"The Owner shall provide the Contractor, without charge, two (2) copies of the contract documents to perform the Work. Additional copies of the Contract Documents or parts thereof required by the Contractor shall be provided at the 'Contractor's expense'."

## **2.2 GC 2.2 ROLE OF THE CONSULTANT**

- .1 Paragraph 2.2.1: Delete entirely and replace with the following:

"The Consultant will provide administration of the Contract as described in the Contract Documents during the construction until issuance of Final Certificate for Payment, and subject to GC 2.1 - Authority of the Consultant."

- .2 Delete Paragraph 2.2.3.  
.3 Delete Paragraph 2.2.4.

## **2.3 GC 2.3 REVIEW AND INSPECTION OF THE WORK**

- .1 Paragraph 2.3.8: Add new paragraph:

"Where standards of performance are specified and the Work does not comply with the performance specified, such deficiency shall be corrected as directed by the Consultant. Any subsequent testing (including retesting by the Owner) to verify performance shall be done at the 'Contractor's expense'."

## **2.4 GC 2.4 DEFECTIVE WORK**

- .1 Paragraph 2.4.3: Delete the words:

"the difference in value between the Work as performed and that called for by the Contract Documents", and replace with the words, "the value of such work as is necessary to correct any non-compliance with the Contract Documents".

## **2.5 GC 3.5 CONSTRUCTION SCHEDULE**

- .1 Paragraph 3.5.1.1: Delete the words:

"Prior to the first application for payment", and replace with the words "within seven (7) days of award of Contract".

## **2.6 GC 3.7 SUBCONTRACTORS AND SUPPLIERS**

- .1 Paragraph 3.7.7: Add new paragraph:

"The specifications are arranged in divisions and sections for convenience. They shall be read as a whole. This arrangement places no responsibility upon the Owner or Consultant to settle disputes between Subcontractors and Suppliers or between the Contractor and Subcontractors and Suppliers."

## **2.7 GC 3.8 LABOUR AND PRODUCTS**

- .1 Paragraph 3.8.4: Add new paragraph:

"Carpenters and journeyman utilized on site must either be certified provincial or interprovincial tradespersons or currently entered into a recognized apprenticeship program."

## **2.8 GC 3.10 SHOP DRAWINGS**

- .1 Paragraph 3.10.12: Delete the words:

"in accordance with the schedule agreed upon, or in the absence of such schedule, with reasonable promptness so as to cause no delay in the performance of the work", and replace with the words, "to Contractor within ten (10) working days of receipt."

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

- .1 Paragraphs 5.1.1 and 5.1.2: Delete paragraphs.

## **2.10 GC 5.2 APPLICATION FOR PROGRESS PAYMENT**

- .1 Paragraph 5.2.3 delete the words "and Products delivered to the Place of the Work", and insert the following sentence to the end of the paragraph: "Payment will not be made for Products delivered to the Place of the Work but not yet incorporated into the Work."  
.2 Delete Paragraph 5.2.7.  
.3 Paragraph 5.2.7: Add new paragraph:

"5.2.7 Accompanying each application for payment, excepting the first, the Contractor shall submit a Statutory Declaration. The Consultant's issuance of a

Certificate for Payment shall be conditional upon the Contractor's submission of the Statutory Declaration. The Statutory Declaration shall include the following information:

- .1 The names of the contracting parties.
- .2 The name of the Project.
- .3 A declaration attesting that all accounts affiliated with the Contract have been paid.
- .4 A declaration attesting that all assessments and deductions required by all applicable acts have been deducted and/or paid.
- .5 The date of the declaration."

- .4 Paragraph 5.2.8. Add new paragraph:

“Upon establishing that the Work, or a portion of the Work, has been Completed (as per the governing Builder’s Lien Legislation), the Contractor’s applications for payment for those portions of the Work deemed Complete, shall reflect the balance of the Contract price less:

- .1 the aggregate amount, if any, determined in accordance with GC 5.4.2 multiplied by two, and
- .2 the amount, if any, determined in accordance with GC 5.8 - Withholding of Payment.

Until all of the deficient and incomplete work for which amounts are withheld pursuant to subparagraphs .1 and .2 of this Paragraph 5.2.8 are rectified and completed to the satisfaction of the Consultant, the Owner may withhold the full amounts set out in Subparagraphs .1 and .2 of this Paragraph 5.2.8 respectively.”

- .5 Paragraph 5.2.9. Add new paragraph:

“The Contractor shall complete the deficient and incomplete work in a timely manner, and at the discretion and convenience of the Owner. Acceptance of the Work or occupancy of the Project or any portion thereof shall not relieve the Contractor from the obligation of correcting deficiencies which are not identified at the time of establishing the list of deficient and incomplete items of work.”

- .6 Add new paragraph 5.2.10:

“Unless all independent material testing results of products supplied to the site have been received, the maximum percent of work completed that can be claimed by the Contractor and certified by the Consultant for any item of work is 90%.”

## **2.11 GC 5.3 PROGRESS PAYMENTS**

- .1 Paragraph 5.3.1, Sentence .1: Delete Sentence
- .2 Paragraph 5.3.1, Sentence .2: Add the following sentences on to the end of the paragraph:

"Certificates for Payment may provide for retention of amounts as determined by the Consultant to ensure correction of deficient work done or unacceptable product provided, and may also provide for retainers in addition to the statutory holdback provided for in the Contract sufficient to protect the Owner against all liens of which he has notice. Each application for payment, except the first, shall be accompanied by a Statutory Declaration and such other supporting data and documentation as the Consultant may require indicating that all indebtedness incurred by the Contractor in the performance of the Work for the previous month has been fully paid."
- .3 Paragraph 5.3.1, Sentence .3: Delete in its entirety and replace with the following:
  - .3 "The Owner shall make payment to the Contractor on account as provided in Article A-5 of the Agreement no later than 30 calendar days after the date of a certificate of payment issued by the Consultant".

## **2.12 GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK**

- .1 Paragraph 5.4.2: Delete the words:

"and shall promptly, and in any event"

and replace with the following words:

"in accordance with the applicable Lien legislation, or in the absence of such legislation,"

## **2.13 GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK**

- .1 Paragraph 5.6.1: Delete entirely and substitute the following:

"No holdback on subcontracts shall be released prior to the expiration of the statutory limitation period of the contract stipulated in the lien legislation applicable to the Place of the Work."



## **2.14 GC 5.7 FINAL PAYMENT**

- .1 Paragraph 5.7.2: Add the following sentence:

"The Consultant will not consider the application valid until materials installed are tested and conform to the requirements specified."

- .2 Paragraph 5.7.4: Delete the words:

"Five (5) days" and replace with the words "thirty (30) calendar days".

## **2.15 GC 5.8 WITHHOLDING OF PAYMENT**

- .1 Add the following new Paragraph:

"5.8.2 Upon the award of the contract the Owner may withhold total or partial payments to cover third party liability claims as a result of the work in the case of a dispute between the Owner and the Contractor regarding responsibility for the claim. Payments to the third parties are to be released immediately; any unresolved disputes with respect to the responsibility of the claim shall be settled prior to total completion of the project. The main purpose of the funds is to ensure that third parties receive compensation as soon as possible. The receipts of payments made shall be returned to the Contractor upon total completion of the project."

## **2.16 GC 6.1 OWNER'S RIGHT TO MAKE CHANGES**

- .1 Paragraph 6.1.2: Add to the paragraph:

"The valuation for the change shall include the following maximum adjustments for overhead and profit based on the actual costs:

for Subcontractors - 10% for overhead and 5% for profit on the cost of their work.

for Contractor - 2.5% for overhead and 2.5% for profit on the cost the Subcontractors' work.

for Contractor - 10% for overhead and 5% for profit on the cost of his work.

Profit to be based on the value of work including overhead."

## **2.17 GC 6.2 CHANGE ORDERS**

### **.1 Add Paragraph 6.2.3**

“6.2.3 The Contractor shall obtain written confirmation from their Surety Company the extent of changes that necessitate notification to the Surety Company of said changes so as to not jeopardize bonding of the Work. The Contractor shall be responsible for notifying the Surety, on this basis, of any approved changes, providing copies of notifications to the Consultant. The work outlined in a Change Order will not be considered complete until copies of the written notifications are received by the Consultant.”

## **2.18 GC 6.5 DELAYS**

### **.1 Paragraph 6.5.3: Revise as follows:**

- .1 In Sentence .4, replace “one” with “ones”.
- .2 In Sentence .4, insert the phrase, “except lack of funds or breakdown of Construction Equipment,” and, after the word “control”.

### **.2 Add the following new paragraph;**

“6.5.6 If the area of the work outlined in these specifications is not available to the Owner after the project completion date deadline, the Contractor will be responsible for all damages resulting from the delay in the work schedule (i.e. the Owner’s cost and reduced revenues associated with extended work schedule).”

## **2.19 GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT**

### **.1 Delete Paragraph 7.2.3.1 entirely.**

### **.2 Paragraph 7.2.4: Delete the words:**

“Five (5)”, and insert the words, “Ten (10)”.

### **.3 Paragraph 7.2.6: Add the following paragraph:**

"7.2.6 This condition, GC 7.2, shall not apply to the withholding of certificates and/or payments because of the Contractor's failure to pay all just claims promptly nor because of the registration or notice of liens against the Owner's property, until such claims and liens are discharged."

## **2.20 GC 10.2 LAWS, NOTICES, PERMITS, AND FEES**

- .1 Paragraph 10.2.2: Delete the words:

“building permit” from the first sentence.

- .2 Paragraph 10.2.3: Insert the following words following the word “permit” in the first line:

“(including building permit)”

## **2.21 GC 10.4 WORKERS’ COMPENSATION**

- .1 Paragraph 10.4.3: Add the following paragraph:

"10.4.3. The Contractor shall indemnify and hold harmless the Owner from and against all claims, demands, actions, suits or proceedings by any of the employees of the Contractor or Subcontractors with respect to worker's compensation insurance. This indemnity shall survive the completion of the Work or the termination for any reason of the Contract."

## **2.22 GC 12.1 INDEMNIFICATION**

- .1 Paragraph 12.1.1: Delete entirely and substitute the following:

“12.1.1 Without restricting the parties’ obligation to indemnify as described in paragraphs 12.1.4 and 12.1.5:

- .1 The Contractor and the Owner shall indemnify and hold harmless each other, and their respective agents and employees from and against all claims, demands, losses, costs or damages of third parties arising or alleged to arise directly, indirectly or incidentally by reason of the operations of the party from whom indemnification is sought in the carrying out of the contract. This indemnification shall survive the completion or termination for any reason of this Contract.

.2 The Contractor shall indemnify and hold harmless the Consultant and their respective agents and employees from and against all claims, demands, losses, costs or damages of third parties arising or alleged to arise directly, indirectly or incidentally by reason of the operations of the Contractor, his Subcontractors and their respective agents or employees, in the carrying out of the contract. This indemnification shall survive the completion or termination for any reason of this Contract.”

.2 Paragraph 12.1.2.2: Delete the value “\$2,000,000” and insert the value, “\$5,000,000”.

## 2.23 GC 12.3 WARRANTY

.1 Paragraph 12.3.1: Delete entirely and replace with:

“12.3.1 The warranty periods with regard to the Contract is stipulated in specification Section 01 78 36 and shall start from the date of Substantial Performance as verified by the Consultant or those periods specified in the Contract Documents for all portions of the Work or Products.”

.2 Paragraph 12.3.3: Delete the words:

“through the Consultant”.

.3 Paragraph 12.3.3: Delete the words:

“one year”

and replace with the following word:

“specified”.

.4 Paragraph 12.3.4: Delete the words:

“one year”

and replace with the following word:

“specified”.

.5 Paragraph 12.3.6: Delete entirely.

**END OF SECTION**

## **1.0 GENERAL**

Work under this Contract includes the Meadow Park Sports Centre, in the Municipality of Whistler, in the Province of British Columbia.

### **1.1 DESCRIPTION OF WORK**

It is the Contractors responsibility to provide all labour, material, equipment and supervision to complete the repairs outlined in this specification taking into account all site conditions, noise restriction, work area restrictions, protection requirements, accessibility restrictions, etc. No extras will be entertained for inconveniences after the award of this Contract.

- .1 The general Scope of Work includes, but is not necessarily limited to the following:
  - .1 Removal and capping off of existing ammonia exhaust relief pipe. Infill pipe penetration at exterior wall with concrete as per drawings and specifications.
  - .2 Removal, replacement and relocation of existing emergency ammonia rooftop exhaust fan (EF-8). Modify existing ductwork and connect new 20“ diameter duct to existing as per drawings and specifications. Duct to discharge at minimum 5,000 mm (17’) above upper roof. Work to include support and attachment of duct as per drawings.
  - .3 Install new mechanical room ventilation unit at rooftop (EF-8B) as per drawings and specifications.
  - .4 Installation of new 6” diameter ammonia relief vent pipe at new location as per drawings. Work includes coring of concrete roof slab at point of penetration. Ammonia vent to discharge at minimum 5,000 mm (17’) above upper roof. Work to include support and attachment of pipe as per drawings.
  - .5 Construction and installation of steel support structure at northwest corner of roof area to support vent stacks in Items 2 and 4 above, as per drawings and specifications.
  - .6 Install new wall-mounted temperature sensor at interior of ammonia room as per drawing and specifications.
  - .7 Re-waterproofing and sealing of roofing assembly at disruptions and penetrations due to scope of work as required. All roofing work to be done by an RCABC approved contractor.
  - .8 Installation of new pressed steel door and frame at boiler room at northwest corner of building as per drawings. Reinforce exterior wall surrounding new doorway as per drawings.

- .9 Removal and infill of openings at doors/louvers at the following locations in walls at the ammonia and boiler rooms, as per drawings:
  - a. Louver at exterior wall of boiler room.
  - b. Interior door between ammonia room and boiler room.
  - c. Plywood infilled opening at east wall of ammonia room, bordering zamboni garage room.

## **1.2 WORK SEQUENCE**

- .1 The Work areas will be available immediately upon award of contract. Contractor to confirm start date.
- .2 Time and all time limits stated within the Bid submittal and Contract Documents are of the essence of the Contract. Contractor shall perform work expeditiously with adequate forces to complete the Contract Work within the time specified.

## **1.3 PHASING OF THE WORK**

1. In order to successfully complete the proposed repairs while satisfying the Worksafe BC requirements, the work can be phased in order of importance. The repairs are to be performed in 2 phases as indicated on the phasing drawings. Briefly, the repairs are to be performed in the following sequence:
  - .1 Phase 1: All work related to satisfying requests in Worksafe BC work order, including but not limited to installation of the new duct and ammonia relief pipe, both of which are to extend a minimum of 17' above the upper arena roof. Further, installation of EF-8 and EF-8B to be included in Phase 1.
  - .2 Phase 2: Infill of doors and louvers as specified on the drawings and in the specifications.

## **1.4 SCHEDULE**

- .1 In conjunction with and in a form acceptable to the Consultant and the Owner, provide within five (5) working days after contract award, a schedule indicating the phasing procedures required to complete the Work within the submitted timeframe.
- .2 The construction schedule shall reflect completion of all work under the Contract within the specified time and in accordance with these specifications.

- .3 The Contractor shall submit a revised schedule to the Consultant if, after commencing the Work, the schedule fails to reflect actual progress or the Contractor wishes to make a major change to their approach. The revised construction schedule must be submitted in advance of beginning a revised approach.

## **1.5 CONTRACTOR'S USE OF SITE**

- .1 The use of all equipment is to be restricted in accordance with Resort Municipality of Whistler noise by-laws. Contractor has access to the work areas with quiet work proceeding around the clock if desired.
- .2 The Contractor has 24-hour access to site; however, the use of the premises will be restricted due to user occupancy.
- .3 The Contractor shall schedule their operation to minimize the interruption of the normal use of the site and building and to comply with laws, ordinances, rules and regulations relating to Work.
- .4 The building is to remain open and operational through the Contract. It is the Contractor's responsibility to ensure the building remains operational and that areas outside those designated for closure remain available and safely accessible at all times.
- .5 Do not unreasonably encumber the Place of Work with materials or equipment. Construction related debris shall not be permitted to accumulate on site where visible to building users. Remove daily if necessary.
- .6 Do not overload the structure.
- .7 Do not close or obstruct or store materials in roadways, sidewalks or passageways without prior approval from the Owner. Do not interfere with safe passage to and from the building and adjacent public sidewalks and roads. Move stored products or equipment that interferes with building operations.
- .8 Take all precautions and provide all required protection to ensure the safety of the general public.
- .9 No storage of materials or equipment is allowed outside the designated work areas without the Owner's approval.
- .10 During transportation of materials or equipment through occupied areas, ensure the public, property, and finishes are protected from damage. All damage caused by the Contractor is to be repaired or rectified at the Contractor's expense.
- .11 Propane powered equipment not permitted within interior areas.

- .12 Arrange all construction access into occupied areas with the Owner to allow the Owner to provide proper notice, where required.
- .13 Maintain work areas and the vicinity clean and tidy to the satisfaction of the Owner and Consultant.
- .14 The Contractor is to obtain and pay for all permits required for completion of the Work, excluding the Building Permit. Do not start construction until the Building Permit has been issued. Provide copies of all other permits to the Consultant and post on site where required. Owner to pay for Building Permit as required.

## **1.6 TEMPORARY LIGHTING**

- .1 Provide and maintain temporary lighting as required for safe demolition and working conditions per British Columbia Occupational Health and Safety Regulations.
- .2 Provide motion-activated lights on swing stage or scaffold as a security measure when the Contractor is not on site. Ensure that no loose debris is left near the motion sensor.

## **1.7 TEMPORARY FIELD OFFICES AND SHEDS**

- .1 Provide or construct work sheds for storage of tools, equipment and materials, which may be damaged by weather.
- .2 Maintain sheds in a clean and orderly condition to the Consultant's satisfaction.
- .3 Provide suitable hardware and locks on doors to sheds to reasonably secure them and keep locked when unsupervised.
- .4 Field sheds shall be weather tight and have floors elevated above grade.
- .5 Relocate sheds as required by the progress of the Work. Remove sheds from the Site when directed or when they are no longer required.

## **1.8 TEMPORARY HEATING AND VENTILATION**

- .1 Provide and maintain supplementary heating as required to maintain sufficient application and curing temperatures.
- .2 Provide and maintain supplementary ventilation as required. Ventilation requirements shall conform to British Columbia Occupational Health and Safety Regulations. Do not modify the base building systems without the coordination and approval of the Owner.



- .3 Temporary heating and ventilation used during construction -- including the cost of installation, fuel, operation, maintenance and removal of equipment -- shall be paid for by the Contractor. The use of direct-fired heaters discharging waste products into enclosed work areas will not be permitted.

## **1.9 ELECTRICAL POWER**

- .1 Power consumption will be paid for by the Owner.

## **1.10 WATER SUPPLY**

- .1 Water consumption will be paid for by the Owner.

## **1.11 SANITARY FACILITIES**

- .1 Provide portable washrooms at the time of initial mobilization and maintain throughout the course of work where washroom facilities for the Contractor's use are not available on site. Locate where agreeable to the Owner.

## **1.12 TRAFFIC CONTROL AND SIGNAGE**

- .1 Provide all required signage necessary to protect the public from the construction and work area, control pedestrian and/ or vehicular traffic flow, and to inform users that construction activity is in progress. Signage is to be of a professional quality to the Consultant's satisfaction.
- .2 The Contractor is to provide flagmen as necessary to maintain safe traffic flow through the work areas.

## **1.13 PROTECTION OF WORK AND PROPERTY**

- .1 The Contractor shall take all reasonable precautions necessary to protect the Work and property from damage during performance of the Contract, and shall make good any damage to the Work or property caused by the Contractor or any of its Subcontractors.
- .2 Dust, dirt, construction debris, water and fumes from the Work must be contained so as not to affect areas that are to remain in operation outside of the designated work areas. Resulting damage caused by contamination is the responsibility of the Contractor.
- .3 The Contractor is responsible for any damage to all property, mechanical equipment, motors, elevator equipment, fixtures, air intakes, etc., resulting from dust contamination from the Work.

- .4 Protection shall be provided for all entrance and exit-ways, floors, walls and all standing fixtures, air intakes and equipment rooms.
- .5 Areas that are to be protected but still require access such as stairs will be hoarded using temporary vestibules. Pressurization to be adjusted by Contractor (by providing necessary fans) to prevent dust from entering these areas.
- .6 Contractor shall patch and repair all finishes or painted surfaces damaged during the course of the Work. This includes surfaces damaged by tape, fasteners, or similar materials during hoarding and protection.
- .7 Contractor shall not keep secure doors open for extended periods without the Owner's permission. Any resulting damage caused to building finishes or equipment, and any resulting property losses due to compromised building security, shall be the responsibility of the Contractor.

#### **1.14 CONSTRUCTION BARRIERS AND ENCLOSURES**

- .1 Contractor shall supply and construct hoarding, barriers and enclosures as required to conduct the work during the project schedule.
- .2 No extras shall be entertained for hoarding, barriers and enclosures after bids close unless the scope of work is significantly changed.
- .3 The following types of enclosures/ hoarding systems will be required for this construction project:
  - .1 Full Height Dust Protection

This system consists of full height poly-weave tarping in the boiler room fastened to the slab surface and soffit with 2" x 4" construction grade wood nailers wedged tight to the slab surface and soffit with 2 x 4 studs or post shores at 4'-0" c.c. The seams of the poly-weave tarping, if any, are to be fastened together with duct tape.

    - .1 The main purpose of this system is to control dust and keep it from escaping from the work area, thus must be dust tight.
  - .4 All seams in poly-weave tarping are to be taped together to provide dust tight enclosure.
  - .5 Anchor holes are to be repaired after construction hoarding has been removed. Contractor to repair all finishes and painted surfaces damaged by fastening materials used as part of the hoarding and protection systems.

- .6 Simple barriers required to control traffic (i.e., not enclosing work areas) are to consist of screw jacks at maximum 8'-0" centres with nylon webbing (4'-0" high snow fence) between each screw jack. Jacks are to be fully tightened to plywood spacers at the slab surface and soffit, and nylon webbing is to be securely fastened to all jacks. Directional signs are required.
- .7 Restrict access for unauthorized personnel by placing barricades or posting guards around areas of the Work. Unauthorized personnel shall mean the public and anyone not directly concerned with the execution, supervision or inspection.

### **1.15 PROTECTION OF EXISTING EXPOSED FACILITIES / SERVICES**

- .1 The Contractor shall make allowance in the price to cover all costs of temporary removal and replacement and/or relocation of existing electrical wiring and hardware required for completion of the Work.
- .2 All exposed conduit, fixtures, attached devices, wet sprinkler fire system plumbing, mechanical system components, louvers and ducts are to be protected or Contractor to correct damages at their own expense. Contractor to promptly report any damage to the Owner and the Consultant.
- .3 Prior to commencing the Work, contact the Owner to locate all protective or alarm systems and sensors. All services shall be protected against damage or interruption. Provide Owner with 48 hours minimum advance notice of any necessary interruption. All claims resulting from damage shall be the responsibility of the Contractor.
- .4 The Contractor shall restore landscaping beds in the area of work to their original plantable state after the work is complete. The Owner will arrange to remove and store for replanting, all landscaping including plants, shrubs, trees, etc. impacted by the work.

### **1.16 WALK-THROUGH INSPECTION OF SITE**

- .1 The Contractor is to perform a thorough inspection of the site prior to the start of Work, and provide a written notice to the Consultant detailing all damaged property as well as all items that appear to be of poor working order or appearance (i.e. sign fixtures, dirt, etc.).
- .2 Upon receiving this notice, the Consultant and the Owner will verify the validity of the items listed.
- .3 If written notice is not given within five (5) days of commencement of Work, it will be assumed that the Contractor has reviewed the site and has accepted the condition of the property as being free of damage.

- .4 Any damages not listed as part of the written notice of clause 1.15.1 above, found after the completion of the Work will be the sole responsibility of the Contractor to rectify. These rectifications shall be completed in a timely and satisfactory manner.

#### **1.17 THE WORK, WORK IN PROGRESS, PROPERTY AND PERSONS**

- .1 Protect the Work during construction from damage by weather.
- .2 Provide protection as required to protect work in progress and other property from damage and to provide suitable conditions for the progress of finishing work.
- .3 Provide means for protecting occupied areas from water leakage during the progress of work.
- .4 Take reasonable and required measures, including those required by authorities having jurisdiction, to protect the public and those employed on the Work from bodily harm.
- .5 Comply with requirements of the British Columbia Occupational Health and Safety Regulations and Regulations for Construction Projects.
- .6 The Contractor shall be prepared to provide respirators, dust protection, ear protection, hard hats, etc. for those employed by the Consultant and Owner at the Site.
- .7 Direct all Subcontractors to protect their own work, existing property, adjacent public and private property and work of other Sections from damage while working.

#### **1.18 LOCATION OF EXISTING UTILITIES**

- .1 The contractor shall be responsible for arranging for the location of all existing utilities prior to construction and protection of it during construction.

#### **1.19 WORK SITE SAFETY – CONTRACTOR IS “PRIME CONTRACTOR”**

- .1 The Contractor shall, for the purposes of the British Columbia Occupational Health and Safety Regulations, and for the duration of the Work and Contract:
  - .1 Be designated as “Prime Contractor” pertaining to safety at the “Work site”.
  - .2 Do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with the Act and its regulations, as required to ensure the health and safety of all persons at the “Work site”.

- .2 The Contractor shall direct all subcontractors, workers and any other persons at the “Work site” on safety related matters, to the extent required to fulfill its “Prime Contractor” responsibilities pursuant to the Act.

## **1.20 MATERIAL AND EQUIPMENT**

- .1 Unless otherwise specified, Contractor shall provide, maintain and pay for all materials, tools, machinery, equipment, temporary facilities, controls and conveniences necessary for execution of the Work. All materials shall be new, of merchantable quality, and suitable for the intended purpose.
- .2 Unless otherwise specified, comply with Manufacturer’s latest printed instructions for materials and installation methods. Notify the Consultant in writing of any conflict between the Contract Documents and Manufacturer’s instructions. Deliver, store and maintain packaged materials with Manufacturer’s seals and labels intact.

## **1.21 COORDINATION**

- .1 The Contractor is responsible for coordination of trades. Lines of demarcation between Contractor’s work and trades’ work are solely the responsibility of the Contractor. The Consultant assumes no responsibility for division of the Work or for any jurisdiction regarding such division.
- .2 Contractor is responsible for coordination with the Owner of all on-site activity as it affects the operation of the building.
- .3 The Contractor is to notify the Consultant at least 24 hours in advance for site review. No work shall be covered or concealed until the Consultant has reviewed it, unless they have informed the Contractor that a site review will not be performed. Such review does not absolve the Contractor from their responsibility to perform the Work in accordance with the contract documents.

## **1.22 WASTE REMOVAL AND CLEANING**

- .1 The Contractor shall maintain the Place of the Work free from unsightly or hazardous accumulations of waste materials and rubbish, and shall perform all required cleaning during the Work.
- .2 All wastes, which create hazardous conditions, must be removed from the premises daily.
- .3 Disposal of all waste products to be performed in strict accordance with the product Manufacturer’s Material Safety Data Sheet, and in accordance with the provincial Waste Control Regulations. Drainage systems shall not be used to dispose of Project wastes and materials.

- .4 Ensure all moisture sensitive equipment (i.e. exposed electrical and mechanical systems, etc.) are removed or protected against moisture infiltration during washing and dust-generating activities.
- .5 Remove all construction-related grease, dust, dirt, stains, labels, fingerprints, overspray and other foreign materials immediately prior to the Consultant's final review. Return all adjacent areas, equipment, duct work, etc. to the Owner in a dust-free condition. Leave site in a neat and tidy condition at completion of the Work.

### **1.23 SUPERINTENDENCE**

- .1 The Contractor shall provide a full time on-site Superintendent that is responsible for the quality, control, organization, and coordination of all phases of the Work. The Superintendent shall be in attendance at all site meetings.
- .2 Superintendence shall be satisfactory to the Owner and the Consultant.
- .3 Superintendence shall be deemed unsatisfactory and changes or additions to superintendence can be demanded by the Owner or Consultant when control, organization, or coordination of the Work is not adequate, the quality of the Work does not meet the Contract Document requirements, directions given in accordance with the Contract Documents are not followed, or progress is behind schedule.

### **1.24 ADMINISTRATION OF PROJECT MEETINGS**

- .1 The Consultant shall preside at meetings.
  - .1 A representative of the Consultant shall record the minutes, include significant proceedings and decisions, and identify "action by" parties.
  - .2 The Consultant shall reproduce and distribute copies of minutes to meeting participants, to affected parties not in attendance, to the Owner and Consultant.
- .2 The Consultant shall schedule and administer project meetings.
  - .1 Prepare agenda for meetings.
  - .2 Distribute written notice of each unscheduled meeting three (3) days in advance of meeting date to Contractor, Owner, and relevant Subcontractors.
- .3 The Contractor shall provide physical space and make arrangements for meetings on site.
- .4 Representatives of Contractor, Subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.

## **1.25 PRE-CONSTRUCTION MEETING**

- .1 Within five (5) days after award of Contract, the Consultant, or Contractor shall request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Senior representatives of the Owner, Consultant, Contractor, major Subcontractors, and field inspectors will be in attendance.
- .3 The Consultant shall establish a time and location of meeting and notify parties concerned five (5) days before meeting.
- .4 The Consultant shall incorporate mutually agreed variations to Contract Documents into Agreement, prior to sending the agreement to the parties for signing.
- .5 Agenda to include the following:
  - .1 Appointment of official representative of participants in the Work.
  - .2 Schedule of Work, progress scheduling.
  - .3 Shop drawings and schedule of shop drawing submissions.
  - .4 Requirements of temporary facilities, site signage, hoarding, dust protection, offices, storage sheds, utilities, fences.
  - .5 Delivery schedule of critical equipment.
  - .6 Site security.
  - .7 Contemplated change orders, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements (GC).
  - .8 Take-over procedures, acceptance, warranties.
  - .9 Monthly progress claims, administrative procedures, holdbacks (GC).
  - .10 Appointment of inspection and testing agencies or firms.
  - .11 Insurances, transcript of policies (GC).

## **1.26 PROGRESS MEETING**

- .1 During course of Work the Consultant or the Contractor shall schedule progress meetings every two weeks. Further progress meetings may be scheduled by the Consultant, Contractor, or Owner as required to expedite the Work.
- .2 The Consultant, Contractor, major Subcontractors involved in the Work, and Owner when required, are to be in attendance.
- .3 The Consultant shall notify parties minimum three (3) days prior to scheduled meetings of any changes to time or place.
- .4 **Agenda to include the following:**
  - .1 Review, approval of minutes of previous meeting.
  - .2 Review of Work progress since previous meeting.
  - .3 Field observations, problems which impede construction schedule, conflicts.
  - .4 Progress, schedule, during succeeding work period.
  - .5 Corrective measures and procedures to regain projected schedule.
  - .6 Revisions to construction schedule.
  - .7 Review of off-site fabrication delivery schedules.
  - .8 Review submittal schedules; expedite as required.
  - .9 Maintenance of quality standards.
  - .10 Pending changes and substitutions, Notices of Proposed Change, Change Orders.
  - .11 Review proposed changes for effect on construction schedule and on completion date.
  - .12 Other business.

## **2.0 PRODUCTS**

Not applicable.



**3.0 EXECUTION**

Not applicable.

**END OF SECTION**

## **1.0 GENERAL**

### **1.1 SUBSTITUTION OF MATERIALS PRIOR TO BID CLOSING**

- .1 Where products or systems have been specified by trade name, no substitution will be allowed except where alternatives have been approved prior to bid closing.
- .2 Where a specified product or system is not available at the time of bid, the bidder must inform the Consultant in writing so that they may advise all bidders of proposed changes. In the event that the Bidder fails to do so, the Consultant will choose a substitute product suitable for the application at the time of construction.

### **1.2 REQUEST FOR APPROVAL OF ALTERNATIVES**

- .1 Contractors and suppliers of products or systems that have not been specified may apply for approval of their product or system as an "alternative". Only bidding contractors may submit requests for approval of an alternative product or system.
- .2 Requests for approval must reach the Consultant at least seven (7) working days prior to the bid closing. The Consultant will advise applicants of the status of their request three (3) working days prior to bid closing.
- .3 Request for approval shall include sufficient information for the Consultant to satisfactorily review the alternative. This may include the following:
  - .1 Project name and number.
  - .2 Specification sections to which the product or system applies.
  - .3 Description of proposed substitution, including manufacturer's material specifications, manufacturer's preparation and application requirements and manufacturer's warranties.
  - .4 Sample of product indicating surface finish and material thickness to be applied under this Contract.
  - .5 Installation history of proposed alternative including:
    - .1 projects and locations
    - .2 approximate value of contract
    - .3 approximate size of projects
    - .4 number of years in use
    - .5 type of usage
    - .6 name of owner and consultant involved.
- .4 When submitting alternatives to specified materials or equipment, Bidders shall include in their Bid any changes in the Work required to accommodate the alternatives. A later claim for an addition to the Contract Price due to changes in the Work that are necessitated by the use of the alternatives will not be considered.

### **1.3 APPROVAL OF ALTERNATIVES**

- .1 An addendum will be issued prior to bid closing if an alternative is approved. No alternative materials or equipment will be considered after bid closing.
- .2 Products or systems that have been approved as alternatives may be substituted for specified products and systems as outlined in the addendum.
- .3 When substitution of any proposed alternative into the work -- either in whole or in part -- affects other parts of the work, the Contractor shall assume full responsibility and bear the associated costs. The Contractor will also be responsible for paying for any drawing changes required as a result of the substitution.
- .4 Cost savings arising from approved alternative products or systems are to be credited to the Contract and the Contract Price will be adjusted accordingly.
- .5 The Consultant reserves the right to reject any or all requests for approval.
- .6 No substitutions will be permitted without the approval of the Consultant in the form of an addendum.

### **2.0 PRODUCTS**

Not applicable.

### **3.0 EXECUTION**

Not applicable.

**END OF SECTION**

## **1.0 GENERAL**

### **1.1 WARRANTY/ GUARANTY PERIOD**

- .1 Provide a five (5) year minimum warranty for all Work of the Contract.

## **2.0 PRODUCTS**

Not applicable.

## **3.0 EXECUTION**

### **3.1 REMEDIAL WORK UNDER GUARANTY/WARRANTY**

- .1 Perform any required warranty repair work for the duration of the warranty period at no extra cost.
- .2 Notice will be provided to the Contractor during the warranty period within thirty (30) days of the discovery of any defect in the Work. The Contractor shall take necessary steps to protect the area against further damage immediately upon receipt of notice and shall take corrective action to make good any damage incurred. The Contractor shall schedule repair work with the Owner and shall make every attempt to make good the defects within three (3) weeks of notice.
- .3 Remedy is to be at no cost to the Owner and is to include all labour, material, equipment, and supervision necessary to make good defective areas of the Work and any damages incurred to obtain access to defective areas.
- .4 The Contractor must reimburse the Owner for any resulting assessment costs incurred to define the extent of the defect and for costs incurred to test the repaired defect to confirm acceptability of repairs.
- .5 The Contractor must reimburse the Owner for all associated costs incurred due to closure of the areas requiring repair under warranty.
- .6 Warranty periods for areas requiring repair are to be extended by the amount of time lapsed between issuance of notice and completion of remedial work. The warranty/ guaranty period will then re-commence upon completion of the remedial work.
- .7 Warranties are not to be deemed to restrict any liability of the Contractor arising out of any applicable law.

**END OF SECTION**

## **1.0 GENERAL**

### **1.1 WORK INCLUDED**

- .1 Installation of dust protection around the Work as indicated on drawings.
- .2 Provide all labour, material, equipment and supervision required to remove and dispose of all material and debris resulting from the scope of work as outlined in these specifications and on the drawings.

## **2.0 PRODUCTS**

Not applicable.

## **3.0 EXECUTION**

### **3.1 INSPECTION**

- .1 Visit and examine the site and note all characteristics and features affecting the Work of this Section.
- .2 Ensure all services, whether buried; built-in or exposed are properly identified as to position, type of service, size, direction of flow.
- .3 Inspect materials, equipment, components to be re-used or turned over to the Owner. Note their condition and advise the Consultant in writing of any defects or conditions which would affect their removal and re-use.

### **3.2 PREPARATION**

- .1 Prevent movement, settlement or damage of elements of the existing building which are to remain. Provide bracing, shoring and supports as required. Protect existing surfaces not to be restored from damage during concrete removal procedures.
- .2 Cut and/or cap existing services within the work area, if any, prior to start of Work as required, but do not affect the services of areas not under construction or essential to the ongoing operation of the building.
- .3 In all cases, exercise all reasonable care during removal operations to avoid damaging items to be salvaged, re-used, or items that are not part of the Scope of Work.

- .4 Seal off all work areas to prevent dust and debris from affecting other areas outside of work area. Prevent public access to areas being repaired.
- .5 Tape and/ or seal and provide protection to all mechanical and electrical services and all fire alarm and security devices still functioning adjacent to the work areas to prevent damage resulting from dust, water, or impact.
- .6 Cover floor drains as required to prevent concrete, abrasive blasting debris or any other material from entering the drains. Ensure that all drains continue to operate as required during construction.
- .7 Remove or protect in place all surface mounted or permanent fixtures not to be demolished from damage during demolition procedure.
- .8 Apply filter cloth to all exhaust and ventilation vents within work area to prevent dust generated by the construction activity from escaping.
  - .1 Contractor shall clean, or replace filter cloth if the filter cloth becomes unsuitably dirty as determined by Consultant.
- .9 Provide proposed demolition sequence to the Consultant for review prior to commencing work.
- .10 Provide temporary lighting and ventilation as required to work areas. Owner shall provide 110 volt, 220 amp. service to work area for Contractor's use.
- .11 Provide temporary lateral bracing for walls, foundation walls and columns as indicated on drawings prior to slab demolition.
  - .1 This bracing is to be left in place until the completion of each phase of slab replacement.
- .12 Submit details of proposed bracing to the Consultant for review prior to commencing work.
  - .1 Details to be designed and stamped by Registered Professional Engineer in the Province of British Columbia.

### **3.3 DEMOLITION**

- .1 Remove and dispose of material and debris resulting from the opening for the new door and frame, to be cut into the exterior wall at northwest corner of building, at boiler room.

- .2 Remove existing mechanical and electrical services associated with the areas of the wall to be demolished. The removal of these services is to be accomplished prior to the commencement of the demolition work outlined in the Contract Documents.
- .3 The opening in the concrete wall shall be removed by sawcutting techniques.
- .4 Demolition procedures and equipment shall meet all applicable noise-control by-laws and regulations of the location of the work.
- .5 Provide shoring to support the wall when removals reduce its load-carrying capacity, as directed by the Consultant. No payment will be made for such shoring as it is to be included in the cost of repair as outlined in these documents.
- .6 The Contractor is to take care not to damage the surface of sound concrete and split face veneer block around the new door opening, which is to remain through their removal operation. Where any such damage is done to sound material, it is to be repaired by the Contractor at his own expense to the approval of the Consultant.
- .7 Where new concrete is to be applied to existing concrete, the surface is to be left clean and sound.
- .8 All required re-painting due to damage, overspray, etc. is the Contractor's responsibility.
- .9 At end of each day's work, leave work in safe condition so that no part is in danger of causing injury or damage.

### **3.4 WASTE DISPOSAL**

- .1 Disposal of waste products and material is to be in strict accordance with the product manufacturer's material safety data sheets and in accordance with the governing waste control regulations.
- .2 The existing drainage system is not to be used to dispose of project wastes and / or materials
- .3 Store volatile wastes or material in covered metal containers. All wastes which create hazardous conditions must be removed from the premises daily.

**END OF SECTION**

## **1.0 GENERAL**

### **1.1 WORK INCLUDED**

- .1 Furnish all labour, materials, equipment, and services required for the design, fabrication, supply and installation of insulated steel doors and pressed steel frames as shown on the drawings and as specified. Furnishment to include, but not be limited to the following:
  - .1 Exterior door and frame, including weatherstripping and threshold.
  - .2 All necessary reinforcing members, brackets, anchors, fasteners and other accessories as required to meet the structural requirements of the installation and specifications in this section.
  - .3 Shop applied primer and finish painting of all door parts.
  - .4 All perimeter closures, membranes, sealants, flashings, and trim required to integrate the door assemblies with other cladding and finishing materials, and to ensure continuity of the air/vapour/moisture seal of the building envelope.
  - .5 Assessment of the alignment of the existing façade elements as required to allow design and layout of the work in this section.
  - .6 All fastening of the door assemblies to the rough openings.

### **1.2 REFERENCE STANDARDS (Most recent version unless noted otherwise)**

- .1 ASTM A525M – General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process (Metric).
- .2 ASTM A526 – Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality.
- .3 ASTM A527 – Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Lock-Forming Quality.
- .4 ASTM A568 – General Requirements for Steel, Sheet, Carbon, and High Strength, Low-Alloy, Hot-Rolled and Cold-Rolled.
- .5 Canadian Steel Door and Frame Manufacturers Association (CSDFMA).
- .6 CAN/CGSB 82.5, Insulated Steel Doors.
- .7 CAN/CSA-G40.21, Structural Quality steel.



- .8 CAN/CGSB-51.20, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- .10 NFPA No.80 – Fire Doors and Windows

### **1.3 DESIGN AND PERFORMANCE REQUIREMENTS**

- .1 This is a performance specification issued in conjunction with the drawings for the work. The drawings show the general arrangement of the finished work and these specifications describe the minimum requirements of the finished system. The Contractor is responsible for designing and furnishing a system that will fulfill the requirements of the specifications and drawings including items which may not be shown or specified but are required for performance of the system.
- .2 Materials, fabrications, attachments, accessories, assembly and performance, other than thermal performance, shall meet or exceed applicable requirements as specified herein.
- .3 Labels and trademarks, including applied labels, shall not be visible on the finished work.
- .4 The system shall be fabricated and installed square, level and plumb as follows:
  - .1 Plumb to within 3 mm of vertical over the height of each unit.
  - .2 Within 3.0 mm of level relative to a datum established for frames at the same floor.
  - .3 Within 1.5 mm of level relative to an adjacent frame.
  - .4 Each frame shall be within 3.0 mm of square when measured across the diagonals.
  - .5 Clearances required for installation should be considered and indicated on the shop drawings.
  - .6 All movements of the window system shall be noiseless.
- .5 Weather Tightness
  - .1 Air Infiltration – Air infiltration around edges of door panels shall not exceed  $11.6 \times 10^{-3}$  m<sup>3</sup>/s for each metre of crack length when tested in accordance with ASTM E283, at a static air pressure of 75Pa.
  - .2 Water Resistance – No water shall pass the interior face of the door unit when tested in accordance with ASTM E331, except that the air pressure differential shall be zero and the test duration shall be 5 minutes.

.6 Durability

- .1 The doors, frames and integral seals shall be designed to have an expected service life of 10 years. All seals, gaskets, corrosion protection, coatings and attachments are expected to be serviceable at the end of this service period.

**1.6 PERFORMANCE VERIFICATION TESTING**

.1 General Performance Testing Requirements

- .1 Performance testing is to be conducted in accordance with CAN/CGSB-82.5-M88 standards by an Independent Testing Agency designated by the Consultant.
- .2 All pre-delivery and in situ testing, except for re-testing, shall be paid for directly by the Owner.
- .3 All coordination with the Testing Agency shall be the responsibility of the Contractor. Contractor to ensure adequate notice is provided to all parties prior to scheduling testing.
- .4 Testing Agency will distribute written results of all tests within three days of completing testing.

**1.7 QUALITY ASSURANCE**

- .1 Conform to requirements of Canadian Steel Door and Frame Manufacturers Association standard.
- .4 Manufacturer, fabricator and installation contractor to be a member in good standing of GCABC and have a minimum of 5 years uninterrupted experience in successfully carrying out projects of similar size and shall employ suitable qualified tradespersons with at least five (5) consecutive years experience in this type of work. Contractor to document past experience on request.
- .5 Contractor to ensure all safety hardware and operable hardware is functioning upon temporary and final installation.
- .6 Fire rated frame construction to conform to CAN4 S105-M.
- .7 Installed frame and door assembly to conform to NFPA No.80 for fire rated class indicated on drawings.

**1.8 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials so as to avoid damage, following the

recommendations contained in AAMA publication CW-10, “Care and Handling of Architectural Aluminum from Shop to Site”.

- .2 All delivered products shall be stored on site in a safe and secure location that is inaccessible to residents or general public.
- .3 Stack frames vertically on edge so that water cannot accumulate on or within materials. Use wood, cork, or plastic shims between components to provide for water drainage and air circulation.
- .4 All hardware shall be installed prior to temporary and final installation.

### **1.9 PROTECTION**

- .1 Take all precautions necessary to protect materials, before and after installation, from lime, mortar, water run-off from concrete or copper, careless handling of tools, weld spatter, acids, roofing components, solvents, abrasive cleaners, and other items that could damage the aluminum finishes. Do not rely on protective plastic films to protect materials.
- .2 Protect work of other trades as necessary from damage resulting from work of this section. Damage caused by this contractor shall be corrected and made good at no expense to the Owner.

### **1.10 SITE CONDITIONS**

- .1 Inspect, measure and survey all areas affecting work before commencement of installation. Surfaces that are considered not acceptable to receive the work of this section must be reported to the general contractor/project manager. The commencement of work shall imply the acceptances of previous construction.
- .2 Do not install any aluminum work until all nearby welding, grinding, sandblasting, waterproofing, mortar work and acid etching are complete.
- .3 Apply sealants and other materials affected by temperature, humidity and weather in general, at a time that is recommended by the manufacturer of these components.

### **1.11 SCHEDULING/COORDINATION**

- .1 Co-ordinate with Sub-contractors of adjoining trades during preparation of shop drawings and field installation. The continuity of all air/vapour seals at areas of adjoining trades must be ensured.

### **1.12 WARRANTY**

- .1 Work included in this section to be free of defects and deficiencies in materials and workmanship, and continue to perform satisfactorily for a period of [two years] from

certified date of Substantial Performance of the Work.

- .1 Satisfactory performance means compliance with the performance criteria and the testing and construction standards of this specification, and with the reviewed shop drawings. This includes the performance of finishes, hardware, structural attachment, air, vapour and water seals, sealants and flashings.
- .2 Correct all deficiencies that appear during the warranty period, including removal and replacement of failed sealed insulating units, at no cost to the Owner.
- .2 Obtain, on behalf of the Owner, copies of standard product warranties in excess of one year, from the respective manufacturers.
- .3 All on site modifications to window assemblies are to be in accordance and shall have written approval from the Manufacturer and shall not compromise specified Warranties.

## **2.0 PRODUCTS**

### **2.1 MATERIALS**

- .1 Sheet Steel: 18 gauge galvanized steel, cold rolled galvanized steel conforming to ASTM A 525M. Paint film thickness is in addition to the preceding minimum total thickness value.
- .2 Core: Expanded polystyrene to CAN/CGSB-51.20, density 16 to 32 kg/m.
- .3 Fasteners: As specified by door manufacturer.
- .4 Primer: baked-on enamel coating, to CAN/CGSB-1.132M (for galvanized material).
- .5 Finish: Baked enamel.
- .6 Exterior Frame: Steel frames, 16 gauge thick material, core thickness appropriate to grade and model of door.
- .7 Weatherstripping: Weatherstrip shall be of a material that is resistant to deterioration by weathering and aging and shall be compatible with associated materials. Open cell plastic foam shall not be used. Surface-applied, glued-on weatherstrip is not acceptable. Flexible vinyl weatherstrip shall conform to CGSB 41-GP-20M. Weatherstrip shall be mechanically secured in position and shall be replaceable without the aid of tools specially designed for this purpose.
- .8 Thresholds: extruded aluminum x width door opening.

## **2.2 DOOR TYPE AND CLASSIFICATION**

- .1 Swing Type: Include all framing and hardware.
- .2 Approved manufacturer: Shanahan's.
- .3 Steel doors shall be to manufacturer's standard.

## **2.3 HARDWARE**

- .1 Exposed Hardware Components: metal, in finish to match existing. Door and frames shall be fully prepared for locks and strikes in conformance with ANSI A 115.
- .2 Hardware exposed to exterior environment with sash in closed and open positions shall be corrosion-resistant.
- .3 Hardware shall be screw attached. Supply two minimum 63mm number 10 screws for each hinge and strike plate to be used at the time of installation.
- .4 Locks: each door shall have one passage set and one dead bolt latch from interior only.
- .5 Hardware Reinforcement: NAAMM CHM-1-74.

## **2.4 FABRICATION AND MANUFACTURE**

- .1 Workmanship: All work shall be performed by skilled workmen, especially trained and experienced in the applicable trades employed and in full conformity with applicable provisions of the listed references and standards and/or as specified herein. Work shall be carefully fabricated and assembled with proper and approved provisions for thermal expansion and contraction, fabrication and installation tolerances and adjoining building component tolerances and design criteria. All forming, welding and cutting operations shall be done prior to finishing.

All work shall be true to detail with sharp, clean profiles, straight and free from defects, dents, marks, indentations, waves or flaws of any nature impairing strength or appearance; fitted with proper joints and intersections and with specified finishes. All members shall be extruded unless otherwise indicated on the drawings and shall be securely engaged into adjacent components. Extrusions shall be toleranced to eliminate any edge projection or misalignment at joints.

Expansion joints within framing shall be so designed and constructed to provide noiseless and free movement, and be and remain, permanently watertight.

No field forming, cutting and/or alteration of framing members will be allowed. All framing members will be shop fabricated and finished. No unfinished surfaces will be

permitted on exposed surfaces.

- .2 Protection of Metals: Provide suitable protecting against galvanic action wherever dissimilar metals are in contact, as applicable.
- .3 Joints in Metal Work: All exposed work shall be carefully matched to produce continuity of line, design and finish. Joints in exposed work, unless otherwise required, shall be accurately fitted, rigidly secured with contact tolerance less than 1mm and sealed watertight. Where two or more sections of metal are used in building up members, the surface in contact shall be brought to a smooth, true and even surface and secured together so that the joints shall be absolutely tight without the use of any pointing materials.
- .4 Shop Assembly: wherever practicable, all fitting and assembly of the work shall be done in the shop. Work that cannot be permanently shop assembled shall be temporarily assembled in the shop and marked before disassembly and shipping.
- .5 Fasteners: All fasteners, connectors, anchors including washers and accessory items shall be scheduled and designated by the door manufacturer.
- .6 Welding of Steel to Conform to CSA W59-M84: Welders to be fully approved by the CWB and comply with CSA W47.1-83, Division 3.

### **3.0 EXECUTION**

#### **3.1 CO-ORDINATION**

- .1 Verify all measurements and dimensions of supporting structure by field measurement. Co-ordinate the installation of anchors and fixings with the appropriate trade as well as the sealing between work of this section and other sections.

#### **3.2 ERECTION**

- .1 All vertical members shall be plumb, all horizontal members shall be level; all sections shall be set in perfect alignment throughout and be securely and rigidly fastened in place.
- .2 Accurately fit and frame components carefully to produce continuity of line and design. Provide flush and tightly fitted joints and connections.
- .3 Hang doors, matching to proper frames, and using hardware scheduled.
- .4 Shim butts as required using metal shims to provide correct clearance, fit and operation. Shims by door manufacturer.

- .5 Adjust as required for correct and free operation.
- .6 Clearance between door and frame shall not exceed 3.18mm (1/8”).

### **3.3 ANCHORS AND SUPPORTS**

- .1 Install all anchor bracket assemblies, anchor brackets, anchor straps, shims, stud bolts, nuts, washers, splice plates, bracing, etc. as required to be attached to and/or built into building frame as required for support of the door assembly.

### **3.4 CLOSURES, FLASHINGS AND TRIM**

- .1 Furnish and install closures, flashings and trim required in connection with door system required to make the work watertight, whether or not such flashings are indicated on the drawings or details.
- .2 Flashings and closures shall be formed to suit the various conditions as detailed and as required.
- .3 Metal shall be supplied as long as practicable in order to provide the minimum number of joints.

### **3.5 GASKETS**

- .1 Install all gaskets, tapes, weatherstripping and sealants as required to provide watertight, weathertight and airtight joints.
- .2 Joints and spaces to be sealed shall be thoroughly cleaned of foreign matter and be thoroughly dry before applying gaskets or sealants.

### **3.6 ADJUST AND CLEAN**

- .1 Upon completion of the work of this section, remove protective coverings and paper labels from exposed surfaces and clean surfaces of all dust, smears, marks and discoloration. Cleaning shall be in accordance with applicable provisions of listed standards and the requirements of the manufacturer.

**END OF SECTION**