



Invitation to Tender No. 21-037 Oceanside Place Evaporator Condenser Replacement Project

The Regional District of Nanaimo, hereinafter referred to as the "Regional District", invites Tenders for the Oceanside Place Evaporator Condenser Replacement Project. The work is requested to be completed by July 22, 2021.

- SCOPE:** Brief description of the project:
- a) Remove and legally dispose of existing equipment
 - b) Supply and install new equipment
 - c) Commission and troubleshoot as required.

Tender documents may be downloaded directly from the Regional District of Nanaimo website at www.rdn.bc.ca or the BC Bid website at www.bcbid.gov.bc.ca

All enquiries related to this Tender are to be directed in writing to, Tyler Parkin of Polar Engineering at tyler@polareng.ca.

Tenders must be submitted **via email only** and received on or before 3:00 p.m. local time on May 12, 2021 (the "Bid Closing") with the subject line "21-037 Condenser Replacement" at the only acceptable email address of jmarcellus@rdn.bc.ca

Bidders must supply with their Tenders a verifiable digital Bid Bond (e-bond) in an amount not less than 10% of the total contract value and a verifiable digital Consent of Surety as defined by the Surety Association of Canada. Scanned copies are not acceptable.

<https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx>

The successful contractor will have to provide a Performance Bond and a Labour & Material Payment Bond each in the amount of 50% of the total contract price.

There will be a non-mandatory site visit on **April 30, 2021, at 10:00 a.m., meeting outside the front entrance at Oceanside Place 830 Island Hwy W, Parksville, BC**. All persons in attendance must bring their own personal protection equipment (i.e., steel toe footwear, high visibility vest and COVID mask).

Tenders will not be opened in public. Unverified bid results will be posted on the Regional District of Nanaimo and BC Bid websites by 10:00 a.m. the business day following the Tender Closing.

This procurement is subject to Chapter 5 of the Canadian Free Trade Agreement. The Regional District's language in its procurement documents shall be English.



Regional District of Nanaimo

Invitation to Tender No. 21-037

Oceanside Place Evaporator Condenser Replacement

Date: April 23, 2021

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PART 1 INVITATION**1.1 INVITATION TO TENDER**

The Regional District of Nanaimo (the “Regional District”) invites tenders for the Oceanside Place Evaporator Condenser Replacement Project.

1.2 DESCRIPTION OF WORK

Oceanside Place is requesting tenders for upgrading their existing mechanical system and completing the following work:

- Remove and legally dispose of existing equipment
- Supply and install new equipment
- Commission and troubleshoot as required.

1.3 TENDER SUBMISSION

1.3.1 Tenders must be submitted **via email only** and received on or before 3:00 p.m. local time on May 12, 2021 (the “Bid Closing”) with the subject line “21-037 Condenser Replacement” at the only acceptable email address of jmarcellus@rdn.bc.ca

1.3.2 The time of Tender Closing shall be established by the time shown on the clock used for that purpose.

1.3.3 Tenders received after the Tender Closing will not be considered by the Regional District.

1.3.4 The submission of a Tender constitutes the agreement of the Tenderer to be solely responsible for all costs and expenses incurred by it in preparing and submitting its Tender, including any costs incurred by the Tenderer after the Tender Closing.

PART 2 TENDER DOCUMENTS

2.1 Documents may be viewed and obtained directly from the Regional District of Nanaimo website at www.rdn.bc.ca or the BC Bid website at www.bcbid.gov.bc.ca

PART 3 PRE-TENDER ENQUIRIES AND ADDENDA

3.1 Enquiries should be addressed to:

All enquiries related to this Tender are to be directed in writing to, Tyler Parkin of Polar Engineering at tyler@polareng.ca.

Please Note: The Project Manager named above is the only valid contact for enquiries. No explanation, interpretation, or clarification of the Tender Documents by any other person whatsoever shall bind the Regional District in the interpretation of the Tender Documents.

- 3.2 Any requests for explanations, interpretations or clarifications made by Tenderers should be submitted in writing to the Regional District at least five (5) calendar Days before Tender Closing.
- 3.3 If the Regional District, in the Regional District's sole discretion, determines that a clarification, addition, deletion or revision of the Tender Documents is required then the Regional District will issue a written addendum. Notice of the issuance of a written addendum, and the issued written addendum, will be posted on the Regional District of Nanaimo website www.rdn.bc.ca and the BC Bid website www.bcbid.gov.bc.ca. It is the sole responsibility of all prospective Tenderers to check for any addenda prior to submitting their Tender.
- 3.4 All Addenda issued by the Regional District shall be incorporated into and become part of the Tender Documents.
- 3.5 If a Tenderer finds any errors, omissions, or discrepancies in the Tender Documents, it shall immediately notify the Project Manager in writing.
- 3.6 No oral explanation, interpretation, or clarification of the Tender Documents by any person whatsoever shall bind the Regional District in the interpretation of the Tender Documents.
- 3.7 There will be a non-mandatory site visit on April 30, 2021, at 10:00 a.m., meeting outside the front entrance at Oceanside Place 830 Island Hwy W, Parksville, BC. All persons in attendance must bring their own personal protection equipment (i.e., steel toe footwear, high visibility vest and COVID mask).

PART 4 INSPECTION OF SITE

- 4.1 It is the responsibility of the Tenderer to examine the Work Site before submitting a Tender. It is the Tenderer's responsibility to be familiar with and allow for all site conditions which might affect the Work and the Tender. The Regional District will not grant, and the Tenderer will not be entitled to any additional payments or extensions of time due to site conditions which were or would have been reasonably foreseeable upon a proper inspection of the Work Site by the Tenderer.
- 4.2 The submission of a Tender by the Tenderer shall be deemed to be an acknowledgement that the Tenderer has relied and is relying on its own examination of the Work Site, and all other matters related to the completion of Work.

- 4.3 The Tenderer shall comply with all applicable regulations of the Workers' Compensation Board of British Columbia and the Regional District's corporate safety policies and regulations while attending the Work Site.

PART 5 COMPLETION OF TENDER DOCUMENTS

- 5.1 The Tenderer should complete the Tender Form in ink or in type.
- 5.2 All prices are to be in Canadian currency. Prices shall include all necessary costs including but not limited to supply, fabrication and finishing, conveyance and delivery to the Work Site, packing, crating, freight, cartage, shipping charges, unloading, installation, overhead, profit and all tariffs, duties, and taxes (excluding GST) unless otherwise indicated, including British Columbia Provincial Sales Tax. The applicable Federal Goods and Services Tax shall be shown as a separate item in the Tender Price.

PART 6 BID SECURITY

- 6.1 The Tenderer shall submit, with its Tender, **a verifiable digital Bid Bond (e-bond) in an amount not less than 10% of the total contract value and a verifiable digital Consent of Surety as defined by the Surety Association of Canada. Scanned copies are not acceptable.** <https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx>
- 6.2 The Regional District will retain the Bid Bond of the successful Tenderer until:
- (1) the successful Tenderer has executed the Agreement;
 - (2) the successful Tenderer has provided all bonding and documentation in accordance with Section 00100, Clauses 15.2 and 15.3.
- 6.3 All bonds and documentation required by Section 00100, Part 6 shall be issued by a company licensed to transact business in the Province of British Columbia. **All required bonds and documentation must be digital and verifiable; photocopies and facsimiles, including those under seal, are not acceptable and may result in the rejection of the Tender.**

PART 7 BID RIGGING

- 7.1 The Tenderer's attention is directed to the Competition Act which provides that bid-rigging as defined in the Act is an indictable offence punishable upon conviction by a fine or imprisonment or both.

PART 8 SOLICITATION

- 8.1 The Tenderer may not make any representations or solicitations to any director, officer, or employee of the Regional District with respect to the Tender either before or after submission of the Tender except as provided herein. If any director, officer, employee,

agent sub-contractor, supplier or other representative of the Tenderer communicates with any director, officer or employee of the Regional District or any consultant engaged by the Regional District in connection with this Invitation to Tender about this Invitation to Tender, other than the person named under Part 3 – Pre-Tender Enquiries and Addenda, the Regional District shall have the unfettered right, regardless of the nature of the communication, to reject the Tender submitted by the Tenderer.

PART 9 CONDITIONS OF TENDER

9.1 Tenders which contain qualifying conditions or otherwise fail to conform to the requirements of the Tender Documents may be disqualified or rejected. The Regional District may, however, in its sole discretion, reject or retain for its consideration Tenders which are non-conforming because they do not contain the content or form required by the Tender Documents or for failure to comply with the process for submission set out in this Section 00100.

PART 10 SUBMISSION OF TENDER

10.1 The Tenderer shall submit to the Regional District the following completed and executed documentation.

(1) Tenders will be received via email at the only acceptable email address of imarcellus@rdn.bc.ca on or before 3:00 p.m. local time on the 12th day of May, 2021 (the “Tender Closing”).

(2) A **verifiable digital Bid Bond (e-bond)** in an amount not less than 10% of the total contract value and a **verifiable digital Consent of Surety** as defined by the Surety Association of Canada. Scanned copies are not acceptable.
<https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx>

10.2 It is solely the responsibility of the Tenderer to ensure that it has obtained, prior to the Tender Closing, all Addenda issued by the Regional District.

10.3 The Regional District will not accept an amendment to a previously submitted Tender unless:

(1) it is in writing.

(2) it is received as set out in Section 00100, Clause 10.1 (1), prior to the Tender Closing via email.

(3) it indicates a change to a Tender already submitted; and

(4) it is signed by the person or persons who signed the original Tender.

- 10.4 Tenderers shall be solely responsible for the completion and delivery of Tenders and any amendments in the manner and time specified by Section 00100, Part 10. No extension of the Tender Closing will be given to accommodate Tenderers or amendments to Tenders that do not comply with the requirements of Section 00100, Part 10.

PART 11 VARIATION TO TENDER DOCUMENT

- 11.1 If the Tenderer wishes to propose any variations to the specifications and/or terms and conditions, it should submit the proposed variations to the contact person for enquiries as identified in Section 00100, Clause 3.1 at least seven (7) calendar Days before the Tender Closing, otherwise the variations may not be considered by the Regional District. The acceptability of any such variations will be at the Regional District's sole and unfettered discretion.
- 11.2 Requested variations should be submitted in sufficient detail to facilitate evaluation by the Regional District.
- 11.3 Approved variations will be incorporated in the specifications and/or terms and conditions by the issuance of Addenda posted on the RDN website and BC Bid website.
- 11.4 Unless otherwise expressly stated in the Tender, the Tenderer agrees to accept without reservation or amendment, the whole of the specifications and Tender Documents.
- 11.5 Variations to the specifications not submitted in accordance with 11.1 above will only be considered if they are: (a) submitted by the otherwise wholly compliant and lowest bidder; (b) in sufficient detail and in the same format as the original specification, including cost implications, to facilitate evaluation by the Regional District; and (c) acceptable to the Regional District. Variations to the specifications not submitted in accordance with 11.1 and not in accordance with (a), (b) and (c) above will not be considered.
- 11.6 If the Regional District stipulates a completion date herein, and the Tenderer is unable to commit to this date, the Tenderer may submit a Tender stating the Tenderer's best possible completion date (Section 00200 Schedule 3 - Tenderer's Proposed Construction Schedule). The acceptability of such completion date will be at the Regional District's sole and unfettered discretion and may be justification for rejecting the Tender.

PART 12 IRREVOCABILITY OF OFFER

- 12.1 The Tender submitted by the Tenderer shall be irrevocable and remain open for acceptance by the Regional District for a period of 60 Days from the Tender Closing, whether another Tender has been accepted or not. If at any time after 60 Days from the Tender Closing, the Tenderer has not revoked its Tender in writing, the Regional District may accept the Tender.

12.2 If a Tenderer, for any reason whatsoever, purports to revoke its Tender within 60 Days from the Tender Closing, or if for any reason whatsoever a successful Tenderer does not execute and deliver the Agreement in accordance with Section 00100, Clause 15.1, the Regional District, without limiting any other remedy it may have under the Tender Documents or otherwise, shall be entitled to:

- (1) exercise its rights under any Bid Bond and retain the amount payable to the Regional District under the Bid Bond as liquidated damages; or
- (2) require the Tenderer to pay to the Regional District an amount equal to the difference between the Tender price of its Tender and any other Tender which is accepted by the Regional District, if such other Tender is for a greater price, plus the total of all costs, expenses, and damages, including legal fees on a solicitor and own client basis, incurred by the Regional District because of or related to such revocation or failure by the Tenderer.

PART 13 TENDER OPENING

13.1 **Tenders will not be opened in public.** The Regional District of Nanaimo will endeavour to post the unevaluated results of the Tender opening on the Regional District of Nanaimo and BC Bid websites by 10:00 a.m. the business day following the Tender Closing. All inquiries regarding Tender results will be referred to that site. Similarly, the award of the contract will be published on the Regional District of Nanaimo and the BC Bid websites. The Regional District of Nanaimo wishes to thank all Tenderers for their effort in responding to this bidding opportunity.

PART 14 ACCEPTANCE AND REJECTION OF TENDERS

14.1 Notwithstanding any other provision in the Tender Documents, any practice or custom in the construction industry, or the procedures and guidelines recommended for use on publicly funded construction projects, the Regional District, in its sole discretion, shall have the unfettered right to:

- (1) accept any Tender;
- (2) reject any Tender;
- (3) reject all Tenders;
- (4) accept a Tender which is not the lowest Tender;
- (5) reject a Tender even if it is the only Tender received by the Regional District;
- (6) accept all or any part of a Tender; and
- (7) award all or a portion of the Work to any Tenderer.

14.2 If a Tender contains a defect or fails in some way to comply with the requirements of the Tender Documents, which in the sole and unfettered discretion of the Regional

District is not material, the Regional District may waive the defect and accept the Tender.

- 14.3 Awards shall be made on Tenders that will, in the opinion of the Regional District, give the greatest value based on quality, service and price. In determining what constitutes greatest value, the Regional District may consider its previous experience with the Tenderer. Without limiting the generality of the foregoing, the Regional District may consider: the quality of work; the timeliness of completion; the number, scope, and reasonableness of requested change orders; public impact; compliance with applicable health, safety, labour, and environmental laws; environmental and social practices; and the number and reasonableness of any claims. The Regional District's previous experience with the Tenderer with regard to its competence and cooperation may also be taken into consideration in determining greatest value. The Regional District reserves the right to rely upon its records, references, and recollections in this regard. The Regional District may also obtain references other than those provided by the Tenderer and may use these references in determining greatest value.
- 14.4 The Regional District, in its sole discretion, reserves the right to reject the Tender in the event the Regional District determines, acting reasonably on the information available to it, that the Tenderer is in material non-compliance with, or has been convicted of a material offence or violation of, health, safety, labour or environmental laws. The Regional District's judgment in this regard will be final.
- 14.5 The Regional District will notify the successful Tenderer in writing that its Tender has been accepted (the "Notice of Intent to Award").
- 14.6 No information about an award of a contract will be given out between the time of opening and the time an award has been made.

PART 15 SUCCESSFUL TENDERER REQUIREMENTS

- 15.1 The successful Tenderer shall execute and deliver the Agreement to the Regional District within ten (10) business days after it has received the Agreement from the Regional District unless otherwise extended by the Regional District.
- 15.2 The successful Tenderer shall submit to the Regional District of Nanaimo the following original documentation (facsimile or photocopy copies not acceptable) within seven (7) business days of the notification of the successful Tender unless otherwise extended by the Regional District under Section 00100, Clause 14.5:
- (1) A Performance Bond and a Labour and Material Payment Bond (the "Bonds") each of which shall equal fifty percent (50%) of the Contract Price, issued by a Surety licensed to transact the business of suretyship in the Province of British Columbia, in favour of the Regional District, signed and sealed by the successful Tenderer and the Tenderer's Surety. The form of Performance Bond and Labour

and Material Payment Bond shall be in a form acceptable to the Regional District. The Performance Bond shall encompass the Warranty and Guarantee period and shall, in any event, be in effect for no less than two (2) years from the date of issuance of the Notice of Acceptance.

- (2) A certificate of General Liability insurance pursuant to “CCDC 41 – CCDC Insurance Requirements” with the Regional District of Nanaimo named as additionally insured.
- (3) A Workers’ Compensation Board Clearance Letter of Clearance indicating good standing and remittance up to date.

15.3 The successful Tenderer shall not commence the Work until it has received a Notice to Proceed issued by the Regional District.

PART 16 AWARD OF CONTRACT

16.1 All contracts require the approval of the appropriate Regional District authority prior to award. Where a contract requires the approval of the Regional District’s Board prior to award, the total price of any Tender and the reason for selecting the successful Tenderer may be released at a regular meeting of the Regional District’s Board or a Committee of the Board.

16.2 Notwithstanding Clause 18.1(4) below, the Regional District reserves the right to release to the public the total price of any Tender, regardless of whether it was identified by the Tenderer as confidential. By submitting a Tender, each Tenderer consents to the release of the total price and, where applicable, information disclosable under the Act that is relevant to the selection of the successful Tenderer, to provide transparency in relation to expenditures of this type.

PART 17 FORM OF CONTRACT

17.1 The successful contractor will be expected to enter a CCDC2-2008 Stipulated Price Contract as amended herein in the “Supplementary Conditions” section 00500.

PART 18 CONFIDENTIALITY AND SECURITY

18.1 The following conditions apply:

- (1) The Tender Documents, or any portion thereof, may not be used for any purpose other than submission of Tenders; and
- (2) The successful Tenderer must agree not to divulge or release any information that has been given to it or acquired by it on a confidential basis during the course of carrying out the Work or performing its services.

- (3) It is the Regional District's policy to maintain confidentiality with respect to all confidential information related to the Tender, but the Tenderer acknowledges and agrees that the Tender becomes the property of the Regional District and any confidential information disclosed by it to the Regional District may be subject to a request for public disclosure under *the Freedom of Information and Protection of Privacy Act, R.S.B.C. 1996, c.165*, as amended from time to time (in this Clause and Clause 17.2, the "Act").
- (4) The Tenderer acknowledges that the Act provides an exemption from disclosure for information as specified in Section 21 of the Act. Accordingly, if any information supplied to the Regional District fits within Section 21 of the Act, the Tenderer must specifically advise the Regional District and request the Regional District not to disclose that information, however confidentiality cannot be guaranteed.

PART 19 DISCLAIMERS/LIMITATIONS OF LIABILITY

- 19.1 Neither acceptance of a Tender nor execution of an Agreement shall constitute approval of any activity or development contemplated in any Tender that requires any approval, permit, or license pursuant to any federal, provincial, regional district or municipal statute, regulation, or bylaw. It is the responsibility of the Contractor to obtain such prior commencement of the Work.
- 19.2 The Regional District, its directors, officers, servants, employees, agents, and consultants expressly disclaim all liability for representations, warranties, express or implied or contained in, or for omissions from this Tender or any written or oral information transmitted or made available at any time to a Tenderer by or on behalf of the Regional District. Nothing in this Tender is intended to relieve a Tenderer from forming its own opinions and conclusions in respect of this Tender.
- 19.3 Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, because of participating in this Invitation to Tender, and by submitting a Tender each Tenderer shall be deemed to have agreed that it has no claim.

PART 20 SUSTAINABLE PURCHASING PRACTICE

- 20.1 It is the Regional District's policy to ensure that procurement decisions for the supply of goods, services and construction consider economic considerations, as well as the Tenderer's environmental and social practices. The Regional District expects that each Tenderer has and will comply with internationally recognized labour conventions and recommendations of the International Labour Organization (ILO), of which Canada is a member, and any applicable legislation pertaining to workplace safety, health, labour and employment, human rights and the environment. In Canada this includes but is not

limited to the latest editions of the following: *Corruption of Foreign Public Officials Act* (Canada), *Human Rights Code* (BC), *Employment Standards Act*, *Workers Compensation Act* (BC), *Canadian Environmental Protection Act*, *Fisheries Act* (Canada), *Transportation of Dangerous Goods Act* (BC), *Transportation of Dangerous Goods Act*, (Canada), *Environmental Management Act* (BC).

PART 21 PRIME CONTRACTOR

21.1 The successful Contractor shall be deemed to be the Prime Contractor within the meaning of Part 3, Division 3, Section 118(1) of the Workers Compensation Act. The successful Contractor must be qualified and willing to assume this responsibility.

PART 22 LITIGATION CLAUSE

22.1 The RDN may, in its absolute discretion, reject a Tender submitted by a Tenderer, if the Tenderer, or any officer or director of the Tenderer is or has been engaged either directly or indirectly through another corporation in legal action against the RDN, its elected or appointed officers and employees in relation to:

- (a) any other contract for works or services; or
- (b) any matter arising from the RDN's exercise of its powers, duties, or functions under the Local Government Act, Community Charter, or another enactment within five years of the date of this Call for Proposals.

In determining whether to reject a Tender under this clause, the RDN will consider whether the litigation is likely to affect the Tenderer's ability to work with the RDN, its consultants and representatives and whether the RDN's experience with the Tenderer indicates that the RDN is likely to incur increased staff and legal costs in the administration of this Contract if it is awarded to the Tenderer.

PART 23 CONFLICT OF INTEREST

23.1 The Tenderer declares that it has no financial interest, directly or indirectly in the business of any third party that would be or be seen to be a conflict of interest in carrying out the services. It warrants that neither it nor any of its officers or directors, or any employee with authority to bind the Bidder, has any financial or personal relationship or affiliation with any elected official or employee of the Regional District or their immediate families which might in any way be seen by the Regional District to create a conflict.

PART 24 COLLUSION

24.1 The Tenderer shall not engage in collusion of any sort and shall ensure that no person or other legal entity, other than the bidder has an interest in the bidder's tender and

prepare the tender without any knowledge of, comparison of figures with, or arrangement with any other person or firm preparing a Tender for the same work.

PART 25 TENDER IRREGULARITIES

25.1 The Regional District may accept or waive a minor and inconsequential irregularity, or where practicable to do so, the Regional District may, as a condition of bid acceptance, request a Tenderer to correct a minor and inconsequential irregularity with no change in bid price. 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 Regional District's sole discretion.

PART 26 COVID – 19 PANDEMIC RESPONSE MITIGATION

26.1 The *Contractor* and the *Owner* acknowledge the presence of the COVID-19 virus in Canada and other jurisdictions forming part of the supply chain for materials and labour required for the Project (the "COVID-19 Pandemic").

26.2 **Known Impacts** – The consequences and impacts of the COVID-19 Pandemic existing as of the date of this Contract include, without restriction:

26.2.1 Orders, directives and recommendations of any government authority issued up to and including the date of this *Contract*, and respecting public health or other requirements related to response to and prevention of infection by the COVID-19 virus;

26.2.2 Impacts to availability of labour or materials required in order to carry out the Work, arising from the COVID-19 Pandemic;

26.2.3 The impacts of self-isolation/quarantine or regulated quarantine as ordered by the Province of British Columbia;

(the "**Known Impacts**"), and are known to the *Contractor* and to the *Owner*, and have been accounted for by the Contractor within the construction schedule, as well as the Contract Price.

END OF SECTION

PART 1 TENDERER'S NAME

This Tender for Tender No. 21-037 Oceanside Place Evaporator Condenser Replacement, is hereby submitted by:

Company Name of Tenderer (please print)

Address of Tenderer

Telephone Number of Tenderer

GST Registration Number

e-mail address of Tenderer

Authorized Signature

Date

Print Name

(the "Tenderer")

PART 2 TENDER DOCUMENTS

2.1 The Tender Documents for this Contract include the following:

- (1) Tender Form
- (2) Schedule 1 – Schedule of Prices
- (3) Schedule 2 – Tenderer's Experience
- (4) Schedule 3 – Tenderer's Proposed Construction Schedule
- (5) Schedule 4 – Force Account Rates
- (6) Verifiable Digital Bond (E-Bond)

(7) Verifiable Digital Consent of Surety

(8) Addenda

PART 3 TENDERER'S DECLARATIONS

- 3.1 The Tenderer declares that it has read and understood and agrees to be bound by the Tender Documents.
- 3.2 The Tenderer declares that it has fulfilled and complied with all those obligations and requirements under the Tender Documents which are required to be fulfilled by the Tender Closing.
- 3.3 The Tenderer confirms, represents, and warrants that all information which it has provided or will provide to the Regional District is true and accurate in every respect.
- 3.4 If the Tender is accepted by the Regional District, the Tenderer shall commence the Work within 7 calendar days of issuance of Notice to Proceed from the Regional District, unless the Notice to Proceed states otherwise.
- 3.5 The Tenderer agrees to be designated to be the Prime Contractor within the meaning of Part 3, Division 3, Section 118(1) of the Workers Compensation Act and is qualified and willing to assume this responsibility.

PART 4 SCHEDULES

- 4.1 The immediately following Schedules, namely:

Schedule 1 - Schedule of Prices

Schedule 2 - Tenderer's Experience

Schedule 3 - Tenderer's Proposed Construction Schedule

Schedule 4 – Force Account Rates

shall form part of the Tender Documents.

- 4.2 The information contained in the Schedules may be used by the Regional District to assess the Tenderer's ability to perform the Contract and may be considered by the Regional District in its decision to award the Contract.
- 4.3 All prices are to be shown in Canadian currency.

SCHEDULE 1 - QUANTITIES AND PRICES

- 4.4 The Tenderer hereby submits a lump sum price as required by the specifications and agrees that this price will be used for payment of work through approved Progress Payments. Any Extra Work will require a change order procedure. The Tenderer agrees that the prices quoted shall remain in force until the date of completion of the Contract.
- 4.5 The Tenderer confirms that the Tender Price includes all necessary costs including but not limited to supply, fabrication and finishing, conveyance and delivery to Site, packing, crating, freight, cartage, shipping charges, off-loading, installation, construction, drafting charges, labour, overhead, profit, etc. and all tariffs, duties and taxes unless otherwise indicated, including British Columbia Provincial Sales Tax. The applicable Federal Goods and Services Tax shall be shown as a separate item to the Tender Price.
- 4.6 The Tenderer shall, within 7 Days of receipt of notice from the Regional District, submit to the Regional District a full and complete breakdown of the Tender Price showing the value assigned to each part of the Work including an allowance for profit and overhead. In submitting the breakdown, the Tenderer shall certify that the value assigned to each part of the Work represents the estimate of the actual cost, including profit and overhead, of performing that part of the Work. The Tenderer agrees that the progress of the Work will be measured by the Regional District or its authorized representative, whose decision will be final.

SCHEDULE 1 - QUANTITIES AND PRICES...continued

LUMP SUM PRICING

DESCRIPTION	PRICE (\$)
STIPULATED LUMP SUM PRICE	
GOODS AND SERVICES TAX @ 5%	
TOTAL PRICE	

The TENDER PRICE stated above will be used to compare submitted Tenders and to establish low bidder. The Regional District reserves the right to check the above extensions and additions and to make corrections as necessary. In the event a correction is made by the Regional District the corrected figure shall prevail and be used as the Tender Price in the Tenderer's Offer.

SCHEDULE 2 - TENDERER'S EXPERIENCE

The successful contractor or team must be regularly engaged in the installation of ice rink refrigeration systems and energy recovery systems. The team should have completed three similar projects in the last 5 years. The following is a list of references that demonstrate the Tenderer's successful performance in comparable work during the previous five years. References should be similar in size, type and scope to the Work described in the Tender Documents.

1. Project Name: _____

Project Location: _____

Contract Sum: _____

Date Start: _____ Date Complete: _____

Owner Name: _____ Contact Ph. No.: _____

Project Engineer: _____ Contact Ph. No.: _____

Key Subcontractors Used: _____

2. Project Name: _____

Project Location: _____

Contract Sum: _____

Date Start: _____ Date Complete: _____

Owner Name: _____ Contact Ph. No.: _____

Project Engineer: _____ Contact Ph. No.: _____

Key Subcontractors Used: _____

SCHEDULE 2 - TENDERER'S EXPERIENCE...continued

3. Project Name: _____

Project Location: _____

Contract Sum: _____

Date Start: _____ Date Complete: _____

Owner Name: _____ Contact Ph. No.: _____

Project Engineer: _____ Contact Ph. No.: _____

Key Subcontractors
Used: _____

SCHEDULE 4 – FORCE ACCOUNT RATES

The following personnel rates will form the basis of payment for force account work. Complete Schedule or attach similar information).

Personnel:

<u>LIST BY OCCUPATION</u>	<u>HOURLY RATE</u>	<u>OVERTIME RATE</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____

END OF SECTION



Oceanside Place: Evaporative Condenser Specification



Date April 12, 2021
Project Oceanside Place Condenser Replacement
Client Regional District of Nanaimo



POLAR
ENGINEERING

Signatures

Author

Liz Fraser

April 12, 2021

Date

Approvers

Ian W., Principal Engineer

April 12, 2021

Date

Revision Log

Version	Date	Affected Sections	Change Request #	Comments	Change Author
R2	April 15, 2021	1, 20 05 05 1.14.2, 1.19.2	1	Updating per RDN's request	LF
R3	April 16, 2021	Unit Drawing	1	Updating unit drawing provided by G R Hudson Sales	LF



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1. Project Overview

Oceanside Place, located at 830 Island Hwy W. in Parksville, BC is replacing their refrigeration plant's evaporative condenser. The RDN wishes for this replacement to be completed by the end of July, so that the facility's ice sheets can be ready on BC Day (August 2nd, 2021) to kickoff the upcoming ice hockey season. For more information on the specified evaporative condenser and automated controls system, please see the specification, manufacturer details, and drawings below. Please note, due to building and seismic requirements, alternate condenser manufacturers and models will not be accepted.

As part of a successful project, it is the responsibility of the installing contractor during the bid process to address Polar Engineering with any questions regarding any of the onsite conditions or the engineering design that the bidding contractor expects will add unforeseen costs and/or delays to the replacement of Oceanside Place's condenser.

All questions of technical nature, interpretation and specification or requests for changes shall be submitted to Tyler Parkin at tyler@polareng.ca.

2. Design Methodology

Polar Engineering works with industry leaders across the world to ensure our clients receive state-of-the-art engineering solutions. We pride ourselves on working with our clients through in-depth interviews to balance initial costs, operating costs, and energy reductions. This design methodology has allowed our team of engineers to win awards from ASHRAE, RFABC, and the University of Victoria.

3. Scope of Work

Please review the rest of this specification including the other subsections in more detail to ensure an in-depth understanding of the work required for the condenser replacement at Oceanside Place. The general description of work below is intended to give the installing contractor a high-level scope of work. Please review the relevant portions of this specification document for a more detailed scope of work. This includes, but is not necessarily limited to the completion of the following:

1. Decommissioning, removal, and safe disposal of the existing mechanical equipment. This includes, but is not limited to:
 - a. BAC evaporative condenser
 - b. Remote pump
2. Furnishing and installation of new condenser with piping, valves, purge points, electrical wire, conduit, and disconnects as required to ensure a complete and functioning system. Please see the attached drawings for more information.

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3. Furnishing and installation of all electrical components required to integrate the new condenser with onsite electrical equipment.
4. Furnishing and installation of new condenser pump in mechanical room with piping, valves, electrical, and base as needed.
5. Off-loading and rigging of all mechanical equipment and materials.
6. Equalizing lines, drain ports, and purge points where required for a functioning system.
7. Piping and equipment supports, anchors, sleeves, anchor bolts, restraints or stands as required. Coordinate with owner's representative and other sub-trades to arrange placement at proper times during construction.
8. Refinishing existing frame with a UV and weather-resistant paint.
9. Checking dimensions and line routing before bidding.
10. Providing, charging, and installing all primary fluids and inhibitors required to operate the system.
11. Labeling of all equipment, piping, valves, and electrical equipment per this specification document and attached drawings.
12. All freight costs for equipment and materials related to the condenser replacement are to be included by the contractor.
13. Acknowledging that premium or special freight costs may be required to deliver materials to the site to meet completion schedules and will be borne by the contractor.
14. Preparing supplemental shop drawings, as built drawings, and two sets of instruction manuals.
15. Integration of the new condenser motor with the existing mechanical control system.
16. Starting up and commissioning of the condenser and associated mechanical equipment to ensure a fully functional system.
17. Providing an instruction period and on-site training for condenser operation and maintenance.

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Appendix A: Specifications and Drawings

1 GENERAL

1.01 REFERENCES

- .1 The General Conditions of the Contract, the Supplementary Conditions, and all Sections of Division 01 apply to and are a part of this Section of the Specification.

1.02 APPLICATION

- .1 This Section specifies requirements and instructions that are common to mechanical work Sections of the Specification. It is a supplement to each Section and is to be read accordingly.

1.03 DEFINITIONS

- .1 The following are definitions of words found in mechanical work Sections of the Specification and on associated drawings:
 - .2 "provide" (and tenses of provide) – means supply and install complete.
 - .3 "install" (and tenses of install) – means install and connect complete.
 - .4 "supply" – means supply only.
 - .5 "consultant" – means Polar Engineering who has prepared the Contract Documents on behalf of the Owner.

1.04 CODES, REGULATIONS, AND STANDARDS

- .1 All Codes, Regulations, and Standards referred to in this Section and in Sections to which this Section applies are the latest edition of the Codes, Regulations, and Standards in effect at the time the building permit is obtained, or at the time of bid closing for the Project, whichever comes first.
- .2 All work is to be in accordance with requirements with Codes, Regulations, and Standards applied by governing authorities, including:
 - The BC Building Code
 - Technical Safety BC
- .3 All electrical items associated with mechanical equipment are to be certified and bear the stamp or seal of a recognized testing agency such as CSA, UL, ULC, or ETL, or bear a stamp to indicate special electrical utility approval.



1.05 QUALITY ASSURANCE

- .1 All work is to be done by tradesmen who perform only the work that their certificates permit, or by apprentice tradesmen under direct on-site supervision of an experienced Industrial Training Authority “Red Seal” certified journeyman tradesman.
- .2 Testing and inspections not explicitly assigned to the owner are the contractor’s responsibility. Unless otherwise indicated, provide the quality control, testing, and commissioning services specified in this document and those required by municipal, provincial, and federal governing bodies.
- .3 All quality control services must be provided by qualified personnel or testing agency.
- .4 All quality control services must be recorded, and documentation submitted for the owner and Polar Engineering for verification and approval.
- .5 All installing contractors and subcontractors shall identify a qualified red seal tradesmen or other qualified owner representative as the main point of contact for Polar Engineering and the owner.
- .6 All welders must be Class B or A and have up to date documentation.

1.06 EXAMINATION OF SITE AND DOCUMENTS

- .1 When estimating the cost of the work and prior to submitting a bid for the work, carefully examine all the bid documents and visit the site to determine and review all existing site conditions that will or may affect the work and include for all such conditions in the bid price.

1.07 DRAWINGS AND SPECIFICATION

- .1 The mechanical drawings show approximate locations of equipment and connecting services. Any information regarding accurate measurement of the building is to be taken at the site.
- .2 As-built drawings shall be kept onsite during construction to allow for identification of design changes as part of the construction process.
- .3 A marked-up set of the drawings shall either be submitted to Polar Engineering for update, paid for by the contractor, or a complete set of updated drawings will be submitted for approval by Polar Engineering and the owner.



- .4 Both hardcopy in size D and PDF versions of the as-built drawings must be supplied to the owner upon project completion.

1.08 GENERAL RE: INSTALLATION OF EQUIPMENT

- .1 Unless otherwise specified or indicated, install all equipment in accordance with the equipment manufacturer's recommendations and instructions. Governing Codes, Standards, and Regulations take precedence over manufacturer's instructions.

1.09 PERMITS AND FEES

- .1 Apply for, obtain, and pay for all permits and inspection fees required to complete the work.

1.10 PAYMENT

Unless otherwise specified by the owner's documents, the following payment section shall apply.

- .1 Progress payments are to be discussed and approved prior to project award and outlined in the contract with the installing contractor and client.
- .2 A minimum of 10% of the total project value shall be held back for deficiencies and will be paid at the earliest, subject to the deficiencies list, 30 days after Polar's final inspection.
- .3 Upon completion of the deficiencies and approval by Polar Engineering, the installing contractor may bill for the remaining project amount.
- .4 Upon notification from the owner or Polar Engineering, the contractor has 30 days to complete any deficiencies identified onsite. After this time, the owner can hire a third-party contractor to complete this work and the contractor will be responsible to the owner for any costs associated with this work.

1.11 SHOP DRAWINGS AND PRODUCT DATA SHEETS

- .1 Submit for review, shop drawings and/or product data sheets indicating in detail the design, construction, and performance of products as requested in Sections of this Specification. The number of copies of shop drawings and/or product data sheets will be as later directed.



- .2 The consultant will retain 1 or 2 copies of each shop drawing or product data sheet submission.
- .3 Data sheets and shop drawings must be submitted to Polar Engineering two weeks prior to commencing any work onsite.
- .4 All materials must meet all federal, provincial, and municipal regulations and guidelines.
- .5 All pressure vessels must be certified and registered with the appropriate governing body.
- .6 All alternate components which meet the same design conditions as those outlined in this specification are welcomed but must be submitted two weeks prior to the closing date of the tender and be approved by Polar Engineering.
- .7 Submittals shall include the following information where applicable:
 - Manufacturer
 - Surface area
 - Heat transfer
 - Delta T
 - Operating pressures
 - Pressure drops
 - Manufacturing material
 - Pressure ratings
 - CRN numbers
 - Voltage and phase
 - RPM
 - Seals and gaskets
 - Construction materials
- .8 Final shop drawings must be submitted to Polar Engineering prior to the delivery to the jobsite.



1.12 SCAFFOLDING, RIGGING, AND HOISTING

- .1 Supply, erect and operate all scaffolding, rigging, hoisting equipment and associated hardware required for your work.
- .2 Do not place major loads on any portion of the structure without approval from the Consultant.
- .3 Submit for review, rigging and hoisting plans, contemplated dates, permits, equipment, safety measures, and personnel prior to hoisting operations.

1.13 PROJECT CLOSEOUT SUBMITTALS

- .1 Prior to application for Substantial Performance, submit all required items and documentation specified, including the following:
 - Operating and Maintenance Manuals
 - Final commissioning report
- .2 **Operating and Maintenance Manuals:** Submit 2 hard copies consolidated in hardcover 3 "D" ring binders. Manuals are to include the Consultant's, Contractor's, and Subcontractor's names, street addresses, telephone and fax numbers, and e-mail addresses, and a copy of each "Reviewed" shop drawing or product data sheet, with manufacturer's/supplier's name, telephone and fax numbers, email address, and the email address for local source of parts and service. The maintenance manuals must also include recommended maintenance for and maintenance intervals for all mechanical, electrical, and controls, normal operating parameters, and data sheets, and expected lifespan.

1.14 PHASING, HOURS OF WORK, AND NOISE CONTROL

- .1 Work is to be performed between the hours 8:00 AM and 5:30 PM Monday to Friday. If work is required to be performed during other than the hours specified above, special permission, in writing, must be obtained from the Owner.



- .2 The contractor shall instate appropriate controls to reduce nuisance noise level from affecting the areas adjacent to the work site.

1.15 REQUIREMENTS FOR CONTRACTOR RETAINED ENGINEERS

- .1 All professional engineers retained by you to perform consulting services about your work, i.e., seismic engineer, are to be members in good standing with the local Association of Professional Engineers and are to carry and pay for errors and omissions for professional liability insurance in compliance with requirements of the governing authorities in the locale of the work.
- .2 Your engineer's professional liability insurance is to protect your Consultants and Sub-Consultants, and their respective servants, agents, and employees against any loss or damage resulting from the professional services rendered by your Consultants, Sub-Consultants, and their respective servants, agents, and employees regarding the work of this Contract.
- .3 Liability insurance requirements are as follows:
 - Coverage is to be a minimum of \$2,000,000.00 inclusive of any one occurrence.
 - The insurance policy is not to be cancelled or changed in any way without the insurer giving the Owner a minimum of thirty days written notice.
 - Liability insurance is to be obtained from an insurer registered and licensed to underwrite such insurance in the location of the work.
 - Evidence of the required liability insurance in such form as may be required is to be issued to the Owner, the Owner's Consultant, and Municipal Authorities as required prior to commencement of your Consultant's services.



1.16 EQUIPMENT AND SYSTEM START-UP

- .1 When installation of equipment/systems is complete prior to commissioning, perform start-up under direct on-site supervision and involvement of the equipment/system manufacturer's representative or Polar Engineering, make any required adjustments, document the procedures, leave the equipment/system in proper operating condition, and submit a complete set of start-up documentation sheets signed by the manufacturer/supplier and the Contractor.

1.17 EQUIPMENT AND SYSTEM COMMISSIONING

- .1 After successful start-up and prior to Substantial Performance, commission the mechanical work in accordance with requirements of CSA Z320, Building Commissioning. Use commissioning sheets included with the CSA Standard, and any supplemental commissioning sheets required. Submit final commissioning data sheets, project closeout documents, and other required submittals. These submittals will include, but are not limited to:
 - Inspection Date
 - Description of testing procedure
 - Testing contractor name and personnel
 - VFD speed and current
 - Pump speed and current
 - Pump pressure differentials
 - Condenser fan speed and current
 - Control system testing and verification
- .2 Furthermore, the following operating conditions shall be simulated, and the operation of the controls system checked to ensure a fully functional system.
 - .1 Condenser operating at the desired setpoint.
 - .2 Water pump operating at the desired setpoint.



- .1 During each one of these situations, the following conditions shall be recorded and provided to the owner. It is the responsibility of all installing contractors to work together to ensure proper commissioning, but it is the responsibility of the installing mechanical contractor to provide the owner and Polar Engineering with the documentation below:
 - Speed and pressure differential of all pumps
 - Condenser ammonia pressure, ambient temperature and % relative humidity, fan speed, and pump condition.

1.18 EQUIPMENT INSPECTIONS

- .1 It is the responsibility of the installing contractor to make the team at Polar Engineering aware of appropriate inspection dates based on work commenced onsite. The installing contractor shall give Polar at least one week notice inside BC and two weeks' notice outside of BC.
- .2 Upon substantial project completion, the installing contractor shall contact Polar Engineering for a final inspection and deficiency list.
- .3 Upon substantial project completion, Polar Engineering will send the installing contractor an inspection summary and a 100-point inspection list. All deficiencies shall be considered complete before the final holdback is paid by the client to the installing contractor.

1.19 EQUIPMENT AND SYSTEM O & M DEMONSTRATION & TRAINING

- .1 After system start up, train the Owner's designated personnel in all aspects of operation and maintenance of the equipment. All demonstrations and training are to be performed by qualified technicians employed by the equipment/system manufacturer/supplier. The contractor shall provide a onetime onsite training course.



- .2 Mechanical, electrical, and controls contractors to work together to provide training for all systems and clarify boundaries of responsibility.

- .3 **Facility Operations Staff**

- Review regular and seasonal preventative maintenance procedures
 - Review sequence of operation
 - Review all safety controls
 - Review all emergency isolation valves
 - Review all alarms
 - Instruct on proper use of computer control system
 - Review trouble-shooting procedures
 - Record date of training and name and signature of all attendees

- .4 **Facility Electricians**

- Review all electrical systems
 - Review sequence of operation
 - Review all safety controls
 - Record date of training and name and signature of all attendees

1.20 SAFETY AND TRAFFIC

- .1 The contractor is responsible for all safety measures required by the owner, municipal, provincial government, and federal government.
- .2 The contractor shall provide all traffic control required by the owner, municipal, provincial government, and federal government to effectively perform the work outlined in this document.

1.21 PROJECT SCHEDULE

- .1 Upon award of Contract, prepare a work schedule with all major work identified, subcontractors identified, and expected dates for Consultant site inspections identified.
- .2 The schedule must be reviewed and approved by the Owner and Consultant prior to work commencing at the site.



1.22 PROJECT MEETINGS

- .1 Upon award of Contract, attend and chair online or in a site meeting to discuss the project schedule, and your duties and responsibilities, and to introduce designated site personnel.
- .2 Prepare meeting minutes and distribute to all attendees.
- .3 Attend and chair additional site meetings if requested by the Owner or Consultant.

1.23 REQUESTS FOR INFORMATION

- .1 Obtain answers to work related queries at site meetings whenever possible, but if not possible, prepare a Request for Information (RFI) and email to the Consultant. The RFI is to include:
 - the Project name, the date, and Contractor's name and the name of the person making the query
 - an RFI number, a drawing reference if applicable, and a detailed description of the problem for which the RFI is issued

2 PRODUCTS

2.01 MECHANICAL WORK IDENTIFICATION MATERIALS

- .1 **Equipment Nameplates:** Minimum 1/16" thick 2-ply laminated coloured plastic plates, minimum ½" x 2" for smaller items such as control valves, minimum 1" x 2½" for equipment, and minimum 2" x 4" for control panels and similar items. Additional requirements are as follows:
 - Unless otherwise specified or required, each nameplate is to be white, complete with bevelled edges and black engraved capital letter wording to completely identify the equipment and its use with no abbreviations.
 - Wording is to include equipment service but must be reviewed/approved prior to engraving.
 - Supply stainless steel screws for securing nameplates in place.



- .2 **Pipe Identification:** Pipe identification is to be equal to Smillie McAdams Summerlin Ltd. or Brady vinyl plastic with indoor/outdoor type vinyl ink lettering and directional arrows, as follows:
- For pipe to and including 6" diameter, coiled type snap-on markers of a length are to wrap completely around the pipe or pipe insulation.
 - For pipe larger than 6" diameter, saddle type strap-on markers with 2 opposite identification locations and completed with nylon cable ties.
 - Identification wording and colours are to match existing wording and colours at the site.
- .3 Upon project completion, supplier owner with both PDF and size D drawing detailing all valve and equipment tags.

3 EXECUTION

3.01 MECHANICAL WORK IDENTIFICATION

- .1 Identify all new mechanical work in accordance with existing identification standards at the site.
- .2 Identify new piping adjacent to each valve and at each piece of connecting equipment.
- .3 Provide an identification nameplate for each new piece of equipment. Secure nameplates in place with stainless steel screws unless such a practice is prohibited, in which case use epoxy cement applied to cleaned surfaces.
- .4 Motor Controllers and Disconnect Switches: Provide an identification nameplate for each new motor controller, and on each disconnect switch provided as part of the electrical work for equipment which you provide.

3.02 FINISH PAINTING OF MECHANICAL WORK

- .1 The contractor shall prepare all surfaces, prime, and paint all piping support steels, and conduit and boxes.
- .2 Paint type and colour shall match existing building and mechanical equipment.
- .3 Touch-up paint all damaged factory applied finishes on mechanical work products.



- .4 All surfaces must be prepared, and paint applied per manufacturer's recommendations.
- .5 Company contracted to prepare surface and apply paint must have at least 3 years of experience.
- .6 To ensure a long life, paint all exterior coatings must not be applied during rain, snow, or when the relative humidity is outside the recommended manufacturers procedures.
- .7 Manufacturer's minimum and maximum recommend application temperatures shall be adhered to.
- .8 Examine surfaces one week prior to the commencement of work. Report any condition that may affect proper application to the installing contractor, owner, and Polar Engineering.
- .9 Mask all required surfaces prior to commencing work.
- .10 Clean all surfaces per manufacturer's recommendations.
- .11 **Uncoated steel and iron surfaces:** Remove grease, weld splatter, dirt, and rust. Where scale or rust is present, remove by wire brush or sand blasting, clean by washing with solvent. Apply treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime all repairs after cleaning and treatment.
- .12 Prime and paint prepared surface per manufacture's recommendations.

3.03 PIPE LEAKAGE TESTING

- .1 Before new piping has been insulated, and before equipment has been connected, test all new piping for leakage. Submit signed and dated test report sheets to confirm proper test results.
- .2 **General Re: All Testing:** The following requirements apply to all testing:
 - Include temporary piping connections required to properly complete the tests.
 - Unless otherwise noted, piping under test pressure is to have a maximum of a 2 psi pressure drop for the length of the test period.



3.04 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with requirements of Canadian Construction Association Standard Document CCA 81, A Best Practices Guide to Solid Waste Reduction.

END OF SECTION



1 GENERAL

1.01 APPLICATION

- .1 This Section specifies requirements, criteria, methods, and execution for mechanical demolition work that is common to one or more mechanical work Sections, and it is intended as a supplement to each Section and is to be read accordingly.

1.02 REFERENCE STANDARD

- .1 Perform demolition work in accordance with requirements of CAN/CSA-S350, Code of Practice for Safety in Demolition of Structures.

2 EXECUTION

2.01 DISCONNECTION AND REMOVAL OF EXISTING EQUIPMENT

- .1 Demolitions shall be completed in conjunction with building staff to ensure minimal downtime.
- .2 Where indicated on the drawings, disconnect, and remove any existing heat recovery components. Ensure that the indicated components to be reused are not removed.
- .3 The scope and extent of the demolition or revision work is generally indicated on the drawings. Estimate the scope, extent, and cost of the work at the site during the bidding period. Ensure that products/materials required for re-use are properly retained and protected.
- .4 Where existing valves with tags are removed, re-use the tags for the new equipment piping.
- .5 Remove from the site and dispose of all existing equipment and materials which have been removed.
- .6 Demolitions shall be completed using a method which will ensure minimal building damage, and any damage which occurs during equipment removal must be restored to the original condition prior to the project completion.
- .7 All removed material is the property of the owner and shall be either kept or disposed of in conjunction with the with owner's wishes and in an environmentally sustainable fashion.



- .8 The installing contractor is responsible for all demotions work. The installing contractor is responsible for site inspections to determine if there are any hazardous materials, such as asbestos, onsite, and to perform remediation per the codes and standards in BC required to complete the work outlined in this specification.
- .9 Where required, wetting agents approved by the owner or Polar Engineering shall be used for dust control.
- .10 All demolished material shall be quickly removed from site. All demolished material which must be stored onsite will be stored in an approved located by owner.
- .11 Appropriate bodies of water, including storm water, must be appropriately protected.

END OF SECTION



1 GENERAL

1.01 QUALITY ASSURANCE

- .1 Piping system work is to be in accordance with the following Codes and Standards:
- ASTM D 1784 Standard Specification for Rigid PVC Compounds and Chlorinated PVC Compounds
 - ASTM D3035 Standard Spec for PE Pipe (DR-PR) Based on Controlled Outside Diameter
 - ASTM A53, Standard Specification for Pipe, Steel, Black, and Hot-Dipped, Zinc-Coated, Welded and Seamless
 - ASTM A105, Standard Specification for Carbon Steel Forgings for Piping Applications
 - ASTM A536, Standard Specification for Ductile Iron Castings
 - ANSI/ASME B16.4, Cast Iron Threaded Fittings

2 PRODUCTS

2.01 PIPE, FITTINGS AND JOINTS

- .1 **PVC** – Pipe shall be made from unplasticized PVC compounds having a minimum cell classification of 12454 as defined in ASTM D 1784. The compound shall qualify for Hydrostatic Design Basis (HDB) of 4000 psi for water at 73.4°F, in accordance with the requirements of ASTM D 2837.
- .2 **HDPE** - shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type III, Class C, Category 5, Grade P34 per ASTM D1238.
- .3 **Black Steel - Screwed Joint:** Mild black carbon steel, Grade B, ERW, ASTM A53, complete with Class 125 cast iron threaded fittings to ANSI/ASME B16.4, and screwed joints.
- .4 **Black Steel - Grooved End Mechanical Joint:** Mild black carbon steel, Grade B, ERW, ASTM A53, factory or site roll grooved, complete with Victaulic Co. (or equal) cast ductile iron grooved end fittings, including full flow elbows, conforming to ASTM A536, and Victaulic Style 77 standard flexible couplings.



2.02 SHUT-OFF VALVES

- .1 **Butterfly Type:** Cast ductile iron, lug body style, 1200 kPa (175 psi) rated butterfly valves, each suitable for bubble-tight dead-end service with the valve closed and either side of the connecting piping removed, and each complete with:
 - a neck to permit 2½" of insulation above the flange
 - a field replaceable EPDM seat
 - a bronze disc
 - a stainless-steel shaft with EPDM seal

- .2 **Ball Valve:** Lead free, Class 600, 4140 kPa (600 psi) non-shock WOG rated, 2-piece, full port ball type valves, each complete with a forged brass or bronze body, blowout-proof stem, solid forged brass or bronze chrome plated ball, "Teflon" or "PTFE" seat, a removable coated steel lever handle marked with valve identification and ends to suit the piping being connected. Valves in insulated piping are to be complete with stem extensions. Acceptable manufacturers are:
 - Toyo Valve Co.
 - Milwaukee Valve Co.
 - Kitz Corporation
 - Conbraco Industries Inc. Apollo
 - Watts Water Technologies Inc.

3 EXECUTION

3.01 DEMOLITION

- .1 Do all required hydronic piping system demolition/revision work. Refer to demolition requirements specified in the mechanical work Section entitled Demolition and Revision Work.



3.02 PIPING INSTALLATION REQUIREMENTS

- .1 All low temperature piping, < than 95F, is to be PVC or HDPE. Unless otherwise specified PVC piping is to be Sch. 80 and HDPE piping is to be DR 11.
- .2 All high temperature piping, >= to 95F, is to be Schedule 40 black steel with MPT ends and FPT fittings and couplings.
- .3 Provide screwed unions or removable mechanical joint couplings in piping at all connections to valves, and at all equipment connections.
- .4 Provide shut-off valves in piping connections to all pieces of major equipment, including but not limited to injection loops, heat exchangers, and pumps.
- .5 Re-use existing retained supports, including vibration isolated seismically restrained supports. Provide new supports to match existing supports, where required.
- .6 All piping shall be provided with clearance around systems, equipment, and components for observation of operation, inspection, and servicing. Clearance must meet manufacturers requirements and the National Fire Code of Canada.
- .7 All piping must be installed with enough space to allow for disassembly, removal of equipment and components per manufacturer recommendations.
- .8 All piping transportation water lines greater than two inches shall be installed with butterfly isolation valves.
- .9 All piping transportation water lines smaller or equal to two inches shall be installed with ball isolation valves.
- .10 All branch lines shall be installed with isolation and bypass lines with valves to allow maintenance.
- .11 All drains shall be sloped towards drain.
- .12 Saddle type fittings may be used on branch tees where branch is less than half the size of the main. All saddles must be installed to maintain full inside diameter of branch like prior to welding saddle.
- .13 All dissimilar metals shall be connected with dielectric couplings appropriate for the application.
- .14 All bolt threads shall be lubricated with anti-seize compound.
- .15 All flanges mating to cast iron valve or equipment shall have flat faces.



- .16 Threaded joints in ferrous piping shall have NPT taper screw threads and shall be reamed and deburred before being used.
- .17 All piping which has potential for freezing, water condensation, and heat loss shall be protected by the appropriate insulation, vapor barrier, cladding, and heat trace where required.
- .18 Provide supply and return computer temperature sensors to all appliances and coils.
- .19 Piping shall be installed to prevent air traps. Where required, install air vents at high points and elsewhere, and drains in all low points, drain points, heat transfer outlets and elsewhere to ensure reliable operation and maintenance.
- .20 A pressure test of 50 psig shall be applied to all piping before being put into service. Pressure testing shall be held for 24 hrs. A picture detailing the gauge with a time stamp at the beginning and end of pressure test shall be supplied to Polar Engineering.
- .21 The mechanical contractor will be responsible for the identification of all piping, valves and equipment installed under this contract. A list of existing valve tag numbers is to be used and added to as required. The contractor will provide marked up P&IDs listing valve tag numbers at the end of the project.

3.03 PIPING SUPPORTS

- .1 All hangers, supports, and sway braces are to be in accordance with MSS SP58.
- .2 All piping is to be installed and supported per piping manufacturer recommendations.
- .3 All hangers located in corrosive environments or outdoors must be stainless steel aluminium, or at a minimum hot dipped galvanized. All hangers inside the mechanical room may be painted or hot dipped galvanized.
 - Ensure steel hangers are in tensile load only.
 - Cold piping NPS 2 or smaller can be supported by I-beam C clamp with steel cup set screw, locknut, and carbon steel retaining clip. Must be UL listed or FM approved.
 - Ensure that hanger rod is vertical in operating conditions.
- .4 All outside rooftop riser clamps to be stainless steel, aluminum, or at a minimum hot dipped galvanized.



- .5 Piping supports shall be supported by bolts and only welded upon approval from a structural engineer.
- .6 All clevis plates must be secured with a minimum of 4 concrete inserts, one at each corner.
- .7 Per good piping practice, the following recommended piping support spacing table shall be adhered to. It should be noted that piping transitions, pump inlets and outlets, flanges, valves, and other high piping load concentrations require more support than shown in the table below. In this case, the component or piping manufacturer shall be consulted for recommended piping supports.
- .8 All flexible joint roll grooved piping shall also be supported by at least one hanger at the piping joints.

Nominal Pipe Size	Rod Diameter	Maximum Spacing			
		Steel	PVC*		Copper
			Schedule 40	Schedule 80	
3/8" - 1 1/4"	3/8"	7'	4'	4'	5'
1 1/2"	3/8"	9'	5'	5'	8'
2"	3/8"	10'	5'	6'	8'
2 1/2"	1/2"	11'	6'	6'	9'
3"	1/2"	12'	6'	7'	10'
3 1/2"	1/2"	13'	6'	7'	11'
4"	5/8"	14'	6'	7'	12'
5"	5/8"	16'	6'	7'	13'
6"	3/4"	17'	7'	9'	14'
8"	3/4"	19'	8'	9'	16'
10"	7/8"	22'	8'	10'	
12"	7/8"	23'	9'	10'	
14"	1"	25'	10'	11'	
16"	1"	27'	10'	11'	

Figure 1 Recommended Sch 40 and 80 Carbon Steel, PVC, and Copper Piping Support

- .9 Piping and tubing smaller than 1" may require more supports to reducing piping vibrations. The installing contractor must install sufficient supports to avoid excessive vibration.
- .10 All piping must be supported.



- .11 Constant support hangers will be used when the vertical moment of the pipework is 13 mm or more and variable support will be used where the variation in support effect does not exceed 25% of the total load.
- .12 Piping clamps and supports used on pipe transporting fluid above ambient air temperatures may penetrate through insulation.
- .13 Piping clamps and supports used on piping operating below ambient air temperatures shall not penetrate through insulation.

End of Section



1 GENERAL

1.01 QUALITY ASSURANCE

.1 Piping system work is to be in accordance with the following Codes and Standards:

- CAN/CSA B-52 Mechanical Refrigeration Code
- CAN/CSA B-51 Boiler Pressure Vessel and Piping Code
- ANSI B31.1 Power Piping
- ANSI B31.5 Refrigeration and Heat Transfer Components
- ASHRAE 15 Safety Standard for Refrigeration System
- ASHRAE Standard 34 Designation and Safety Classification of Refrigerants
- IIAR2 Ammonia Refrigeration Piping Handbook

2 PRODUCTS

2.01 PIPE, FITTINGS AND JOINTS

- .1 Provide screwed unions or removable mechanical joint couplings in piping at all connections to valves, and at all equipment connections.
- .2 All piping 2" or smaller must be schedule 80, ASTM SA106, grade B, seamless pipe.
- .3 All piping over 2" must be schedule 40, ASTM SA106, grade B, seamless or ASTM SA53 grade B, welded (ERW).
- .4 All piping must be purchased capped and free of any internal debris or rust.
- .5 All pipe and fittings 2" and larger to be welded.
- .6 All threaded pipe and fittings under 2" to be schedule 80.
- .7 All welded fittings 2" and smaller to be socket weld 3000 psi.
- .8 Welded fittings over 2" to be SA-234-WPB fittings of the same size as the pipe being welded to.
- .9 Schedule 160 piping on all relief valve inlets and three-way valves.



- .10 All refrigeration piping to be pressure tested per CSA B52.
- Flanges, if used will be approved for use with ammonia.
 - All steel tubing 3/8" and a smaller to be stainless steel.

For simplicity, the following chart has been created:

PRIMARY REFRIGERATION PIPING SPECIFICATION	
PIPING - SHALL BEAR THE MILL TEST #	
NOTE: COPY OF THE MILL TEST CERTIFICATES TO BE INCLUDED IN MANUAL	
UP TO 2" IPS:	
	> SCH. 80.A106 GR. B SEAMLESS
	> IPS: SCHE 80 A106 GR. B SEAMLESS WITH SOCKET WELD OR BUTT WELD CONNECTIONS.
2 1/2" IPS & OVER:	
	> SCH. 40 A53 GR. B ERW
	> A106 GR. B SEAMLESS
	> A333 GRADE 1 OR 6 TYPE E OR S (BELOW -20°F/-29°C).
FITTINGS - SHALL BEAR THE MANUFACTURER'S IDENTIFICATION.	
UP TO 1 1/2" IPS:	
	> FORGED STEEL SOCKET WELD ASTM A105 GR. 2. CLASS 3000.
	> THREADED CONNECTIONS WITH SAME SPECIFICATIONS, ONLY IF LOCATION APPROVED BY REFRIGERATION CONSULTANT.
2" IPS & UP:	
	> CARBON STEEL BUTT WELD ASTM A234B, OR A105 OR A420 (BELOW -20°F/-29°C).
	> COMPATIBLE WITH THE WALL THICKNESS OF THE PIPE
TUBING - STAINLESS STEEL, 0.035" THK. WALL IN 1/4" O.D. & 3/8" O.D SIZES.	
FITTINGS: PARKER-HANNIFIN CB CARBON STEEL COMPRESSION TYPE.	
FLANGES: ANSI RAISED FACE, ASTM A105 GR. 1 OR A181 GR. 1 A105, A707 (BELOW -20°F/-29°C) RATING TO MATCH PIPE.	
UNIONS: FORGED STEEL ASTM 105 GR. 2 300# WOG, STEEL TO STEEL GROUND JOINT, SOCKET WELD CONNECTIONS.	

2.02 REFRIGERATION VALVES

All refrigeration valves must be registered in the province they are to be used in per local codes and regulations.

- .1 For example, all valves used in BC must be registered with TSBC and have the appropriate CRN number.
- .2 Valves under 1" to be seal capped, socket welded where possible and threaded where interfacing with components is required.
- .3 Valves 1" to 2" to be seal capped, socket weld.
- .4 Valves over 2" to be seal capped, butt weld.



2.03 SHUT OFF VALVES

- .1 Approved Manufacturers: Danfoss, Hansen, and Parker are accepted manufactures of shut off valves.
- .2 All shut off valves must be globe style.
- .3 All major pieces of equipment per the discretion of the ERO must be installed with isolation valves to allow for maintenance and system shutdown. Please contact the ERO for decisions on this as required.
- .4 All major prices of equipment must be installed with a ¼” purge valve used to allow to proper depressurization of equipment.

2.04 ACTUATED VALVES

- .1 Approved Manufactures: Danfoss, Hansen, and Parker are accepted manufacturers of actuated valves.
- .2 Actuated valves must have appropriate stop valves to allow for isolation and maintenance.
- .3 Danfoss ICF expansion valve stations are preferred but not required.
- .4 All electronic expansion valves (EEV) must be controlled by the appropriate manufacturer controller to ensure system reliability.
- .5 Sensors used to control the EEV must be installed within 4 ft of the outlet of the evaporator, must be installed on the evaporator side of the isolation valve, and must not be isolated from the system by a valve.
- .6 Solenoid Valves and electric regulators are to have strainers and pilot lights on coils.

2.05 PRESSURE RELIEF VALVES

- .1 Approved Manufacturers: Danfoss, Hansen, and Parker are accepted manufactures of refrigerant pressure relief valves.
- .2 Pressure relied valves must be installed on all major pieces of equipment per CSA B52.



- .3 Where required by CSA B52 code, all pressure vessels large enough must be installed with a three-way valve to allow for proper maintenance of pressure relief valves.
- .4 Compressor pressure relief valves may be sized based on compressor uploading per CSA B52. If installed using this method, the ERO must be consulted to ensure proper documentation.
- .5 Schedule 160 piping on all relief valve inlets and three-way valves.
- .6 All shut off valves must be globe style.

3 EXECUTION

3.01 DEMOLITION

- .1 Do all required piping system demolition/revision work per attached drawings. Refer to demolition requirements specified in the mechanical work section entitled Demolition and Revision Work.

3.02 PIPING INSTALLATION REQUIREMENTS

- .1 The installing contractor is responsible for the piping design registration of all ammonia piping to TSBC.
- .2 Provide all required system piping per the attached drawings.
- .3 Provide shut-off valves and piping connections to refrigeration equipment.
- .4 Re-use existing restrained supports, including vibration isolation seismically restrained supports. Provide new supports to match existing supports where required.
- .5 All piping shall be provided with clearance around systems, equipment, and components for observation of operation, inspection, and servicing. Clearance must meet manufacturers requirements, CSA B52, and the National Fire Code of Canada.
- .6 All piping must be installed with enough space to allow for disassembly, removal of equipment and components per manufacturer recommendations.
- .7 All branch lines shall be installed with isolation and bypass lines with valves to allow for maintenance.



- .8 All bolt threads shall be lubricated with anti-seize compound.
- .9 Threaded joints in ferrous piping shall have NPT taper screw threads and shall be reamed and deburred before being used.
- .10 All piping which has potential for freezing, water condensation, and heat loss shall be protected by the appropriate insulation, vapor barrier, cladding.
- .11 All ammonia discharge piping must be at a minimum be painted with corrosion resistant paint.
- .12 All indoor piping insulation shall be protected by PVC cladding per insulation specification.
- .13 Piping shall be installed to prevent liquid traps. Where required, install drains in all low points, drain points, heat transfer outlets, and elsewhere to ensure reliable operation and maintenance, and drainage of liquid refrigerant back to receiver or chiller.
- .14 A pressure test of 1.1 times the design pressure shall be applied to all piping before being put into service. Pressure testing shall be held for 24 hrs. A picture detailing the gauge with a time stamp at the beginning and end of the pressure test shall be supplied to Polar Engineering.
- .15 The mechanical contractor will be responsible for the identification of all piping, valves and equipment installed under this contract. A list of existing valve tag numbers is to be used and added to as required. The contractor will provide marked up P&IDs listing valve tag numbers at the end of the project.

3.03 PIPING SUPPORTS

- .1 All hangers, supports, and sway braces are to be in accordance with MSS SP58.
- .2 All piping is to be installed and supported per piping manufacturer recommendations.
- .3 All hangers located in corrosive environments or outdoors must be stainless steel, aluminium, or at a minimum hot dipped galvanized. All hangers inside the mechanical room may be painted or hot dipped galvanized.
- .4 Ensure steel hangers are in tensile loading only.
- .5 Cold piping NPS 2 or smaller can be supported by I-beam C clamps with a steel cup set screw, or a locknut and carbon steel retaining clip. Must be UL listed or FM approved.



- .6 Ensure that hanger rod is vertical in operating conditions.
- .7 All outside rooftop riser clamps are to be stainless steel, aluminium, or at a minimum hot dipped galvanized.
- .8 Piping supports shall be supported by bolts and only welded upon approval from a structural engineer
- .9 All clevis plates must be secured with a minimum of 4 concrete inserts, one at each corner.
- .10 Per good piping practice, the following steel recommended piping support spacing table shall be adhered to. It should be noted that piping transitions, component inlets and outlets, flanges, valves, and other high piping load concentrations require more support than shown in the table below. In this case, the component or piping manufacturer shall be consulted for recommended piping supports.

Recommended Sch. 40 and 80 Carbon Steel, PVC, and Copper Piping Support.

<i>Nominal Pipe Size</i>	<i>Rod Diameter</i>	<i>Maximum Spacing</i>			
		<i>Steel</i>	<i>PVC*</i>		<i>Copper</i>
			<i>Schedule 40</i>	<i>Schedule 80</i>	
3/8" - 1 1/4"	3/8"	7'	4'	4'	5'
1 1/2"	3/8"	9'	5'	5'	8'
2"	3/8"	10'	5'	6'	8'
2 1/2"	1/2"	11'	6'	6'	9'
3"	1/2"	12'	6'	7'	10'
3 1/2"	1/2"	13'	6'	7'	11'
4"	5/8"	14'	6'	7'	12'
5"	5/8"	16'	6'	7'	13'
6"	3/4"	17'	7'	9'	14'
8"	3/4"	19'	8'	9'	16'
10"	7/8"	22'	8'	10'	
12"	7/8"	23'	9'	10'	
14"	1"	25'	10'	11'	
16"	1"	27'	10'	11'	

- .11 Piping and tubing smaller than 1" may require more support to reducing piping vibration. The installing contractor must install sufficient support to avoid excessive vibration.
- .12 All piping must be supported accordingly.



-
- .13 Constant support hangers will be used when the vertical moment of the pipework is 13 mm or more, and variable support will be used where the variation in support effect does not exceed 25% of the total load.
 - .14 Piping clamps and supports used on pipe transporting fluid above ambient air temperatures may penetrate through insulation.
 - .15 Piping clamps and supports used on piping operating below ambient air temperatures shall not penetrate through insulation.
 - .16 All piping and equipment shall be installed with appropriate seismic restraints per the geographic location of the project.

End of Section



1 GENERAL

1.01 SUBMITTALS

- .1 **Shop Drawings/Product Data:** Submit equipment shop drawings/product data sheets, complete with piping and power and control wiring schematics, accessories, rated capacities, weights, and all other required data.
- .2 **Factory Inspection and Test Report:** Include a copy of the factory inspection and test report with O & M Manual project close-out data.
- .3 **Site Inspection and Start-Up Report:** Submit a site inspection and start-up report detailing all the important equipment functions required to ensure equipment performance over the entire range of operation. Please see section 3 for more information.
- .4 **Warranty:** Provide a one-year written warranty for all workmanship dated and signed by the installing contractor.

1.02 QUALITY ASSURANCE

- .1 Piping system work is to be in accordance with the following Codes and Standards:
 - CAN/CSA B-52 Mechanical Refrigeration Code
 - CAN/CSA B-51 Boiler Pressure Vessel and Piping Code
 - ANSI B31.1 Power Piping
 - ANSI B31.5 Refrigeration and Heat Transfer Components
 - ASHRAE 15 Safety Standard for Refrigeration System
 - ASHRAE Standard 34 Designation and Safety Classification of Refrigerants
 - IIR2 Ammonia Refrigeration Piping Handbook



2 PRODUCTS

2.01 PUMPS

- .1 Approved pump manufacturers are Grundfos, Taco, and Armstrong. Alternate pump manufacturers can be installed at the discretion of the Polar Engineering and the owner.

3 EXECUTION

3.01 DEMOLITION

- .1 Do all required piping system demolition/revision work per attached drawings. Refer to demolition requirements specified in the mechanical work Section entitled Demolition and Revision Work.

3.02 SEISMIC RESTRAINTS

- .1 The installing contractor is responsible to ensure all equipment is appropriately seismically restrained and to ensure it meets all seismic codes.
- .2 If required by the owner, the installing contractor must retrain the services of the seismic engineer.

3.03 PUMP INSTALLATION REQUIREMENTS

- .1 All pumps to be installed, supported, and commissioned per manufacturer's recommendations.
- .2 All pumps to be installed with isolation valves, drain valves, and pressure gauges on the inlet and outlet.
- .3 Install a minimum of 2' of carbon steel piping at the inlet and outlet of each pump before transitioning to PVC, CPVC, or HDPE. Note, steel pumps are not required for transition to copper piping.
- .4 All pumps must be constructed from appropriate materials or have appropriate coatings suited for their intended operation. For example, all pumps used to pump pool water must have at a minimum an epoxy coating.
- .5 All pumps must be installed with tags identifying pump to as-built mechanical and controls drawings.



- .6 At a minimum upon commissioning, the following values shall be recorded and provided to the owner and Polar Engineering.
- Pump suction pressure
 - Pump discharge pressure
 - Pump voltage

4 INSTALLATION REQUIREMENTS

4.01 HEAT EXCHANGER INSTALLATION REQUIREMENTS

.1 Condenser Requirements

- Install a 24" liquid drain drop leg with one sight glasses.

End of Section



1 GENERAL

1.01 SUBMITTALS

- .1 **Shop Drawings/Product Data:** Submit condenser shop drawings/product data sheets, complete with piping and power and control wiring schematics, accessories, rated capacities, weights, and all other required data.
- .2 **Factory Inspection and Test Report:** Submit with delivery of the condenser a copy of the factory inspection and test report and include a copy of the report with O & M Manual project close-out data.
- .3 **Site Inspection and Start-Up Report:** Submit a site inspection and start-up report from the manufacturer's representative as specified in Part 3 of this Section.
- .4 **Extended Warranty:** Submit a signed copy of the condenser manufacturer's extended warranty, in the name of the Owner, for the complete condenser rotating mechanical equipment (fan, fan shaft, bearings, sheaves, motor, drive system, and mechanical equipment support) for 4 years following the date of expiration of the 1-year Contract warranty. The extended warranty is to be a written, full on-site parts and labour warranty with the same terms and conditions as the Contract warranty.

1.02 QUALITY ASSURANCE

- .1 **Codes and Regulations:** The condenser and installation of condenser are to be in accordance with requirements of the following:
 - .1 all applicable Provincial Codes and Standards
 - .2 Cooling Technology Institute CTI STD-105, Acceptance Test Code
 - .3 ASHRAE Standard 90.1, Energy Standard for Buildings

1.03 CONDENSER SAFETY EQUIPMENT ITEMIZED PRICE

- .1 Indicate on the Bid Form an itemized price being the amount of money included in the bid amount for the access ladder and ladder safety cage for the new condenser

2 PRODUCTS

2.01 CONDENSER

- .1 Baltimore Aircoil Co. "V" Series, Model VC1-N243, FM approved, forced draft, counter-flow, vertical air discharge, 575-volt, 3 phase, 60 Hz factory assembled condenser, with thermal performance certified by the Cooling Technology Institute.



- .2 **Corrosion Resistant Coating:** All steel panels and structural members, unless otherwise specified, are to be factory protected by a thermosetting hybrid polymer corrosion protection coating consisting of an electrostatically sprayed thermosetting hybrid polymer fuse bonded to the metal surfaces.
- .3 **Motors & Drives:** TEFC motors, variable torque, specially insulated for exterior condenser duty, and adjustable V-belt drives with taper lock sheaves, adjustable motor base, and guard. The fan is to be equipped with a standard motor and drive.
- .4 **Access Ladder and Handrail:** Handrail, knee rail and toe board around the perimeter of the top of the condenser, designed and constructed in accordance with OSHA Standards and capable of withstanding a 890 N concentrated live load in any direction, and a vertical 450 mm (18") wide aluminium ladder with 75 mm (3") I-beam side rails and 32 mm (1¼") diameter rungs permanently attached to the condenser casing and extended up from the base of the condenser to the top of the handrail.
- .5 **Ladder Safety Cage:** Galvanized steel cage in accordance with OSHA Standards extending from a point 2.134 m (7') above the foot of the access ladder to the top of the fan deck handrail.

2.02 CONDENSER STRUCTURAL STEEL ROOF BASE AND SUPPORTS

- .1 **Steel Support Base:** The existing structural steel base for the obsolete condenser to be reused. Scrape the support assembly clean and paint with 2 coats of suitable weatherproof equipment enamel, with colour as directed.

2.03 PIPING VIBRATION ISOLATION AND SEISMIC RESTRAINT

- .1 During demolition, protect all existing vibration isolated and seismically restrained piping support for re-use with the new condenser.

3 EXECUTION

3.01 DEMOLITION



- .1 Do all required existing condenser demolition work. Refer to demolition requirements specified in the mechanical work Section entitled Demolition and Revision Work.
- .2 Carefully remove and retain the existing condenser power and control systems, and other hardware (as specified) for later connection to the new condenser.

3.02 INSTALLATION OF NEW CONDENSER

- .1 Provide a new condenser where shown.
- .2 Secure the condenser in place, level, and plumb, on the exiting vibration isolation rails on the re-finished and structurally updated steel base.
- .3 Install all components shipped loose with the condenser.
- .4 Connect with all required piping, including overflow and valved drain piping.
- .5 Connect the new condenser to the existing control systems. Do all required control wiring in conduit in accordance with existing electrical work wiring standards.
- .6 **Equipment and System Manufacturer's Certification:** Refer to the article entitled 'Equipment and System Manufacturer's Certification' in the Mechanical Work General Instructions Section.
- .7 **Equipment and System Start-Up:** Refer to the article entitled 'Equipment and System Start-up' in the Mechanical Work General Instructions Section.
- .8 **Commissioning:** Refer to the article entitled 'Equipment and System Commissioning' in the Mechanical Work General Instructions Section.
- .9 **Demonstration and Training:** Refer to the article entitled 'Equipment and System O & M Demonstration & Training' in the Mechanical Work General Instructions Section.

END OF SECTION



1 GENERAL

1.01 SUBMITTALS

- .1 **Product Data:** Submit product data sheets for all products where submittal is specified in Part 2 or Part 3 of this Section.
- .2 **Test Reports:** Submit test reports specified in Part 3 of this Section.

1.02 DRAWINGS

- .1 As-built electrical drawings, both in hardcopy size D format and as a PDF, must be provided to the owner upon completion of the project.

2 PRODUCTS

2.01 FLEXIBLE GALVANIZED STEEL LIQUID-TIGHT CONDUIT

- .1 Flexible galvanized steel liquid-tight conduit to CSA C22.2 No. 56, complete with liquid-tight connectors at terminations.

2.02 RIGID PVC CONDUIT

- .1 Rigid PVC conduit to CSA C22.2 No. 211.1, complete with solvent weld joints.

2.03 CONDUCTORS AND CONNECTORS

- .1 "RW-90" single conductor in accordance with CAN/CSA C22.2 No. 38. Conductors to and including No. 10 AWG are to be solid. Conductors larger than No. 10 AWG are to be stranded. All conductors are to be constructed from 98% conductive copper and are to be approved for 600 volts.
- .2 CSA certified flame-resistant thermoplastic, colour coded twist type connectors for "RW-90" conductors.
- .3 Proper squeeze type connectors and plastic anti-short bushings for armoured cable at terminations in accordance with requirements of CSA C22.2 No. 18.3.

2.04 OUTLET BOXES AND RECEPTACLES

- .1 CSA listed and labelled rigid PVC outlet boxes.



- .2 Specification grade, 20 amp., 125-volt, duplex, 3-wire receptacles, NEMA configuration 5-02R, each equipped with a hot dipped galvanized steel faceplate.
- .3 All outdoor wiring and sensors to be installed in the appropriate NEMA enclosures, conduit, and terminal boxes.

2.05 DISCONNECT SWITCHES

- .1 Heavy-duty front operated switches each in accordance with CSA C22.2 No. 4, each complete with a red handle suitable for padlocking in the “off” position, and a NEMA/ EEMAC enclosure.
- .2 Fusible units are to be complete with fuse clips in accordance with CSA-C22.2 No. 39, Fuseholder Assemblies and to suit fuse types specified below.
- .3 Unless otherwise scheduled or specified fuses are to be equal to English Electric Ltd. HRC fuses, Form II Class “C”.
- .4 Enclosures are to be in accordance with the following NEMA/EEMAC ratings:
 - .1 in the Mechanical Room – Type 2
 - .2 at the condenser– Type 3R, constructed of stainless steel

2.06 MCP

- .1 MCP is to include the following: main disconnect, breakers for all loads, all contactors and overloads, hand / off / auto switches for all loads, running lights for all loads, hour meters for any load over 5hp.

3 EXECUTION

3.01 DEMOLITION

- .1 Do all required demolition of existing electrical work associated with the obsolete condenser, including controls, electric heat tracing, and condenser water treatment system. Refer to demolition requirements specified in the mechanical work Section entitled Demolition and Revision Work.

3.02 POWER WIRING WORK



- .1 Reuse existing power wire possible, but upgrade to currently BC codes and standards.
 - .1 Power wiring for the new condenser fans, connected to existing power wiring
 - .2 Provision of a duplex receptacle for the new condenser water treatment system controller
 - .3 Installation of new electric heat tracing cable on condenser piping.

3.03 CONDUIT INSTALLATION REQUIREMENTS

- .1 Provide conduit for all new conductors. Conduit is to be as follows:
 - .1 For short 18", maximum 24" runs of conduit to electric motors, with a 180° loop wherever possible – flexible galvanized steel liquid-tight conduit
 - .2 For all other conductors – rigid PVC
- .2 Sized conduit in accordance with the governing Codes/Regulations.
- .3 Support and secure conduit in accordance with Code requirements.

3.04 INSTALLATION OF CONDUCTORS

- .1 Provide all required power and control conductors.
- .2 Do not use conductors smaller than No. 12 AWG in systems over 30 volts. Size conductors in accordance with Code requirements to suit length of run and a 2% voltage drop.

3.05 INSTALLATION OF DISCONNECT SWITCHES

- .1 At the new condenser, reuse if possible but provide a new unfused disconnect switch for each condenser fan motor to ensure electrical equipment meets current codes and will last the lifetime of the condenser. Provide power wiring from the condenser power and control unit in the Mechanical Room to the condenser disconnect switches, and from the disconnect switches to the fan motor(s).
- .2 Provide fuses for fusible disconnects.



3.06 GENERAL ELECTRICAL WORK TESTING REQUIREMENTS

- .1 Satisfactorily perform all testing required by governing authorities, Codes, Regulation, and the Specification, including general testing specified below. Prepare and sign test reports to confirm satisfactory completion of testing and submit as specified in Part 1 of this Section.
- .2 Test the work to ensure that there are no leaks, grounds, or crosses.
- .3 Test and establish proper motor rotation, measure full load running currents, and check overload elements. Report to the Consultant any discrepancies that are found. rotation.

END OF SECTION



Submittal

Quote CC-22287 Rev 2

Ref. #: SQDOU002861_2

close-coupled horizontal end suction pump

Model: Series 4280 - 6x4x13 - 6p - 7.5 hp - (Factory Choice Motor)

Project Name: Oceanside

Representative: Hyline Sales

Location: Parksville, BC

Phone Number: 604-856-5648

Date submitted: 4/6/2021 2:00 PM

Submitted By: Dave Haskell

Engineer:

e-mail: dhaskell@hylinesales.com

Application design data

Tag number:	Condenser Pump	Configuration:	Single
Service:		Suction pressure:	0 ft
Location:		Fluid:	Non-Potable Fluid - Water
Total pump qty:	1	Operating temperature:	60 °F
Total system flow:	385 USgpm	Duty flow per pump:	385 USgpm
System head:	21 psi	Viscosity:	31 SSU
Total dissolved solids:	0 ppm	Specific gravity:	1.0000
NPSHR:	0.71 psi	Absorbed Power/BHP:	6.1 hp
%Mtr Safety*:	22.85%	Efficiency at Design:	77.27 %
Outlet velocity:	9.7 ft/s	Impeller diameter:	10.91 in
PEIcl:	Not applicable	ERCl:	Not applicable
Standby qty:	0	Pump/motor run qty:	1

*Motor safety factor above duty point.

Materials of construction

Construction:	Bronze Fitted	Impeller:	Bronze
Rating:	ANSI-125	Shaft sleeve:	316 Stainless Steel
Connections:	Inlet: 6 in, Outlet: 4 in	Casing gasket:	Confined Non-Asbestos Fiber
Casing (volute):	Cast Iron		

Mechanical seal data

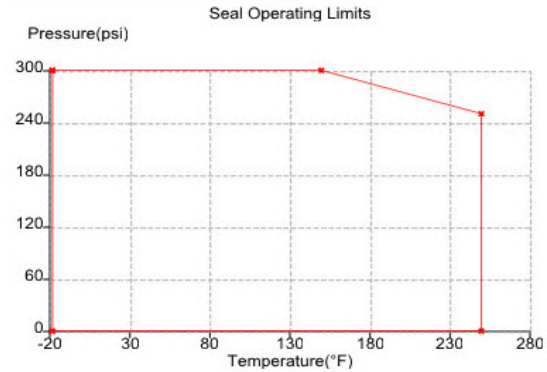
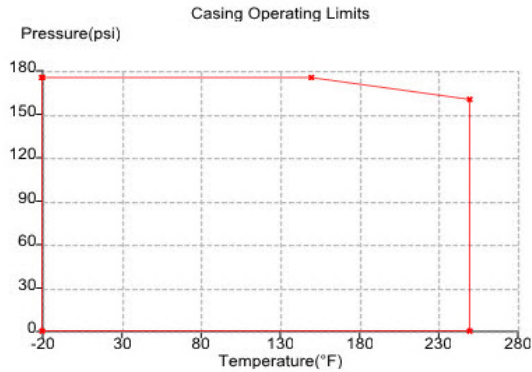
Seal type:	Inside Single Spring	Rotating face:	Resin Bonded Carbon
Manufacturer code:	C-ssc L EPSS 2A	Stationary seat:	Sintered Silicon Carbide
Springs:	Stainless Steel	Secondary seal:	EPDM
Rotating hardware:	Stainless Steel	Maximum total dissolved solids (TDS)*:	2000 PPM

*Note: Please ensure proper seal is selected by inputting Total Dissolved Solids (TDS) in PPM in ADEPT if water quality is poor at site. Also select Flush Line Filter or Cyclone Separator if there are other contaminants in the fluid.

Electrical data

Supplier:	Factory Choice	Insulation class:	Class F Insulation
Frame size:	254JM	Motor type:	Induction
Speed:	1180 rpm	Size:	7.5 hp
Enclosure:	ODP	Efficiency:	NEMA Premium 12.12
Power supply:	575/3/60		

Operating limits (temperature - pressure)

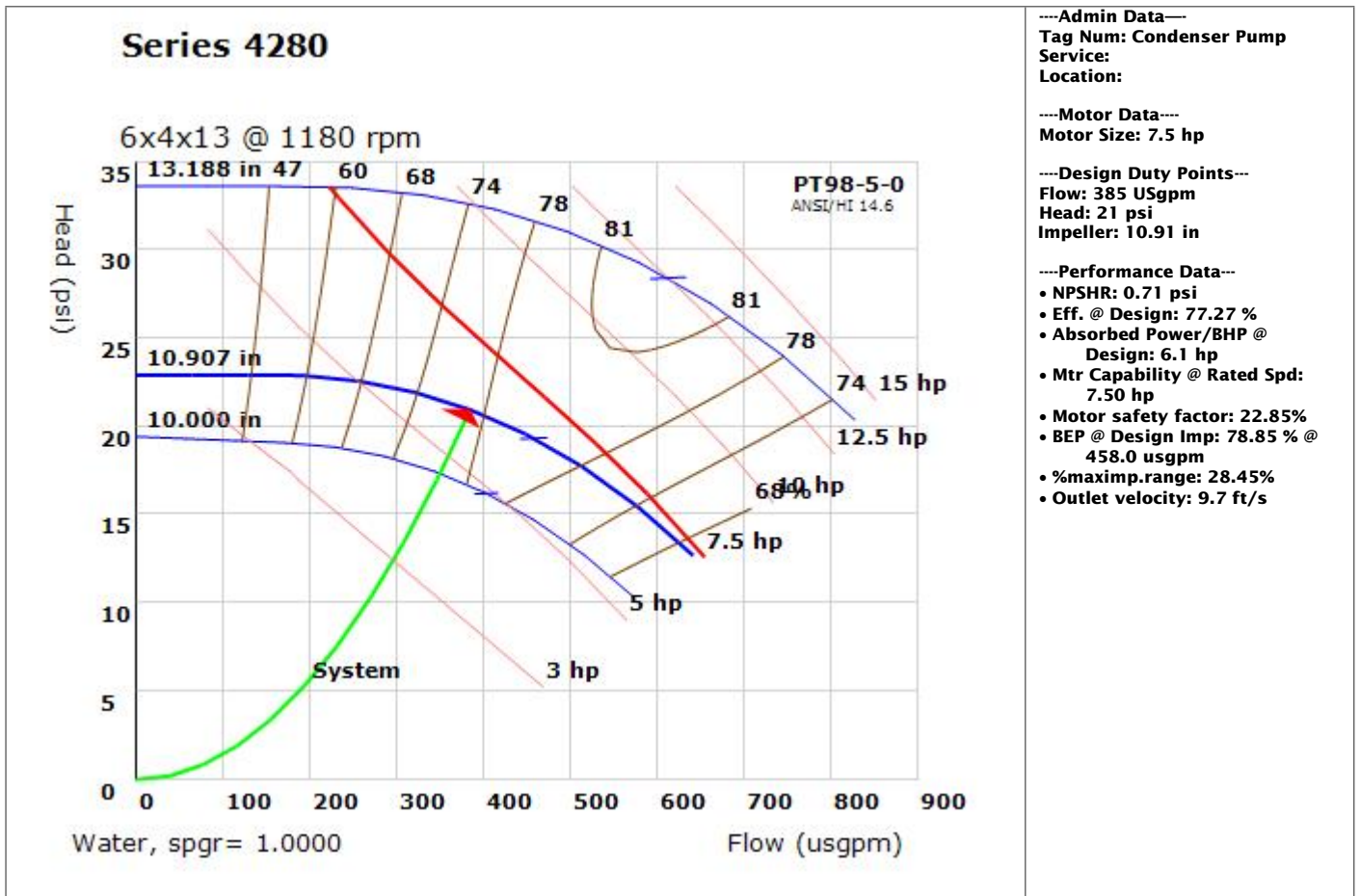


Maximum pressure: 175 psi

Maximum temperature: 250 F

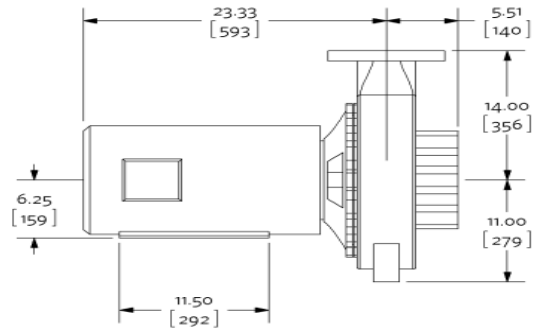
All Pump casings are hydrostatically tested to requirements of ANSI/HI 14.6 standard.

Performance curve

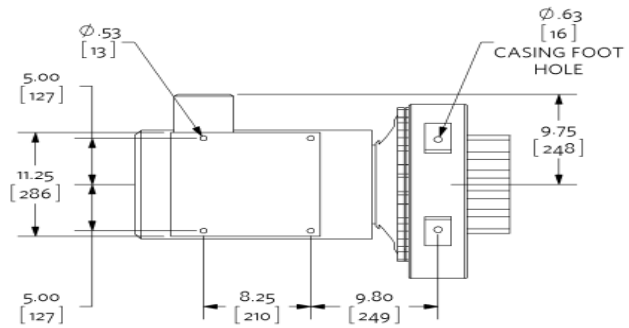


Dimensional data (not for construction)

Side view



Top view



Inverter motor type: Inverter duty

Weight: 573 lb [259.91 kg], Units of measure: inches [millimeters]

- Not to scale
- Tolerance of ± 0.125 inch (± 3 mm) should be used
- For certified dimensions, please contact your Armstrong representative
- Pump equipped with casing drain plug and $\frac{1}{4}$ inch NPT suction and discharge gauge ports

Connection details

Connection	Size	Rating	OD	Bolt quantity*	BCD	Bolt size
Inlet	6	ANSI-125	11.00	8	9.50	0.75
Outlet	4	ANSI-125	9.00	8	7.50	0.625

*Equally spaced straddling centreline

Selected options

Testing: No Test Certification Required
 Seal Environment Accessories: None
 Space Heater: No
 Motor Thermistor: No Thermistors
 Wye-Delta Starting: No



Baltimore Aircoil Company Evaporative Condenser Selection Report

Version: 9.5.3 NA
Product data: March 01, 2021

Project Name:
Selection Name:
Project State/Province: British Columbia
Project Country: Canada
Date: April 09, 2021

Model Information

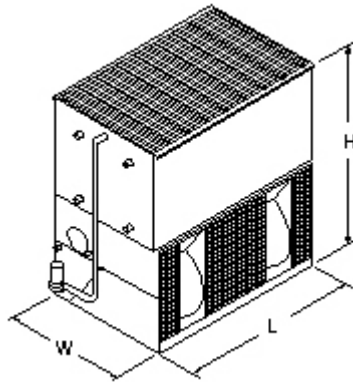
Product Line: VC1 Evaporative Condenser
Model: VC1-N243
Number of Units: 1
Fan Type: Standard Fan
Fan Motor: Full Speed, 20.00 BHP
Coil Type: Standard Coil
Coil Finning: None
Total Standard Fan Power: 20.00 HP/Unit
Total Pump Motor Power: 3.00 HP/Unit
Intake Option: None
Internal Option: None
Discharge Option: None
External Static Pressure: 0.00 in. of H2O
Evaporation Rate: 5.40 USGPM

Design Conditions

Refrigerant: R-717
Total Heat Rejection: 2,702.00 MBH
Refrigerant Load: 2,509.08 MBH
Auxiliary Cooling Load: 192.92 MBH
Condensing Temperature: 85.00 °F
Wet Bulb Temperature: 61.00 °F

Auxiliary Cooling

Fluid: Propylene Glycol, 25% by Volume
Flow Rate: 40 USGPM
Inlet Temperature: 95 °F
Outlet Temperature: 85.00 °F



NOTE 1: NEW CONDENSER SHALL BE INSTALLED WITH A GLYCOL COOLING CIRCUIT.

NOTE 2: NEW CONDENSER SHALL BE INSTALLED WITH EXTERNAL ACCESS ON THE BUILDING SIDE OF THE UNIT.

Engineering Data, per Unit

Standard Total Fan Motor Power per Unit: (1) 20 HP
Total Pump Motor Power per Unit: (1) 3 HP
Unit Length: 11' 7.75" + 1' 4.00" (Pump) = 12' 11.75" (Total)
Unit Width: 7' 10.37"
Unit Height: 12' 9.13"
Approximate Shipping Weight: 10,720 lbs
Heaviest Section Weight: 7,050 lbs
Approximate Operating Weight: 15,140 lbs
Approximate Remote Sump Operating Weight: 13,040 lbs
Remote Sump Connections: (1) 6"

Airflow: 46,150 CFM
Spray Water Flow: 385.00 USGPM
Coil Volume: 31.88 ft³

Minimum Distance Required:

From Solid Wall: 4.5 ft.
From 50% Open Wall: 3 ft.

Note: These unit dimensions do not account for any accessories. Please contact your local BAC sales representative for dimensions of units with accessories.



Baltimore Aircoil Company Evaporative Condenser Selection Report

Version: 9.5.3 NA
Product data: March 01, 2021

Project Name:
Selection Name:
Project State/Province: British Columbia
Project Country: Canada
Date: April 09, 2021

Model Information

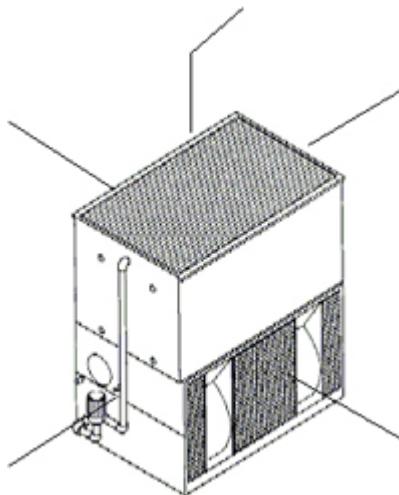
Product Line: VC1 Evaporative Condenser
Model: VC1-N243
Number of Units: 1
Fan Type: Standard Fan
Fan Motor: Full Speed, 20.00 BHP/Unit
Intake Option: None
Internal Option: None
Discharge Option: None
External Static Pressure: 0.00 in. of H2O

Total Standard Fan Power: 20.00 HP/Unit
Total Pump Motor Power: 3.00 HP/Unit

Octave band and A-weighted sound pressure levels (Lp) are expressed in decibels (dB) reference 0.0002 microbar. Sound power levels (Lw) are expressed in decibels (dB) reference one picowatt. Octave band 1 has a center frequency of 63 Hertz.

Top Lp Sound Pressure (dB)		
Octave Band	Distance	
	5 ft.	50 ft.
1	75	59
2	77	61
3	76	60
4	75	60
5	75	59
6	74	58
7	69	53
8	69	51
A-wgtd	80	64

Back Lp Sound Pressure (dB)		
Octave Band	Distance	
	5 ft.	50 ft.
1	71	58
2	69	59
3	67	54
4	64	54
5	65	51
6	62	47
7	58	44
8	57	40
A-wgtd	69	56



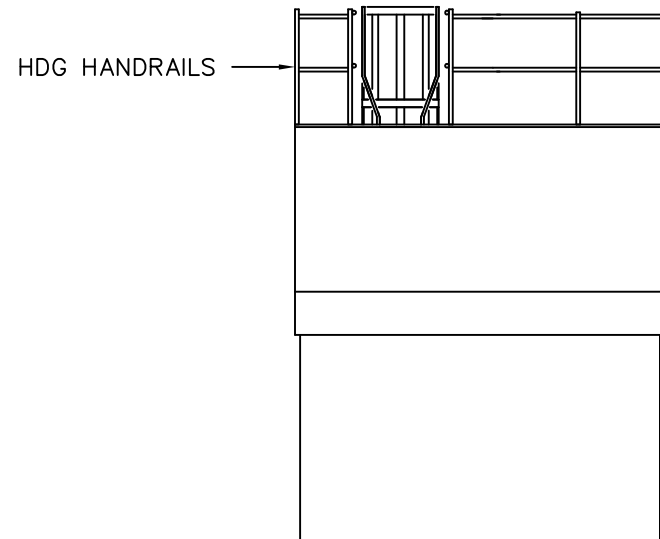
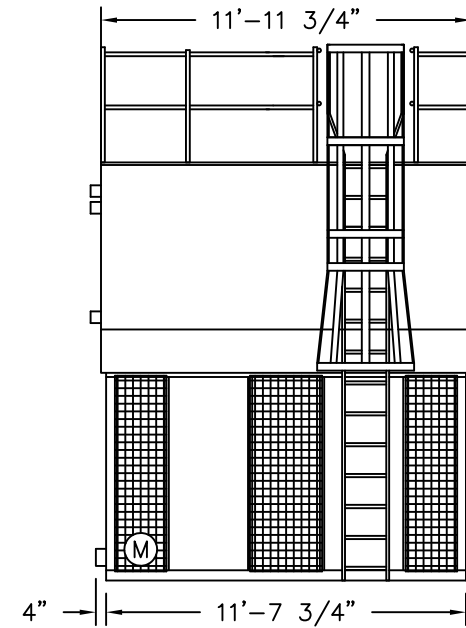
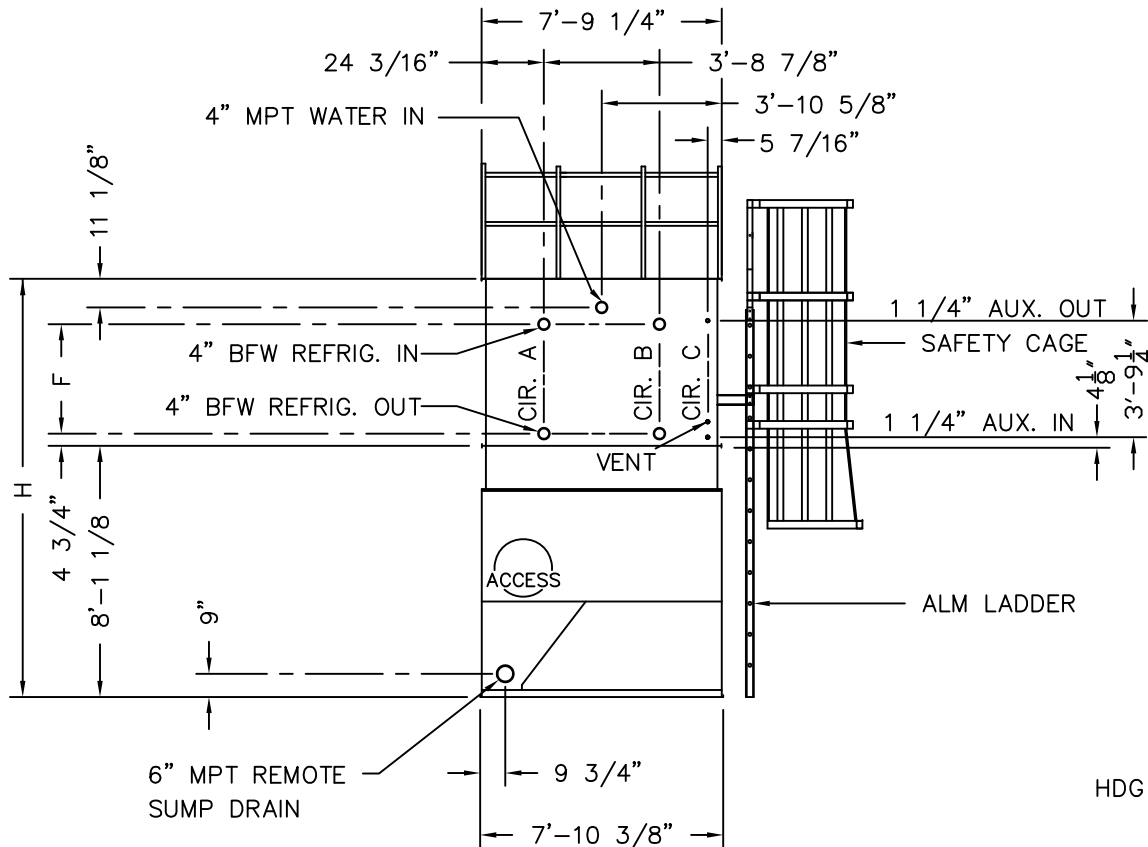
End Lp Sound Pressure (dB)		
Octave Band	Distance	
	5 ft.	50 ft.
1	74	63
2	70	60
3	67	55
4	66	55
5	65	51
6	60	47
7	58	45
8	55	41
A-wgtd	69	57

End Lp Sound Pressure (dB)		
Octave Band	Distance	
	5 ft.	50 ft.
1	75	63
2	71	60
3	70	55
4	67	55
5	66	51
6	63	47
7	61	45
8	58	41
A-wgtd	71	57

Sound Power (dB)		
Octave Band	Center Frequency (Hertz)	Lw
1	63	93
2	125	94
3	250	92
4	500	92
5	1000	91
6	2000	90
7	4000	85
8	8000	83
A-wgtd		96

Air Inlet Lp Sound Pressure (dB)		
Octave Band	Distance	
	5 ft.	50 ft.
1	76	63
2	73	63
3	75	61
4	74	59
5	73	58
6	71	55
7	70	53
8	67	48
A-wgtd	78	63

Note: The use of frequency inverters (variable frequency drives) can increase sound levels.



[14 GG COIL; SPLIT 34/29/5]

(M) FAN MOTOR LOCATION.

MODEL NO.	APPROX. SHIPPING WEIGHT	APPROX. OPERATING WEIGHT	HEAVIEST SECTION (COIL)	F	H
VC1-N243	11920	14240	8250	33 1/4"	12'-9 1/8"

NOTES:

1. ALL DIMENSIONS ARE IN FEET AND INCHES. WEIGHTS ARE IN POUNDS.
2. UNLESS OTHERWISE INDICATED, ALL CONNECTIONS 6 INCHES AND SMALLER ARE MPT AND CONNECTIONS 8 INCHES AND LARGER ARE BEVELED FOR WELDING AND GROOVED FOR VICTAULIC CONNECTION.
3. DIMENSIONS SHOWING LOCATION OF COIL CONNECTIONS ARE APPROXIMATE AND SHOULD NOT BE USED FOR PREFABRICATION OF CONNECTING PIPING.
4. FOR SUPPORT REQUIREMENTS, REFER TO THE SUGGESTED STEEL SUPPORT DRAWING.

B.A.C.
 ORDER NO: U211025901
 DATE: 4/16/2021



BALTIMORE AIRCOIL
 COMPANY

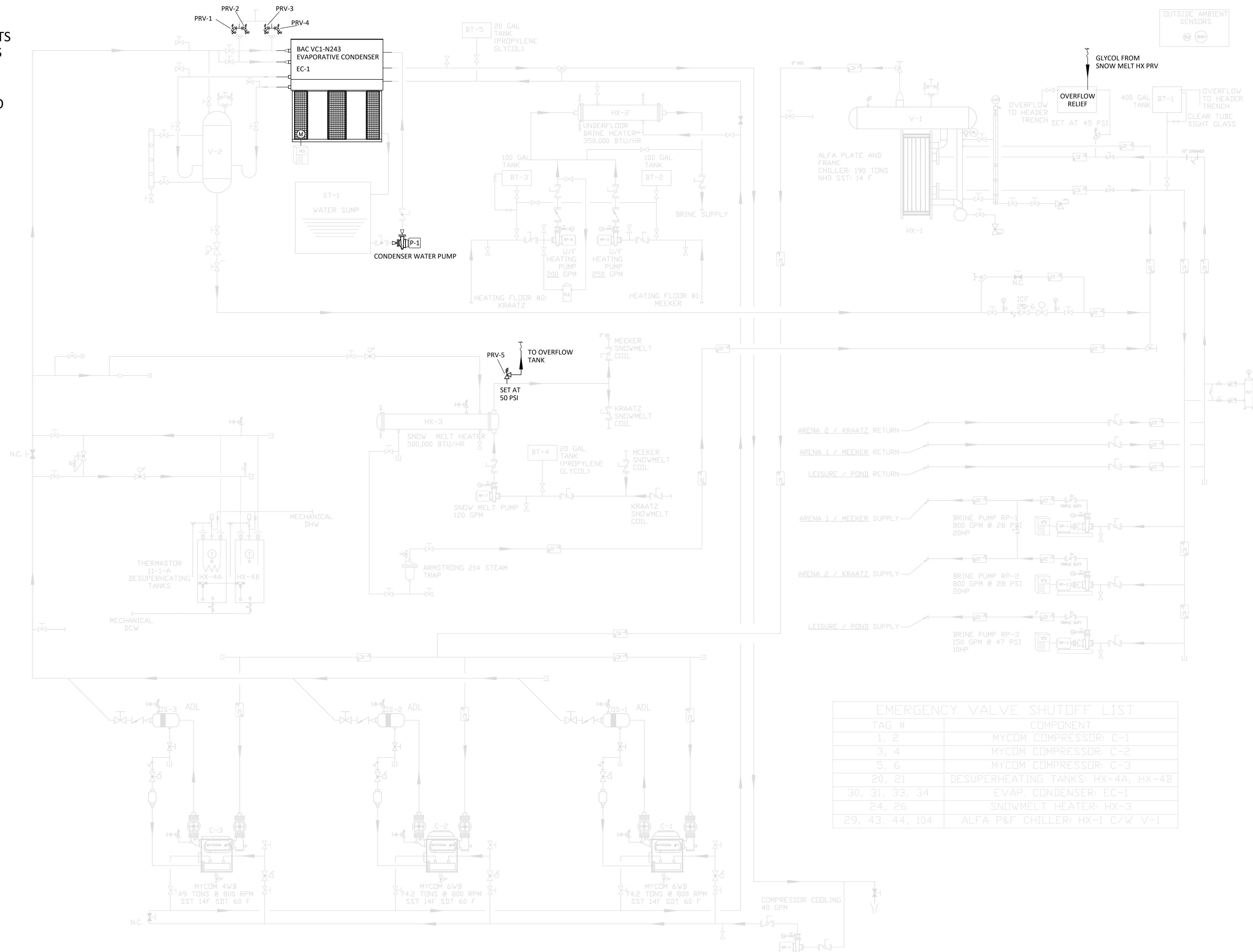
EVAPORATIVE CONDENSER
 RH UNIT - REMOTE SUMP

DRAWING NUMBER:
 BAC-9882 AX

NOTE 1: IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO IDENTIFY AND MAKE THE ENGINEER OF RECORD AWARE OF ANY ONSITE ITEMS WHICH DO NOT ALLOW FOR CODES TO BE MET.

NOTE 2: ALL EXISTING PIPING AND COMPONENTS ARE GRAY, ALL NEW PIPING AND COMPONENTS ARE BLACK.

NOTE 3: EXISTING PIPING IS TO BE EXTENDED TO ALLOW NEW CONDENSER TO BE CENTERED ON EXISTING FRAME.



EMERGENCY VALVE SHUTOFF LIST	
TAG #	COMPONENT
1, 2	MYCOM COMPRESSOR: C-1
3, 4	MYCOM COMPRESSOR: C-2
5, 6	MYCOM COMPRESSOR: C-3
20, 21	DESUPERHEATING TANKS: HX-4A, HX-4B
30, 31, 33, 34	EVAP. CONDENSER: EC-1
24, 26	SNOWMELT HEATER: HX-3
29, 43, 44, 104	ALFA P&F CHILLER: HX-1 C/W V-1

DESIGN COMPANY	CLIENT	ENGINEER OF RECORD	PROJECT TITLE	DRAWING TITLE	CODES AND STANDARDS	REV #	DATE	DESCRIPTION				
			OCEANSIDE PLACE CONDENSER REPLACEMENT	UPDATED PIPING & INSTRUMENTATION DIAGRAM	ASME B31.5: REFRIGERATION PIPING CODE ASHRAE 15 NEC: CANADIAN NATIONAL ELECTRICAL CODE CSA B52-13: MECHANICAL REFRIGERATION CODE	1	-	-				
						2	-	-				
						3	-	-				
						4	-	-				
						5	-	-				
						6	-	-				
PHONE 778-700-1086	WEBSITE WWW.POLARENG.CA	PHONE 250-390-4111	WEBSITE WWW.RDN.BC.CA	ENGINEER OF RECORD IAN WELLE P.ENG.	DRAWN BY LF	DATE APRIL 5 2021	CHECKED BY IW	DATE APRIL 6 2021	SHEET SIZE D	DRAWING # POLAR 1200	REVISION # 0	SHEET NAME M1

NOTE 1: IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO IDENTIFY AND MAKE THE ENGINEER OF RECORD AWARE OF ANY ONSITE ITEMS WHICH DO NOT ALLOW FOR CODES TO BE MET.

NOTE 2: ANY ELECTRICAL EQUIPMENT DECOMMISSIONED AS PART OF THE CONDENSER REPLACEMENT MUST ALSO BE REPLACED.

INSTALL EXTERNAL ACCESS LADDER AND LANDING ON THE BUILDING SIDE OF THE CONDENSER

DECOMMISSION AND DEMOLISH EXISTING CONDENSER

REUSE AS MUCH EXISTING PIPING AS POSSIBLE TO ENSURE RELIABLE OPERATION DURING THE LIFETIME OF THE CONDENSER

INSTALL NEW PARKER SR1R PRESSURE RELIEF VALVES AND 0.5" RUPTURE DISKS AND RUPTURE GAUGES

REMOUNT PROPYLENE GLYCOL STORAGE TANK

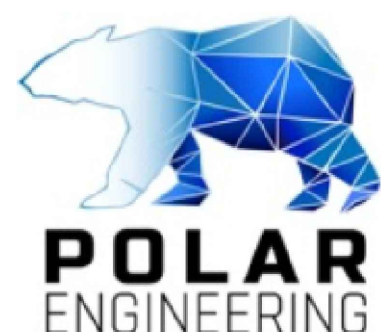
EXISTING SUMP AND GLYCOL PIPING TO BE EXTENDED AND RECONNECTED WITH NEW CONDENSER

EXTEND EXISTING PIPING TO ALLOW FOR NEW CONDENSER TO BE CENTERED ON THE EXISTING FRAME

ALL EXTERIOR PIPING TO BE REPAINTED AND LABELED IDENTIFYING WATER AND REFRIGERANT PIPING



DESIGN COMPANY



CLIENT



ENGINEER OF RECORD

IAN WELLE P.ENG.

PROJECT TITLE
OCEANSIDE PLACE
CONDENSER
REPLACEMENT

DRAWING TITLE
DEMOLITION DRAWING:
PIPING, VALVES,
CONDENSER AND
STRUCTURAL SUPPORTS

CODES AND STANDARDS

ASME B31.5: REFRIGERATION PIPING CODE
ASHRAE 15
NEC: CANADIAN NATIONAL ELECTRICAL CODE
CSA B52-13: MECHANICAL REFRIGERATION CODE

REV #

DATE

DESCRIPTION

REV #	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-

PHONE

WEBSITE

778-700-1086

WWW.POLARENG.CA

PHONE

WEBSITE

250-390-4111

WWW.RDN.BC.CA

DRAWN BY

DATE

CHECKED BY

DATE

SHEET SIZE

DRAWING #

REVISION #

SHEET NAME

LF

APRIL 5 2021

IW

APRIL 6 2021

D

POLAR 1200

0

M2

NOTE 1: IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO IDENTIFY AND MAKE THE ENGINEER OF RECORD AWARE OF ANY ONSITE ITEMS WHICH DO NOT ALLOW FOR CODES TO BE MET.

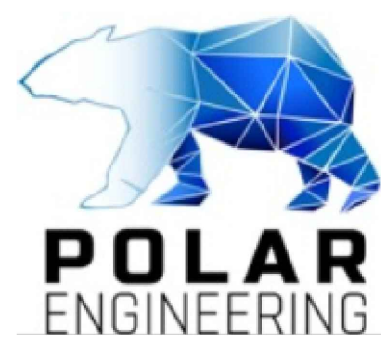
REUSE EXISTING FRAME

REMOVE EXISTING PAINT, EFFECTIVELY PROTECT ALL CORRODED AREAS, AND REFINISH FRAME WITH A UV AND WEATHER-RESISTANT PAINT

NEW CONDENSER SHALL BE CENTERED ON EXISTING FRAME



DESIGN COMPANY



CLIENT



ENGINEER OF RECORD

IAN WELLE P.ENG.

PROJECT TITLE
OCEANSIDE PLACE
CONDENSER
REPLACEMENT

DRAWING TITLE
CONDENSER
FRAME

CODES AND STANDARDS

ASME B31.5: REFRIGERATION PIPING CODE
ASHRAE 15
NEC: CANADIAN NATIONAL ELECTRICAL CODE
CSA B52-13: MECHANICAL REFRIGERATION CODE

REV #

DATE

DESCRIPTION

REV #	DATE	DESCRIPTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-

PHONE

WEBSITE

778-700-1086

WWW.POLARENG.CA

PHONE

WEBSITE

250-390-4111

WWW.RDN.BC.CA

DRAWN BY

DATE

CHECKED BY

DATE

SHEET SIZE

DRAWING #

REVISION #

SHEET NAME

LF

APRIL 5 2021

IW

APRIL 6 2021

D

POLAR 1200

0

M3

NOTE 1: IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO IDENTIFY AND MAKE THE ENGINEER OF RECORD AWARE OF ANY ONSITE ITEMS WHICH DO NOT ALLOW FOR CODES TO BE MET.

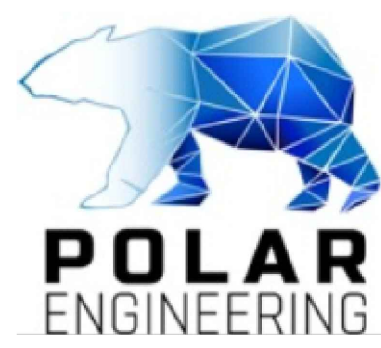
KEEP EXISTING PIPING FROM MECHANICAL ROOM TO CONDENSER



UPDATE PUMP FRAME AND SURROUNDING PIPING AS REQUIRED BY PUMP REPLACEMENT

REPLACE REMOTE PUMP AND UPGRADE PIPING AS REQUIRED

DESIGN COMPANY



POLAR
ENGINEERING

PHONE: 778-700-1086
WEBSITE: WWW.POLARENG.CA

CLIENT



REGIONAL DISTRICT OF NANAIMO

PHONE: 250-390-4111
WEBSITE: WWW.RDN.BC.CA

ENGINEER OF RECORD

IAN WELLE P.ENG.

PROJECT TITLE: OCEANSIDE PLACE CONDENSER REPLACEMENT
DRAWING TITLE: CONDENSER WATER PUMP REPLACEMENT

CODES AND STANDARDS		REV #	DATE	DESCRIPTION
ASME B31.5: REFRIGERATION PIPING CODE		1	-	-
ASHRAE 15		2	-	-
NEC: CANADIAN NATIONAL ELECTRICAL CODE		3	-	-
CSA B52-13: MECHANICAL REFRIGERATION CODE		4	-	-
		5	-	-
		6	-	-

DRAWN BY	DATE	CHECKED BY	DATE
LF	APRIL 5 2021	IW	APRIL 6 2021

SHEET SIZE	DRAWING #	REVISION #	SHEET NAME
D	POLAR 1200	0	M4

'EC' CONDENSER SCHEDULE

ITEM #	MANUFACTURER	MODEL	CAPACITY [MBH]	WATER FLOW [GPM]	CONDENSING TEMP [°F]	WET BULB TEMP [°F]	TOTAL HEAT REJECTION [MBH]	FAN MOTORS TOTAL POWER [HP]	PHASE	VOLTAGE	NOTES
EC-1	BAC	VC1-N243	3,572	385	85	61	2702	20	3	575	1. TO BE INTEGRATED WITH COMPRESSOR JACKET GLYCOL COOLING LOOP 2. WET BULB AND DRY BULB DETERMINED WITH ASHRAE 0.4% DESIGN CONDITIONS 3. CONDENSER IS TO BE INSTALLED WITH A LADDER AND ACCESS PLATFORM ON THE BUILDING SIDE OF THE UNIT

'PRV' RELIEF VALVE SCHEDULE

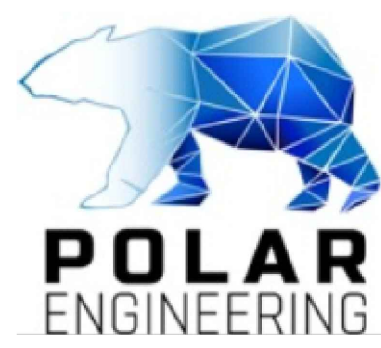

ITEM #	VALVE	SET PRESSURE [PSI]	NOTES
PRV-1	PARKER SR1R	250	TO BE INSTALLED WITH 0.5" RUPTURE DISK
PRV-2	PARKER SR1R	250	TO BE INSTALLED WITH 0.5" RUPTURE DISK
PRV-3	PARKER SR1R	250	TO BE INSTALLED WITH 0.5" RUPTURE DISK
PRV-4	PARKER SR1R	250	TO BE INSTALLED WITH 0.5" RUPTURE DISK
PRV-5	1" CARBON STEEL PRV	50	


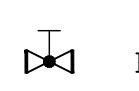
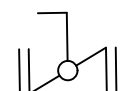

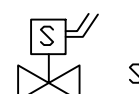
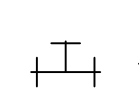

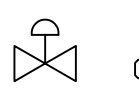
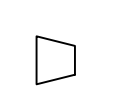

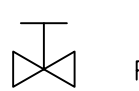


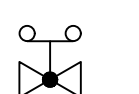

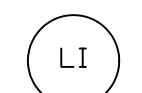


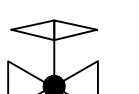
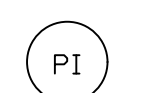
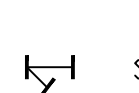
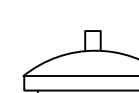
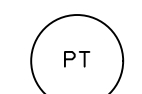
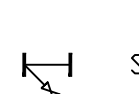

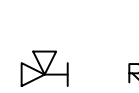
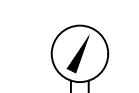
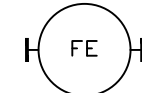

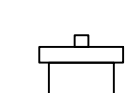
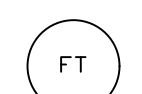
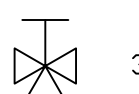



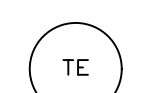
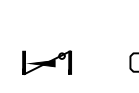
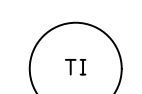
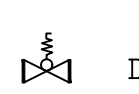
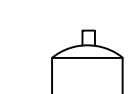
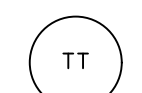
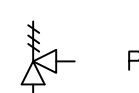
'P' PUMP SCHEDULE

ITEM #	MANUFACTURER	MODEL	FLUID	FLOW [GPM]	HEAD [PSI]	MOTOR HP	PHASE	VOLTAGE
P-1	ARMSTRONG	SERIES 4280 - 6x4x13 - 6P - 7.5 HP	WATER	385	21	7.5	3	575

PRIMARY REFRIGERATION PIPING SCHEDULE

PIPING - SHALL BEAR THE MILL TEST #	
NOTE: COPY OF THE MILL TEST CERTIFICATES TO BE INCLUDED IN MANUAL	
UP TO 2" IPS:	
	> SCH. 80.A106 GR. B SEAMLESS
	> IPS: SC. 80 A106 GR. B SEAMLESS WITH SOCKET WELD OR BUTT WELD CONNECTIONS
2 1/2" IPS & OVER:	
	> SCH. 40 A53 GR. B ERW
	> A106 GR. B SEAMLESS
	> A333 GRADE 1 OR 6 TYPE E OR S (BELOW -20°F/-29°C).
FITTINGS - SHALL BEAR THE MANUFACTURER'S IDENTIFICATION.	
UP TO 1 1/2" IPS:	
	> FORGED STEEL SOCKET WELD ASTM A105 GR. 2. CLASS 3000.
	> THREADED CONNECTIONS WITH SAME SPECIFICATIONS, ONLY IF LOCATION APPROVED BY REFRIGERATION CONSULTANT.
2" IPS & UP:	
	> CARBON STEEL BUTT WELD ASTM A234B, OR A105 OR A420 (BELOW -20°F/-29°C)
	> COMPATIBLE WITH THE WALL THICKNESS OF THE PIPE
TUBING - STAINLESS STEEL, 0.035" THK. WALL IN 1/4" O.D. & 3/8" O.D. SIZES	
FITTINGS: PARKER-HANNIFIN CB CARBON STEEL COMPRESSION TYPE	
FLANGES: ANSI RAISED FACE, ASTM A105 GR. 1 OR A181 GR. 1 A105, A707 (BELOW - 20°F/-29°C) RATING TO MATCH PIPE.	
UNIONS: FORGED STEEL ASTM 105 GR. 2 300# WOG, STEEL TO STEEL GROUND JOINT, SOCKET WELD CONNECTIONS.	

DESIGN COMPANY  POLAR ENGINEERING	CLIENT  REGIONAL DISTRICT OF NANAIMO	ENGINEER OF RECORD IAN WELLE P.ENG.	PROJECT TITLE OCEANSIDE PLACE CONDENSER REPLACEMENT	DRAWING TITLE SCHEDULE	CODES AND STANDARDS			REV #	DATE	DESCRIPTION		
					ASME B31.5: REFRIGERATION PIPING CODE ASHRAE 15 NEC: CANADIAN NATIONAL ELECTRICAL CODE CSA B52-13: MECHANICAL REFRIGERATION CODE	1	-	-				
PHONE	WEBSITE	PHONE	WEBSITE									
778-700-1086	WWW.POLARENG.CA	250-390-4111	WWW.RDN.BC.CA									
					DRAWN BY	DATE	CHECKED BY	DATE	SHEET SIZE	DRAWING #	REVISION #	SHEET NAME
					LF	APRIL 5 2021	IW	APRIL 6 2021	D	POLAR 1200	0	S1

 LG	LEVEL GAUGE		BALL VALVE		BUTTERFLY VALVE
 LLS	LOW LEVEL SWITCH		SOLENOID VALVE		TEE
 HLS	HIGH LEVEL SWITCH		CONTROL VALVE		Reducer
 LLCD	LOW LEVEL CUT OUT		REFRIGERATION STOP VALVE		UNION
 HLCD	HIGH LEVEL CUT OUT		HAND EXPANSION VALVE		BULLSEYE LEVEL INDICATOR
 LI	Level Indicator		PRESSURE CONTROL VALVE		
 PSV	PRESSURE SAFETY VALVE		DIFFERENTIAL PRESSURE REGULATOR		
 PI	PRESSURE INDICATOR		STRAINER		HIGH SIDE FLOAT
 PT	PRESSURE TRANSMITTER		STRAINER W/ BLOWDOWN		
 SV	SOLENOID VALVE		REFRIGERATION ANGLE STOP VALVE		PRESSURE GAUGE
 FE	FLOW ELEMENT		DRAIN		AIR VENT
 FT	FLOW TRANSMITTER		3-WAY ISOLATION VALVE		
 FCV	FLOW CONTROL VALVE		SIGHT GLASS		PRESSURIZED EXPANSION TANK
 TE	TEMPERATURE ELEMENT		CHECK VALVE		
 TI	TEMPERATURE INDICATOR		DEAD MAN SPRING LOADED BALL VALVE		AIR SEPARATOR
 TT	TEMPERATURE TRANSMITTER		PRESSURE RELIEF VALVE		

PIPE IDENTIFICATION LEGEND			
CB	COLD BRINE	CBR	COLD BRINE RETURN
HBS	HOT BRINE SUPPLY	HBR	HOT BRINE RETURN
WS	WATER SUPPLY	WR	WATER RETURN
TSS	THERMOSYPHON SUPPLY	TSR	THERMOSYPHON RETURN
GS	GLYCOL SUPPLY	GR	GLYCOL RETURN
WG	WARM GLYCOL	HG	HOT GLYCOL
CWS	CONDENSER WATER SUPPLY	CWR	CONDENSER WATER RETURN
HPL	HIGH PRESSURE LIQUID	LPL	LOW PRESSURE LIQUID
CWS	CITY WATER	EQ	EQUALIZER
LSD	LOW STAGE DISCHARGE	HSD	HIGH STAGE DISCHARGE
SSS	SINGLE STAGE SUCTION	SSD	SINGLE STAGE DISCHARGE
RL	RELIEF LINE	FL	FIRE LINE
P	PURGE LINE	WRS	WET RETURN SUCTION
HG	HOT GAS	D	DRAIN
BB	BRINE BALANCE	BP	BY-PASS
OF	OVERFLOW	V	VENT
CD	CONDENSER DRAIN	F	FIRE
CC	CAPACITY CONTROL	CR	COMPRESSION RATION
FS	FLOAT SWITCH	EX	EXHUAUST AIR
LTRL	LOW TEMP RECIRCULATING LIQUID	HTRL	HIGH TEMP RECIRCULATING LIQUID
LTRS	LOW TEMP RECIRCULATING SUCTION	HTRS	HIGH TEMP RECIRCULATING SUCTION

DESIGN COMPANY  POLAR ENGINEERING	CLIENT  REGIONAL DISTRICT OF NANAIMO	ENGINEER OF RECORD IAN WELLE P.ENG.	PROJECT TITLE OCEANSIDE PLACE CONDENSER REPLACEMENT	DRAWING TITLE LEGEND	CODES AND STANDARDS		REV #	DATE	DESCRIPTION			
					ASME B31.5: REFRIGERATION PIPING CODE ASHRAE 15 NEC: CANADIAN NATIONAL ELECTRICAL CODE CSA B52-13: MECHANICAL REFRIGERATION CODE		1 - - 2 - - 3 - - 4 - - 5 - - 6 - -					
PHONE 778-700-1086	WEBSITE WWW.POLARENG.CA				DRAWN BY LF	DATE APRIL 5 2021	CHECKED BY IW	DATE APRIL 6 2021	SHEET SIZE D	DRAWING # POLAR 1200	REVISION # 0	SHEET NAME L

CCDC 2

stipulated price contract

2 0 0 8

[Name of the Project]

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CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE
CANADIAN CONSTRUCTION DOCUMENTS COMMITTEE

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The Canadian Construction Documents Committee (CCDC) is a national joint committee responsible for the development, production and review of standard Canadian construction contracts, forms and guides. Formed in 1974 the CCDC is made up of volunteer representatives from:

- Public Sector Owners
- Private Sector Owners
- Canadian Bar Association (Ex-Officio)
- * The Association of Canadian Engineering Companies
- * The Canadian Construction Association
- * Construction Specifications Canada
- * The Royal Architectural Institute of Canada

*Committee policy and procedures are directed and approved by the four constituent national organizations.

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AGREEMENT BETWEEN OWNER AND CONTRACTOR

For use when a stipulated price is the basis of payment.

This Agreement made on the _____ day of _____ in the year _____ .

by and between the parties

_____ hereinafter called the "*Owner*"

and

_____ hereinafter called the "*Contractor*"

The *Owner* and the *Contractor* agree as follows:

ARTICLE A-1 THE WORK

The *Contractor* shall:

1.1 perform the *Work* required by the *Contract Documents* for

_____ located at _____ *insert above the name of the Work*

_____ for which the Agreement has been signed by the parties, and for which *insert above the Place of the Work*

_____ is acting as and is hereinafter called the "*Consultant*" and *insert above the name of the Consultant*

1.2 do and fulfill everything indicated by the *Contract Documents*, and

1.3 commence the *Work* by the _____ day of _____ in the year _____ and, subject to adjustment in *Contract Time* as provided for in the *Contract Documents*, attain *Substantial Performance of the Work*, by the _____ day of _____ in the year _____ .

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

2.1 The *Contract* supersedes all prior negotiations, representations or agreements, either written or oral, relating in any manner to the *Work*, including the bidding documents that are not expressly listed in Article A-3 of the Agreement - CONTRACT DOCUMENTS.

2.2 The *Contract* may be amended only as provided in the *Contract Documents*.

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ARTICLE A-3 CONTRACT DOCUMENTS

3.1 The following are the *Contract Documents* referred to in Article A-1 of the Agreement - THE WORK:

- Agreement between *Owner* and *Contractor*
- Definitions
- The General Conditions of the Stipulated Price Contract

*

* (Insert here, attaching additional pages if required, a list identifying all other *Contract Documents* e.g. supplementary conditions; information documents; specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date)

ARTICLE A-4 CONTRACT PRICE

4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:

_____/100 dollars \$ _____

4.2 *Value Added Taxes* (of _____ %) payable by the *Owner* to the *Contractor* are:

_____/100 dollars \$ _____

4.3 Total amount payable by the *Owner* to the *Contractor* for the construction of the *Work* is:

_____/100 dollars \$ _____

4.4 These amounts shall be subject to adjustments as provided in the *Contract Documents*.

4.5 All amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

5.1 Subject to the provisions of the *Contract Documents*, and in accordance with legislation and statutory regulations respecting holdback percentages and, where such legislation or regulations do not exist or apply, subject to a holdback of

_____/100 percent (_____ %), the *Owner* shall:

- .1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* together with such *Value Added Taxes* as may be applicable to such payments, and
- .2 upon *Substantial Performance of the Work*, pay to the *Contractor* the unpaid balance of the holdback amount when due together with such *Value Added Taxes* as may be applicable to such payment, and
- .3 upon the issuance of the final certificate for payment, pay to the *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.

5.2 In the event of loss or damage occurring where payment becomes due under the property and boiler insurance policies, payments shall be made to the *Contractor* in accordance with the provisions of GC 11.1 – INSURANCE.

5.3 Interest

- .1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by arbitration or court, interest at the following rates on such unpaid amounts shall also become due and payable until payment:

- (1) 2% per annum above the prime rate for the first 60 days.
- (2) 4% per annum above the prime rate after the first 60 days.

Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by

(Insert name of chartered lending institution whose prime rate is to be used)

for prime business loans as it may change from time to time.

- .2 Interest shall apply at the rate and in the manner prescribed by paragraph 5.3.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date the amount would have been due and payable under the *Contract*, had it not been in dispute, until the date it is paid.

ARTICLE A-6 RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING

6.1 *Notices in Writing* will be addressed to the recipient at the address set out below. The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, or by facsimile or other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender. A *Notice in Writing* delivered by one party in accordance with this *Contract* will be deemed to have been received by the other party on the date of delivery if delivered by hand or courier, or if sent by mail it shall be deemed to have been received five calendar days after the date on which it was mailed, provided that if either such day is not a *Working Day*, then the *Notice in Writing* shall be deemed to have been received on the *Working Day* next following such day. A *Notice in Writing* sent by facsimile or other form of electronic communication shall be deemed to have been received on the date of its transmission provided that if such day is not a *Working Day* or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it shall be deemed to have been received at the opening of business at the place of receipt on the first *Working Day* next following the transmission thereof. An address for a party may be changed by *Notice in Writing* to the other party setting out the new address in accordance with this Article.

Owner

*name of Owner**

address

facsimile number

email address

Contractor

*name of Contractor**

address

facsimile number

email address

Consultant

*name of Consultant**

address

facsimile number

email address

** If it is intended that the notice must be received by a specific individual, that individual's name shall be indicated.*

ARTICLE A-7 LANGUAGE OF THE CONTRACT

7.1 When the *Contract Documents* are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English / French # language shall prevail.
Complete this statement by striking out inapplicable term.

7.2 This Agreement is drawn in English at the request of the parties hereto. La présente convention est rédigée en anglais à la demande des parties.

Note: This contract is protected by copyright. Use of a CCDC 2 document not containing a CCDC 2 copyright seal constitutes an infringement of copyright. Only sign this contract if the document cover page bears a CCDC 2 copyright seal to demonstrate that it is intended by the parties to be an accurate and unamended version of CCDC 2 – 2008 except to the extent that any alterations, additions or modifications are set forth in supplementary conditions.

ARTICLE A-8 SUCCESSION

8.1 The *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and assigns.

In witness whereof the parties hereto have executed this Agreement by the hands of their duly authorized representatives.

SIGNED AND DELIVERED
in the presence of:

WITNESS

signature

name of person signing

signature

name of person signing

WITNESS

signature

name of person signing

signature

name of person signing

OWNER

name of owner

signature

name and title of person signing

signature

name and title of person signing

CONTRACTOR

name of Contractor

signature

name and title of person signing

signature

name and title of person signing

N.B. Where legal jurisdiction, local practice or Owner or Contractor requirement calls for:
(a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf of the corporation or partnership; or
(b) the affixing of a corporate seal, this Agreement should be properly sealed.

DEFINITIONS

The following Definitions shall apply to all *Contract Documents*.

1. Change Directive

A *Change Directive* is a written instruction prepared by the *Consultant* and signed by the *Owner* directing the *Contractor* to proceed with a change in the *Work* within the general scope of the *Contract Documents* prior to the *Owner* and the *Contractor* agreeing upon adjustments in the *Contract Price* and the *Contract Time*.

2. Change Order

A *Change Order* is a written amendment to the *Contract* prepared by the *Consultant* and signed by the *Owner* and the *Contractor* stating their agreement upon:

- a change in the *Work*;
- the method of adjustment or the amount of the adjustment in the *Contract Price*, if any; and
- the extent of the adjustment in the *Contract Time*, if any.

3. Construction Equipment

Construction Equipment means all machinery and equipment, either operated or not operated, that is required for preparing, fabricating, conveying, erecting, or otherwise performing the *Work* but is not incorporated into the *Work*.

4. Consultant

The *Consultant* is the person or entity engaged by the *Owner* and identified as such in the Agreement. The *Consultant* is the Architect, the Engineer or entity licensed to practise in the province or territory of the *Place of the Work*. The term *Consultant* means the *Consultant* or the *Consultant's* authorized representative.

5. Contract

The *Contract* is the undertaking by the parties to perform their respective duties, responsibilities and obligations as prescribed in the *Contract Documents* and represents the entire agreement between the parties.

6. Contract Documents

The *Contract Documents* consist of those documents listed in Article A-3 of the Agreement - CONTRACT DOCUMENTS and amendments agreed upon between the parties.

7. Contract Price

The *Contract Price* is the amount stipulated in Article A-4 of the Agreement - CONTRACT PRICE.

8. Contract Time

The *Contract Time* is the time stipulated in paragraph 1.3 of Article A-1 of the Agreement - THE WORK from commencement of the *Work* to *Substantial Performance of the Work*.

9. Contractor

The *Contractor* is the person or entity identified as such in the Agreement. The term *Contractor* means the *Contractor* or the *Contractor's* authorized representative as designated to the *Owner* in writing.

10. Drawings

The *Drawings* are the graphic and pictorial portions of the *Contract Documents*, wherever located and whenever issued, showing the design, location and dimensions of the *Work*, generally including plans, elevations, sections, details, and diagrams.

11. Notice in Writing

A *Notice in Writing*, where identified in the *Contract Documents*, is a written communication between the parties or between them and the *Consultant* that is transmitted in accordance with the provisions of Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

12. Owner

The *Owner* is the person or entity identified as such in the Agreement. The term *Owner* means the *Owner* or the *Owner's* authorized agent or representative as designated to the *Contractor* in writing, but does not include the *Consultant*.

13. Place of the Work

The *Place of the Work* is the designated site or location of the *Work* identified in the *Contract Documents*.

14. Product

Product or *Products* means material, machinery, equipment, and fixtures forming the *Work*, but does not include *Construction Equipment*.

- 15. Project**
The *Project* means the total construction contemplated of which the *Work* may be the whole or a part.
- 16. Provide**
Provide means to supply and install.
- 17. Shop Drawings**
Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, *Product* data, and other data which the *Contractor* provides to illustrate details of portions of the *Work*.
- 18. Specifications**
The *Specifications* are that portion of the *Contract Documents*, wherever located and whenever issued, consisting of the written requirements and standards for *Products*, systems, workmanship, quality, and the services necessary for the performance of the *Work*.
- 19. Subcontractor**
A *Subcontractor* is a person or entity having a direct contract with the *Contractor* to perform a part or parts of the *Work* at the *Place of the Work*.
- 20. Substantial Performance of the Work**
Substantial Performance of the Work is as defined in the lien legislation applicable to the *Place of the Work*. If such legislation is not in force or does not contain such definition, or if the *Work* is governed by the Civil Code of Quebec, *Substantial Performance of the Work* shall have been reached when the *Work* is ready for use or is being used for the purpose intended and is so certified by the *Consultant*.
- 21. Supplemental Instruction**
A *Supplemental Instruction* is an instruction, not involving adjustment in the *Contract Price* or *Contract Time*, in the form of *Specifications*, *Drawings*, schedules, samples, models or written instructions, consistent with the intent of the *Contract Documents*. It is to be issued by the *Consultant* to supplement the *Contract Documents* as required for the performance of the *Work*.
- 22. Supplier**
A *Supplier* is a person or entity having a direct contract with the *Contractor* to supply *Products*.
- 23. Temporary Work**
Temporary Work means temporary supports, structures, facilities, services, and other temporary items, excluding *Construction Equipment*, required for the execution of the *Work* but not incorporated into the *Work*.
- 24. Value Added Taxes**
Value Added Taxes means such sum as shall be levied upon the *Contract Price* by the Federal or any Provincial or Territorial Government and is computed as a percentage of the *Contract Price* and includes the Goods and Services Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the *Contractor* by the tax legislation.
- 25. Work**
The *Work* means the total construction and related services required by the *Contract Documents*.
- 26. Working Day**
Working Day means a day other than a Saturday, Sunday, statutory holiday, or statutory vacation day that is observed by the construction industry in the area of the *Place of the Work*.

GENERAL CONDITIONS OF THE STIPULATED PRICE CONTRACT**PART 1 GENERAL PROVISIONS****GC 1.1 CONTRACT DOCUMENTS**

- 1.1.1 The intent of the *Contract Documents* is to include the labour, *Products* and services necessary for the performance of the *Work* by the *Contractor* in accordance with these documents. It is not intended, however, that the *Contractor* shall supply products or perform work not consistent with, not covered by, or not properly inferable from the *Contract Documents*.
- 1.1.2 Nothing contained in the *Contract Documents* shall create any contractual relationship between:
- .1 the *Owner* and a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
 - .2 the *Consultant* and the *Contractor*, a *Subcontractor*, a *Supplier*, or their agent, employee, or other person performing any portion of the *Work*.
- 1.1.3 The *Contract Documents* are complementary, and what is required by any one shall be as binding as if required by all.
- 1.1.4 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.
- 1.1.5 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.
- 1.1.6 Neither the organization of the *Specifications* nor the arrangement of *Drawings* shall control the *Contractor* in dividing the work among *Subcontractors* and *Suppliers*.
- 1.1.7 If there is a conflict within the *Contract Documents*:
- .1 the order of priority of documents, from highest to lowest, shall be
 - the Agreement between the *Owner* and the *Contractor*,
 - the Definitions,
 - Supplementary Conditions,
 - the General Conditions,
 - Division 1 of the *Specifications*,
 - technical *Specifications*,
 - material and finishing schedules,
 - the *Drawings*.
 - .2 *Drawings* of larger scale shall govern over those of smaller scale of the same date.
 - .3 dimensions shown on *Drawings* shall govern over dimensions scaled from *Drawings*.
 - .4 later dated documents shall govern over earlier documents of the same type.
- 1.1.8 The *Owner* shall provide the *Contractor*, without charge, sufficient copies of the *Contract Documents* to perform the *Work*.
- 1.1.9 *Specifications*, *Drawings*, models, and copies thereof furnished by the *Consultant* are and shall remain the *Consultant's* property, with the exception of the signed *Contract* sets, which shall belong to each party to the *Contract*. All *Specifications*, *Drawings* and models furnished by the *Consultant* are to be used only with respect to the *Work* and are not to be used on other work. These *Specifications*, *Drawings* and models are not to be copied or altered in any manner without the written authorization of the *Consultant*.
- 1.1.10 Models furnished by the *Contractor* at the *Owner's* expense are the property of the *Owner*.

GC 1.2 LAW OF THE CONTRACT

- 1.2.1 The law of the *Place of the Work* shall govern the interpretation of the *Contract*.

GC 1.3 RIGHTS AND REMEDIES

- 1.3.1 Except as expressly provided in the *Contract Documents*, the duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.
- 1.3.2 No action or failure to act by the *Owner*, *Consultant* or *Contractor* shall constitute a waiver of any right or duty afforded any of them under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

GC 1.4 ASSIGNMENT

1.4.1 Neither party to the *Contract* shall assign the *Contract* or a portion thereof without the written consent of the other, which consent shall not be unreasonably withheld.

PART 2 ADMINISTRATION OF THE CONTRACT

GC 2.1 AUTHORITY OF THE CONSULTANT

- 2.1.1 The *Consultant* will have authority to act on behalf of the *Owner* only to the extent provided in the *Contract Documents*, unless otherwise modified by written agreement as provided in paragraph 2.1.2.
- 2.1.2 The duties, responsibilities and limitations of authority of the *Consultant* as set forth in the *Contract Documents* shall be modified or extended only with the written consent of the *Owner*, the *Contractor* and the *Consultant*.
- 2.1.3 If the *Consultant's* employment is terminated, the *Owner* shall immediately appoint or reappoint a *Consultant* against whom the *Contractor* makes no reasonable objection and whose status under the *Contract Documents* shall be that of the former *Consultant*.

GC 2.2 ROLE OF THE CONSULTANT

- 2.2.1 The *Consultant* will provide administration of the *Contract* as described in the *Contract Documents*.
- 2.2.2 The *Consultant* will visit the *Place of the Work* at intervals appropriate to the progress of construction to become familiar with the progress and quality of the work and to determine if the *Work* is proceeding in general conformity with the *Contract Documents*.
- 2.2.3 If the *Owner* and the *Consultant* agree, the *Consultant* will provide at the *Place of the Work*, one or more project representatives to assist in carrying out the *Consultant's* responsibilities. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in writing to the *Contractor*.
- 2.2.4 The *Consultant* will promptly inform the *Owner* of the date of receipt of the *Contractor's* applications for payment as provided in paragraph 5.3.1.1 of GC 5.3 – PROGRESS PAYMENT.
- 2.2.5 Based on the *Consultant's* observations and evaluation of the *Contractor's* applications for payment, the *Consultant* will determine the amounts owing to the *Contractor* under the *Contract* and will issue certificates for payment as provided in Article A-5 of the Agreement - PAYMENT, GC 5.3 - PROGRESS PAYMENT and GC 5.7 - FINAL PAYMENT.
- 2.2.6 The *Consultant* will not be responsible for and will not have control, charge or supervision of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs required in connection with the *Work* in accordance with the applicable construction safety legislation, other regulations or general construction practice. The *Consultant* will not be responsible for the *Contractor's* failure to carry out the *Work* in accordance with the *Contract Documents*. The *Consultant* will not have control over, charge of or be responsible for the acts or omissions of the *Contractor*, *Subcontractors*, *Suppliers*, or their agents, employees, or any other persons performing portions of the *Work*.
- 2.2.7 Except with respect to GC 5.1 - FINANCING INFORMATION REQUIRED OF THE OWNER, the *Consultant* will be, in the first instance, the interpreter of the requirements of the *Contract Documents*.
- 2.2.8 Matters in question relating to the performance of the *Work* or the interpretation of the *Contract Documents* shall be initially referred in writing to the *Consultant* by the party raising the question for interpretations and findings and copied to the other party.
- 2.2.9 Interpretations and findings of the *Consultant* shall be consistent with the intent of the *Contract Documents*. In making such interpretations and findings the *Consultant* will not show partiality to either the *Owner* or the *Contractor*.
- 2.2.10 The *Consultant's* interpretations and findings will be given in writing to the parties within a reasonable time.
- 2.2.11 With respect to claims for a change in *Contract Price*, the *Consultant* will make findings as set out in GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.
- 2.2.12 The *Consultant* will have authority to reject work which in the *Consultant's* opinion does not conform to the requirements of the *Contract Documents*. Whenever the *Consultant* considers it necessary or advisable, the *Consultant* will have authority to require inspection or testing of work, whether or not such work is fabricated, installed or completed. However, neither the authority of the *Consultant* to act nor any decision either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the *Consultant* to the *Contractor*, *Subcontractors*, *Suppliers*, or their agents, employees, or other persons performing any of the *Work*.

- 2.2.13 During the progress of the *Work* the *Consultant* will furnish *Supplemental Instructions* to the *Contractor* with reasonable promptness or in accordance with a schedule for such instructions agreed to by the *Consultant* and the *Contractor*.
- 2.2.14 The *Consultant* will review and take appropriate action upon *Shop Drawings*, samples and other *Contractor's* submittals, in accordance with the *Contract Documents*.
- 2.2.15 The *Consultant* will prepare *Change Orders* and *Change Directives* as provided in GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.
- 2.2.16 The *Consultant* will conduct reviews of the *Work* to determine the date of *Substantial Performance of the Work* as provided in GC 5.4 - SUBSTANTIAL PERFORMANCE OF THE WORK.
- 2.2.17 All certificates issued by the *Consultant* will be to the best of the *Consultant's* knowledge, information and belief. By issuing any certificate, the *Consultant* does not guarantee the *Work* is correct or complete.
- 2.2.18 The *Consultant* will receive and review written warranties and related documents required by the *Contract* and provided by the *Contractor* and will forward such warranties and documents to the *Owner* for the *Owner's* acceptance.

GC 2.3 REVIEW AND INSPECTION OF THE WORK

- 2.3.1 The *Owner* and the *Consultant* shall have access to the *Work* at all times. The *Contractor* shall provide sufficient, safe and proper facilities at all times for the review of the *Work* by the *Consultant* and the inspection of the *Work* by authorized agencies. If parts of the *Work* are in preparation at locations other than the *Place of the Work*, the *Owner* and the *Consultant* shall be given access to such work whenever it is in progress.
- 2.3.2 If work is designated for tests, inspections or approvals in the *Contract Documents*, or by the *Consultant's* instructions, or by the laws or ordinances of the *Place of the Work*, the *Contractor* shall give the *Consultant* reasonable notification of when the work will be ready for review and inspection. The *Contractor* shall arrange for and shall give the *Consultant* reasonable notification of the date and time of inspections by other authorities.
- 2.3.3 The *Contractor* shall furnish promptly to the *Consultant* two copies of certificates and inspection reports relating to the *Work*.
- 2.3.4 If the *Contractor* covers, or permits to be covered, work that has been designated for special tests, inspections or approvals before such special tests, inspections or approvals are made, given or completed, the *Contractor* shall, if so directed, uncover such work, have the inspections or tests satisfactorily completed, and make good covering work at the *Contractor's* expense.
- 2.3.5 The *Consultant* may order any portion or portions of the *Work* to be examined to confirm that such work is in accordance with the requirements of the *Contract Documents*. If the work is not in accordance with the requirements of the *Contract Documents*, the *Contractor* shall correct the work and pay the cost of examination and correction. If the work is in accordance with the requirements of the *Contract Documents*, the *Owner* shall pay the cost of examination and restoration.
- 2.3.6 The *Contractor* shall pay the cost of making any test or inspection, including the cost of samples required for such test or inspection, if such test or inspection is designated in the *Contract Documents* to be performed by the *Contractor* or is designated by the laws or ordinances applicable to the *Place of the Work*.
- 2.3.7 The *Contractor* shall pay the cost of samples required for any test or inspection to be performed by the *Consultant* or the *Owner* if such test or inspection is designated in the *Contract Documents*.

GC 2.4 DEFECTIVE WORK

- 2.4.1 The *Contractor* shall promptly correct defective work that has been rejected by the *Consultant* as failing to conform to the *Contract Documents* whether or not the defective work has been incorporated in the *Work* and whether or not the defect is the result of poor workmanship, use of defective products or damage through carelessness or other act or omission of the *Contractor*.
- 2.4.2 The *Contractor* shall make good promptly other contractors' work destroyed or damaged by such corrections at the *Contractor's* expense.
- 2.4.3 If in the opinion of the *Consultant* it is not expedient to correct defective work or work not performed as provided in the *Contract Documents*, the *Owner* may deduct from the amount otherwise due to the *Contractor* the difference in value between the work as performed and that called for by the *Contract Documents*. If the *Owner* and the *Contractor* do not agree on the difference in value, they shall refer the matter to the *Consultant* for a determination.

PART 3 EXECUTION OF THE WORK

GC 3.1 CONTROL OF THE WORK

- 3.1.1 The *Contractor* shall have total control of the *Work* and shall effectively direct and supervise the *Work* so as to ensure conformity with the *Contract Documents*.
- 3.1.2 The *Contractor* shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for co-ordinating the various parts of the *Work* under the *Contract*.

GC 3.2 CONSTRUCTION BY OWNER OR OTHER CONTRACTORS

- 3.2.1 The *Owner* reserves the right to award separate contracts in connection with other parts of the *Project* to other contractors and to perform work with own forces.
- 3.2.2 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Owner* shall:
- .1 provide for the co-ordination of the activities and work of other contractors and *Owner's* own forces with the *Work* of the *Contract*;
 - .2 assume overall responsibility for compliance with the applicable health and construction safety legislation at the *Place of the Work*;
 - .3 enter into separate contracts with other contractors under conditions of contract which are compatible with the conditions of the *Contract*;
 - .4 ensure that insurance coverage is provided to the same requirements as are called for in GC 11.1 - INSURANCE and co-ordinate such insurance with the insurance coverage of the *Contractor* as it affects the *Work*; and
 - .5 take all reasonable precautions to avoid labour disputes or other disputes on the *Project* arising from the work of other contractors or the *Owner's* own forces.
- 3.2.3 When separate contracts are awarded for other parts of the *Project*, or when work is performed by the *Owner's* own forces, the *Contractor* shall:
- .1 afford the *Owner* and other contractors reasonable opportunity to store their products and execute their work;
 - .2 cooperate with other contractors and the *Owner* in reviewing their construction schedules; and
 - .3 promptly report to the *Consultant* in writing any apparent deficiencies in the work of other contractors or of the *Owner's* own forces, where such work affects the proper execution of any portion of the *Work*, prior to proceeding with that portion of the *Work*.
- 3.2.4 Where the *Contract Documents* identify work to be performed by other contractors or the *Owner's* own forces, the *Contractor* shall co-ordinate and schedule the *Work* with the work of other contractors and the *Owner's* own forces as specified in the *Contract Documents*.
- 3.2.5 Where a change in the *Work* is required as a result of the co-ordination and integration of the work of other contractors or *Owner's* own forces with the *Work*, the changes shall be authorized and valued as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.
- 3.2.6 Disputes and other matters in question between the *Contractor* and other contractors shall be dealt with as provided in Part 8 of the General Conditions - DISPUTE RESOLUTION provided the other contractors have reciprocal obligations. The *Contractor* shall be deemed to have consented to arbitration of any dispute with any other contractor whose contract with the *Owner* contains a similar agreement to arbitrate.

GC 3.3 TEMPORARY WORK

- 3.3.1 The *Contractor* shall have the sole responsibility for the design, erection, operation, maintenance, and removal of *Temporary Work*.
- 3.3.2 The *Contractor* shall engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in paragraph 3.3.1 where required by law or by the *Contract Documents* and in all cases where such *Temporary Work* is of such a nature that professional engineering skill is required to produce safe and satisfactory results.

3.3.3 Notwithstanding the provisions of GC 3.1 - CONTROL OF THE WORK, paragraphs 3.3.1 and 3.3.2 or provisions to the contrary elsewhere in the *Contract Documents* where such *Contract Documents* include designs for *Temporary Work* or specify a method of construction in whole or in part, such designs or methods of construction shall be considered to be part of the design of the *Work* and the *Contractor* shall not be held responsible for that part of the design or the specified method of construction. The *Contractor* shall, however, be responsible for the execution of such design or specified method of construction in the same manner as for the execution of the *Work*.

GC 3.4 DOCUMENT REVIEW

3.4.1 The *Contractor* shall review the *Contract Documents* and shall report promptly to the *Consultant* any error, inconsistency or omission the *Contractor* may discover. Such review by the *Contractor* shall be to the best of the *Contractor's* knowledge, information and belief and in making such review the *Contractor* does not assume any responsibility to the *Owner* or the *Consultant* for the accuracy of the review. The *Contractor* shall not be liable for damage or costs resulting from such errors, inconsistencies or omissions in the *Contract Documents*, which the *Contractor* did not discover. If the *Contractor* does discover any error, inconsistency or omission in the *Contract Documents*, the *Contractor* shall not proceed with the work affected until the *Contractor* has received corrected or missing information from the *Consultant*.

GC 3.5 CONSTRUCTION SCHEDULE

3.5.1 The *Contractor* shall:

- .1 prepare and submit to the *Owner* and the *Consultant* prior to the first application for payment, a construction schedule that indicates the timing of the major activities of the *Work* and provides sufficient detail of the critical events and their inter-relationship to demonstrate the *Work* will be performed in conformity with the *Contract Time*;
- .2 monitor the progress of the *Work* relative to the construction schedule and update the schedule on a monthly basis or as stipulated by the *Contract Documents*; and
- .3 advise the *Consultant* of any revisions required to the schedule as the result of extensions of the *Contract Time* as provided in Part 6 of the General Conditions - CHANGES IN THE WORK.

GC 3.6 SUPERVISION

3.6.1 The *Contractor* shall provide all necessary supervision and appoint a competent representative who shall be in attendance at the *Place of the Work* while work is being performed. The appointed representative shall not be changed except for valid reason.

3.6.2 The appointed representative shall represent the *Contractor* at the *Place of the Work*. Information and instructions provided by the *Consultant* to the *Contractor's* appointed representative shall be deemed to have been received by the *Contractor*, except with respect to Article A-6 of the Agreement – RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING.

GC 3.7 SUBCONTRACTORS AND SUPPLIERS

3.7.1 The *Contractor* shall preserve and protect the rights of the parties under the *Contract* with respect to work to be performed under subcontract, and shall:

- .1 enter into contracts or written agreements with *Subcontractors* and *Suppliers* to require them to perform their work as provided in the *Contract Documents*;
- .2 incorporate the terms and conditions of the *Contract Documents* into all contracts or written agreements with *Subcontractors* and *Suppliers*; and
- .3 be as fully responsible to the *Owner* for acts and omissions of *Subcontractors*, *Suppliers* and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Contractor*.

3.7.2 The *Contractor* shall indicate in writing, if requested by the *Owner*, those *Subcontractors* or *Suppliers* whose bids have been received by the *Contractor* which the *Contractor* would be prepared to accept for the performance of a portion of the *Work*. Should the *Owner* not object before signing the *Contract*, the *Contractor* shall employ those *Subcontractors* or *Suppliers* so identified by the *Contractor* in writing for the performance of that portion of the *Work* to which their bid applies.

3.7.3 The *Owner* may, for reasonable cause, at any time before the *Owner* has signed the *Contract*, object to the use of a proposed *Subcontractor* or *Supplier* and require the *Contractor* to employ one of the other subcontract bidders.

3.7.4 If the *Owner* requires the *Contractor* to change a proposed *Subcontractor* or *Supplier*, the *Contract Price* and *Contract Time* shall be adjusted by the differences occasioned by such required change.

- 3.7.5 The *Contractor* shall not be required to employ as a *Subcontractor* or *Supplier*, a person or firm to which the *Contractor* may reasonably object.
- 3.7.6 The *Owner*, through the *Consultant*, may provide to a *Subcontractor* or *Supplier* information as to the percentage of the *Subcontractor's* or *Supplier's* work which has been certified for payment.

GC 3.8 LABOUR AND PRODUCTS

- 3.8.1 The *Contractor* shall provide and pay for labour, *Products*, tools, *Construction Equipment*, water, heat, light, power, transportation, and other facilities and services necessary for the performance of the *Work* in accordance with the *Contract*.
- 3.8.2 Unless otherwise specified in the *Contract Documents*, *Products* provided shall be new. *Products* which are not specified shall be of a quality consistent with those specified and their use acceptable to the *Consultant*.
- 3.8.3 The *Contractor* shall maintain good order and discipline among the *Contractor's* employees engaged on the *Work* and shall not employ on the *Work* anyone not skilled in the tasks assigned.

GC 3.9 DOCUMENTS AT THE SITE

- 3.9.1 The *Contractor* shall keep one copy of current *Contract Documents*, submittals, reports, and records of meetings at the *Place of the Work*, in good order and available to the *Owner* and the *Consultant*.

GC 3.10 SHOP DRAWINGS

- 3.10.1 The *Contractor* shall provide *Shop Drawings* as required in the *Contract Documents*.
- 3.10.2 The *Contractor* shall provide *Shop Drawings* to the *Consultant* to review in orderly sequence and sufficiently in advance so as to cause no delay in the *Work* or in the work of other contractors.
- 3.10.3 Upon request of the *Contractor* or the *Consultant*, they shall jointly prepare a schedule of the dates for provision, review and return of *Shop Drawings*.
- 3.10.4 The *Contractor* shall provide *Shop Drawings* in the form specified, or if not specified, as directed by the *Consultant*.
- 3.10.5 *Shop Drawings* provided by the *Contractor* to the *Consultant* shall indicate by stamp, date and signature of the person responsible for the review that the *Contractor* has reviewed each one of them.
- 3.10.6 The *Consultant's* review is for conformity to the design concept and for general arrangement only.
- 3.10.7 *Shop Drawings* which require approval of any legally constituted authority having jurisdiction shall be provided to such authority by the *Contractor* for approval.
- 3.10.8 The *Contractor* shall review all *Shop Drawings* before providing them to the *Consultant*. The *Contractor* represents by this review that:
- .1 the *Contractor* has determined and verified all applicable field measurements, field construction conditions, *Product* requirements, catalogue numbers and similar data, or will do so, and
 - .2 the *Contractor* has checked and co-ordinated each *Shop Drawing* with the requirements of the *Work* and of the *Contract Documents*.
- 3.10.9 At the time of providing *Shop Drawings*, the *Contractor* shall expressly advise the *Consultant* in writing of any deviations in a *Shop Drawing* from the requirements of the *Contract Documents*. The *Consultant* shall indicate the acceptance or rejection of such deviation expressly in writing.
- 3.10.10 The *Consultant's* review shall not relieve the *Contractor* of responsibility for errors or omissions in the *Shop Drawings* or for meeting all requirements of the *Contract Documents*.
- 3.10.11 The *Contractor* shall provide revised *Shop Drawings* to correct those which the *Consultant* rejects as inconsistent with the *Contract Documents*, unless otherwise directed by the *Consultant*. The *Contractor* shall notify the *Consultant* in writing of any revisions to the *Shop Drawings* other than those requested by the *Consultant*.
- 3.10.12 The *Consultant* will review and return *Shop Drawings* 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*.

GC 3.11 USE OF THE WORK

- 3.11.1 The *Contractor* shall confine *Construction Equipment*, *Temporary Work*, storage of *Products*, waste products and debris, and operations of employees and *Subcontractors* to limits indicated by laws, ordinances, permits, or the *Contract Documents* and shall not unreasonably encumber the *Place of the Work*.
- 3.11.2 The *Contractor* shall not load or permit to be loaded any part of the *Work* with a weight or force that will endanger the safety of the *Work*.

GC 3.12 CUTTING AND REMEDIAL WORK

- 3.12.1 The *Contractor* shall perform the cutting and remedial work required to make the affected parts of the *Work* come together properly.
- 3.12.2 The *Contractor* shall co-ordinate the *Work* to ensure that the cutting and remedial work is kept to a minimum.
- 3.12.3 Should the *Owner*, the *Consultant*, other contractors or anyone employed by them be responsible for ill-timed work necessitating cutting or remedial work to be performed, the cost of such cutting or remedial work shall be valued as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.
- 3.12.4 Cutting and remedial work shall be performed by specialists familiar with the *Products* affected and shall be performed in a manner to neither damage nor endanger the *Work*.

GC 3.13 CLEANUP

- 3.13.1 The *Contractor* shall maintain the *Work* in a safe and tidy condition and free from the accumulation of waste products and debris, other than that caused by the *Owner*, other contractors or their employees.
- 3.13.2 Before applying for *Substantial Performance of the Work* as provided in GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK, the *Contractor* shall remove waste products and debris, other than that resulting from the work of the *Owner*, other contractors or their employees, and shall leave the *Place of the Work* clean and suitable for use or occupancy by the *Owner*. The *Contractor* shall remove products, tools, *Construction Equipment*, and *Temporary Work* not required for the performance of the remaining work.
- 3.13.3 Prior to application for the final payment, the *Contractor* shall remove any remaining products, tools, *Construction Equipment*, *Temporary Work*, and waste products and debris, other than those resulting from the work of the *Owner*, other contractors or their employees.

PART 4 ALLOWANCES

GC 4.1 CASH ALLOWANCES

- 4.1.1 The *Contract Price* includes the cash allowances, if any, stated in the *Contract Documents*. The scope of work or costs included in such cash allowances shall be as described in the *Contract Documents*.
- 4.1.2 The *Contract Price*, and not the cash allowances, includes the *Contractor's* overhead and profit in connection with such cash allowances.
- 4.1.3 Expenditures under cash allowances shall be authorized by the *Owner* through the *Consultant*.
- 4.1.4 Where the actual cost of the *Work* under any cash allowance exceeds the amount of the allowance, the *Contractor* shall be compensated for the excess incurred and substantiated plus an amount for overhead and profit on the excess as set out in the *Contract Documents*. Where the actual cost of the *Work* under any cash allowance is less than the amount of the allowance, the *Owner* shall be credited for the unexpended portion of the cash allowance, but not for the *Contractor's* overhead and profit on such amount. Multiple cash allowances shall not be combined for the purpose of calculating the foregoing.
- 4.1.5 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between the amount of each cash allowance and the actual cost of the work under that cash allowance.
- 4.1.6 The value of the work performed under a cash allowance is eligible to be included in progress payments.
- 4.1.7 The *Contractor* and the *Consultant* shall jointly prepare a schedule that shows when the *Consultant* and *Owner* must authorize ordering of items called for under cash allowances to avoid delaying the progress of the *Work*.

GC 4.2 CONTINGENCY ALLOWANCE

- 4.2.1 The *Contract Price* includes the contingency allowance, if any, stated in the *Contract Documents*.
- 4.2.2 The contingency allowance includes the *Contractor's* overhead and profit in connection with such contingency allowance.
- 4.2.3 Expenditures under the contingency allowance shall be authorized and valued as provided in GC 6.1 – OWNER’S RIGHT TO MAKE CHANGES, GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.
- 4.2.4 The *Contract Price* shall be adjusted by *Change Order* to provide for any difference between the expenditures authorized under paragraph 4.2.3 and the contingency allowance.

PART 5 PAYMENT

GC 5.1 FINANCING INFORMATION REQUIRED OF THE OWNER

- 5.1.1 The *Owner* shall, at the request of the *Contractor*, before signing the *Contract*, and promptly from time to time thereafter, furnish to the *Contractor* reasonable evidence that financial arrangements have been made to fulfill the *Owner's* obligations under the *Contract*.
- 5.1.2 The *Owner* shall give the *Contractor Notice in Writing* of any material change in the *Owner's* financial arrangements to fulfill the *Owner's* obligations under the *Contract* during the performance of the *Contract*.

GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

- 5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement - PAYMENT may be made monthly as the *Work* progresses.
- 5.2.2 Applications for payment shall be dated the last day of each payment period, which is the last day of the month or an alternative day of the month agreed in writing by the parties.
- 5.2.3 The amount claimed shall be for the value, proportionate to the amount of the *Contract*, of *Work* performed and *Products* delivered to the *Place of the Work* as of the last day of the payment period.
- 5.2.4 The *Contractor* shall submit to the *Consultant*, at least 15 calendar days before the first application for payment, a schedule of values for the parts of the *Work*, aggregating the total amount of the *Contract Price*, so as to facilitate evaluation of applications for payment.
- 5.2.5 The schedule of values shall be made out in such form and supported by such evidence as the *Consultant* may reasonably direct and when accepted by the *Consultant*, shall be used as the basis for applications for payment, unless it is found to be in error.
- 5.2.6 The *Contractor* shall include a statement based on the schedule of values with each application for payment.
- 5.2.7 Applications for payment for *Products* delivered to the *Place of the Work* but not yet incorporated into the *Work* shall be supported by such evidence as the *Consultant* may reasonably require to establish the value and delivery of the *Products*.

GC 5.3 PROGRESS PAYMENT

- 5.3.1 After receipt by the *Consultant* of an application for payment submitted by the *Contractor* in accordance with GC 5.2 - APPLICATIONS FOR PROGRESS PAYMENT:
 - .1 the *Consultant* will promptly inform the *Owner* of the date of receipt of the *Contractor's* application for payment,
 - .2 the *Consultant* will issue to the *Owner* and copy to the *Contractor*, no later than 10 calendar days after the receipt of the application for payment, a certificate for payment in the amount applied for, or in such other amount as the *Consultant* determines to be properly due. If the *Consultant* amends the application, the *Consultant* will promptly advise the *Contractor* in writing giving reasons for the amendment,
 - .3 the *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement - PAYMENT on or before 20 calendar days after the later of:
 - receipt by the *Consultant* of the application for payment, or
 - the last day of the monthly payment period for which the application for payment is made.

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

- 5.4.1 When the *Contractor* considers that the *Work* is substantially performed, or if permitted by the lien legislation applicable to the *Place of the Work* a designated portion thereof which the *Owner* agrees to accept separately is substantially performed, the *Contractor* shall, within one *Working Day*, deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for a review by the *Consultant* to establish *Substantial Performance of the Work* or substantial performance of the designated portion of the *Work*. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.
- 5.4.2 The *Consultant* will review the *Work* to verify the validity of the application and shall promptly, and in any event, no later than 20 calendar days after receipt of the *Contractor's* list and application:
- .1 advise the *Contractor* in writing that the *Work* or the designated portion of the *Work* is not substantially performed and give reasons why, or
 - .2 state the date of *Substantial Performance of the Work* or a designated portion of the *Work* in a certificate and issue a copy of that certificate to each of the *Owner* and the *Contractor*.
- 5.4.3 Immediately following the issuance of the certificate of *Substantial Performance of the Work*, the *Contractor*, in consultation with the *Consultant*, shall establish a reasonable date for finishing the *Work*.

GC 5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

- 5.5.1 After the issuance of the certificate of *Substantial Performance of the Work*, the *Contractor* shall:
- .1 submit an application for payment of the holdback amount,
 - .2 submit CCDC 9A 'Statutory Declaration' to state that all accounts for labour, subcontracts, *Products*, *Construction Equipment*, and other indebtedness which may have been incurred by the *Contractor* in the *Substantial Performance of the Work* and for which the *Owner* might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute.
- 5.5.2 After the receipt of an application for payment from the *Contractor* and the statement as provided in paragraph 5.5.1, the *Consultant* will issue a certificate for payment of the holdback amount.
- 5.5.3 Where the holdback amount required by the applicable lien legislation has not been placed in a separate holdback account, the *Owner* shall, 10 calendar days prior to the expiry of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*, place the holdback amount in a bank account in the joint names of the *Owner* and the *Contractor*.
- 5.5.4 In the common law jurisdictions, the holdback amount authorized by the certificate for payment of the holdback amount is due and payable on the first calendar day following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*. Where lien legislation does not exist or apply, the holdback amount shall be due and payable in accordance with other legislation, industry practice or provisions which may be agreed to between the parties. The *Owner* may retain out of the holdback amount any sums required by law to satisfy any liens against the *Work* or, if permitted by the lien legislation applicable to the *Place of the Work*, other third party monetary claims against the *Contractor* which are enforceable against the *Owner*.
- 5.5.5 In the Province of Quebec, the holdback amount authorized by the certificate for payment of the holdback amount is due and payable 30 calendar days after the issuance of the certificate. The *Owner* may retain out of the holdback amount any sums required to satisfy any legal hypothecs that have been taken, or could be taken, against the *Work* or other third party monetary claims against the *Contractor* which are enforceable against the *Owner*.

GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK

- 5.6.1 In the common law jurisdictions, where legislation permits and where, upon application by the *Contractor*, the *Consultant* has certified that the work of a *Subcontractor* or *Supplier* has been performed prior to *Substantial Performance of the Work*, the *Owner* shall pay the *Contractor* the holdback amount retained for such subcontract work, or the *Products* supplied by such *Supplier*, on the first calendar day following the expiration of the holdback period for such work stipulated in the lien legislation applicable to the *Place of the Work*. The *Owner* may retain out of the holdback amount any sums required by law to satisfy any liens against the *Work* or, if permitted by the lien legislation applicable to the *Place of the Work*, other third party monetary claims against the *Contractor* which are enforceable against the *Owner*.

- 5.6.2 In the Province of Quebec, where, upon application by the *Contractor*, the *Consultant* has certified that the work of a *Subcontractor* or *Supplier* has been performed prior to *Substantial Performance of the Work*, the *Owner* shall pay the *Contractor* the holdback amount retained for such subcontract work, or the *Products* supplied by such *Supplier*, no later than 30 calendar days after such certification by the *Consultant*. The *Owner* may retain out of the holdback amount any sums required to satisfy any legal hypothecs that have been taken, or could be taken, against the *Work* or other third party monetary claims against the *Contractor* which are enforceable against the *Owner*.
- 5.6.3 Notwithstanding the provisions of the preceding paragraphs, and notwithstanding the wording of such certificates, the *Contractor* shall ensure that such subcontract work or *Products* are protected pending the issuance of a final certificate for payment and be responsible for the correction of defects or work not performed regardless of whether or not such was apparent when such certificates were issued.

GC 5.7 FINAL PAYMENT

- 5.7.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment.
- 5.7.2 The *Consultant* will, no later than 10 calendar days after the receipt of an application from the *Contractor* for final payment, review the *Work* to verify the validity of the application and advise the *Contractor* in writing that the application is valid or give reasons why it is not valid.
- 5.7.3 When the *Consultant* finds the *Contractor's* application for final payment valid, the *Consultant* will promptly issue a final certificate for payment.
- 5.7.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 - WORKERS' COMPENSATION, and any lien legislation applicable to the *Place of the Work*, the *Owner* shall, no later than 5 calendar days after the issuance of a final certificate for payment, pay the *Contractor* as provided in Article A-5 of the Agreement - PAYMENT.

GC 5.8 WITHHOLDING OF PAYMENT

- 5.8.1 If because of climatic or other conditions reasonably beyond the control of the *Contractor*, there are items of work that cannot be performed, payment in full for that portion of the *Work* which has been performed as certified by the *Consultant* shall not be withheld or delayed by the *Owner* on account thereof, but the *Owner* may withhold, until the remaining portion of the *Work* is finished, only such an amount that the *Consultant* determines is sufficient and reasonable to cover the cost of performing such remaining work.

GC 5.9 NON-CONFORMING WORK

- 5.9.1 No payment by the *Owner* under the *Contract* nor partial or entire use or occupancy of the *Work* by the *Owner* shall constitute an acceptance of any portion of the *Work* or *Products* which are not in accordance with the requirements of the *Contract Documents*.

PART 6 CHANGES IN THE WORK

GC 6.1 OWNER'S RIGHT TO MAKE CHANGES

- 6.1.1 The *Owner*, through the *Consultant*, without invalidating the *Contract*, may make:
- .1 changes in the *Work* consisting of additions, deletions or other revisions to the *Work* by *Change Order* or *Change Directive*, and
 - .2 changes to the *Contract Time* for the *Work*, or any part thereof, by *Change Order*.
- 6.1.2 The *Contractor* shall not perform a change in the *Work* without a *Change Order* or a *Change Directive*.

GC 6.2 CHANGE ORDER

- 6.2.1 When a change in the *Work* is proposed or required, the *Consultant* will provide the *Contractor* with a written description of the proposed change in the *Work*. The *Contractor* shall promptly present, in a form acceptable to the *Consultant*, a method of adjustment or an amount of adjustment for the *Contract Price*, if any, and the adjustment in the *Contract Time*, if any, for the proposed change in the *Work*.
- 6.2.2 When the *Owner* and *Contractor* agree to the adjustments in the *Contract Price* and *Contract Time* or to the method to be used to determine the adjustments, such agreement shall be effective immediately and shall be recorded in a *Change Order*. The value of the work performed as the result of a *Change Order* shall be included in the application for progress payment.

GC 6.3 CHANGE DIRECTIVE

- 6.3.1 If the *Owner* requires the *Contractor* to proceed with a change in the *Work* prior to the *Owner* and the *Contractor* agreeing upon the corresponding adjustment in *Contract Price* and *Contract Time*, the *Owner*, through the *Consultant*, shall issue a *Change Directive*.
- 6.3.2 A *Change Directive* shall only be used to direct a change in the *Work* which is within the general scope of the *Contract Documents*.
- 6.3.3 A *Change Directive* shall not be used to direct a change in the *Contract Time* only.
- 6.3.4 Upon receipt of a *Change Directive*, the *Contractor* shall proceed promptly with the change in the *Work*.
- 6.3.5 For the purpose of valuing *Change Directives*, changes in the *Work* that are not substitutions or otherwise related to each other shall not be grouped together in the same *Change Directive*.
- 6.3.6 The adjustment in the *Contract Price* for a change carried out by way of a *Change Directive* shall be determined on the basis of the cost of the *Contractor's* actual expenditures and savings attributable to the *Change Directive*, valued in accordance with paragraph 6.3.7 and as follows:
- .1 If the change results in a net increase in the *Contractor's* cost, the *Contract Price* shall be increased by the amount of the net increase in the *Contractor's* cost, plus the *Contractor's* percentage fee on such net increase.
 - .2 If the change results in a net decrease in the *Contractor's* cost, the *Contract Price* shall be decreased by the amount of the net decrease in the *Contractor's* cost, without adjustment for the *Contractor's* percentage fee.
 - .3 The *Contractor's* fee shall be as specified in the *Contract Documents* or as otherwise agreed by the parties.
- 6.3.7 The cost of performing the work attributable to the *Change Directive* shall be limited to the actual cost of the following:
- .1 salaries, wages and benefits paid to personnel in the direct employ of the *Contractor* under a salary or wage schedule agreed upon by the *Owner* and the *Contractor*, or in the absence of such a schedule, actual salaries, wages and benefits paid under applicable bargaining agreement, and in the absence of a salary or wage schedule and bargaining agreement, actual salaries, wages and benefits paid by the *Contractor*, for personnel
 - (1) stationed at the *Contractor's* field office, in whatever capacity employed;
 - (2) engaged in expediting the production or transportation of material or equipment, at shops or on the road;
 - (3) engaged in the preparation or review of *Shop Drawings*, fabrication drawings, and coordination drawings; or
 - (4) engaged in the processing of changes in the *Work*.
 - .2 contributions, assessments or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan, insofar as such cost is based on wages, salaries or other remuneration paid to employees of the *Contractor* and included in the cost of the *Work* as provided in paragraph 6.3.7.1;
 - .3 travel and subsistence expenses of the *Contractor's* personnel described in paragraph 6.3.7.1;
 - .4 all *Products* including cost of transportation thereof;
 - .5 materials, supplies, *Construction Equipment*, *Temporary Work*, and hand tools not owned by the workers, including transportation and maintenance thereof, which are consumed in the performance of the *Work*; and cost less salvage value on such items used but not consumed, which remain the property of the *Contractor*;
 - .6 all tools and *Construction Equipment*, exclusive of hand tools used in the performance of the *Work*, whether rented from or provided by the *Contractor* or others, including installation, minor repairs and replacements, dismantling, removal, transportation, and delivery cost thereof;
 - .7 all equipment and services required for the *Contractor's* field office;
 - .8 deposits lost;
 - .9 the amounts of all subcontracts;
 - .10 quality assurance such as independent inspection and testing services;
 - .11 charges levied by authorities having jurisdiction at the *Place of the Work*;
 - .12 royalties, patent licence fees and damages for infringement of patents and cost of defending suits therefor subject always to the *Contractor's* obligations to indemnify the *Owner* as provided in paragraph 10.3.1 of GC 10.3 - PATENT FEES;
 - .13 any adjustment in premiums for all bonds and insurance which the *Contractor* is required, by the *Contract Documents*, to purchase and maintain;
 - .14 any adjustment in taxes, other than *Value Added Taxes*, and duties for which the *Contractor* is liable;
 - .15 charges for long distance telephone and facsimile communications, courier services, expressage, and petty cash items incurred in relation to the performance of the *Work*;
 - .16 removal and disposal of waste products and debris; and
 - .17 safety measures and requirements.

- 6.3.8 Notwithstanding any other provisions contained in the General Conditions of the *Contract*, it is the intention of the parties that the cost of any item under any cost element referred to in paragraph 6.3.7 shall cover and include any and all costs or liabilities attributable to the *Change Directive* other than those which are the result of or occasioned by any failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* attention to the *Work*. Any cost due to failure on the part of the *Contractor* to exercise reasonable care and diligence in the *Contractor's* attention to the *Work* shall be borne by the *Contractor*.
- 6.3.9 The *Contractor* shall keep full and detailed accounts and records necessary for the documentation of the cost of performing the *Work* attributable to the *Change Directive* and shall provide the *Consultant* with copies thereof when requested.
- 6.3.10 For the purpose of valuing *Change Directives*, the *Owner* shall be afforded reasonable access to all of the *Contractor's* pertinent documents related to the cost of performing the *Work* attributable to the *Change Directive*.
- 6.3.11 Pending determination of the final amount of a *Change Directive*, the undisputed value of the *Work* performed as the result of a *Change Directive* is eligible to be included in progress payments.
- 6.3.12 If the *Owner* and the *Contractor* do not agree on the proposed adjustment in the *Contract Time* attributable to the change in the *Work*, or the method of determining it, the adjustment shall be referred to the *Consultant* for determination.
- 6.3.13 When the *Owner* and the *Contractor* reach agreement on the adjustment to the *Contract Price* and to the *Contract Time*, this agreement shall be recorded in a *Change Order*.

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

- 6.4.1 If the *Owner* or the *Contractor* discover conditions at the *Place of the Work* which are:
- .1 subsurface or otherwise concealed physical conditions which existed before the commencement of the *Work* which differ materially from those indicated in the *Contract Documents*; or
 - .2 physical conditions, other than conditions due to weather, that are of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the *Contract Documents*,
- then the observing party shall give *Notice in Writing* to the other party of such conditions before they are disturbed and in no event later than 5 *Working Days* after first observance of the conditions.
- 6.4.2 The *Consultant* will promptly investigate such conditions and make a finding. If the finding is that the conditions differ materially and this would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Consultant*, with the *Owner's* approval, will issue appropriate instructions for a change in the *Work* as provided in GC 6.2 - CHANGE ORDER or GC 6.3 - CHANGE DIRECTIVE.
- 6.4.3 If the *Consultant* finds that the conditions at the *Place of the Work* are not materially different or that no change in the *Contract Price* or the *Contract Time* is justified, the *Consultant* will report the reasons for this finding to the *Owner* and the *Contractor* in writing.
- 6.4.4 If such concealed or unknown conditions relate to toxic and hazardous substances and materials, artifacts and fossils, or mould, the parties will be governed by the provisions of GC 9.2 - TOXIC AND HAZARDOUS SUBSTANCES, GC 9.3 - ARTIFACTS AND FOSSILS and GC 9.5 - MOULD.

GC 6.5 DELAYS

- 6.5.1 If the *Contractor* is delayed in the performance of the *Work* by an action or omission of the *Owner*, *Consultant* or anyone employed or engaged by them directly or indirectly, contrary to the provisions of the *Contract Documents*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.
- 6.5.2 If the *Contractor* is delayed in the performance of the *Work* by a stop work order issued by a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or any person employed or engaged by the *Contractor* directly or indirectly, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The *Contractor* shall be reimbursed by the *Owner* for reasonable costs incurred by the *Contractor* as the result of such delay.

- 6.5.3 If the *Contractor* is delayed in the performance of the *Work* by:
- .1 labour disputes, strikes, lock-outs (including lock-outs decreed or recommended for its members by a recognized contractors' association, of which the *Contractor* is a member or to which the *Contractor* is otherwise bound),
 - .2 fire, unusual delay by common carriers or unavoidable casualties,
 - .3 abnormally adverse weather conditions, or
 - .4 any cause beyond the *Contractor's* control other than one resulting from a default or breach of *Contract* by the *Contractor*, then the *Contract Time* shall be extended for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor*. The extension of time shall not be less than the time lost as the result of the event causing the delay, unless the *Contractor* agrees to a shorter extension. The *Contractor* shall not be entitled to payment for costs incurred by such delays unless such delays result from actions by the *Owner*, *Consultant* or anyone employed or engaged by them directly or indirectly.
- 6.5.4 No extension shall be made for delay unless *Notice in Writing* of the cause of delay is given to the *Consultant* not later than 10 *Working Days* after the commencement of the delay. In the case of a continuing cause of delay only one *Notice in Writing* shall be necessary.
- 6.5.5 If no schedule is made under paragraph 2.2.13 of GC 2.2 - ROLE OF THE CONSULTANT, then no request for extension shall be made because of failure of the *Consultant* to furnish instructions until 10 *Working Days* after demand for such instructions has been made.

GC 6.6 CLAIMS FOR A CHANGE IN CONTRACT PRICE

- 6.6.1 If the *Contractor* intends to make a claim for an increase to the *Contract Price*, or if the *Owner* intends to make a claim against the *Contractor* for a credit to the *Contract Price*, the party that intends to make the claim shall give timely *Notice in Writing* of intent to claim to the other party and to the *Consultant*.
- 6.6.2 Upon commencement of the event or series of events giving rise to a claim, the party intending to make the claim shall:
- .1 take all reasonable measures to mitigate any loss or expense which may be incurred as a result of such event or series of events, and
 - .2 keep such records as may be necessary to support the claim.
- 6.6.3 The party making the claim shall submit within a reasonable time to the *Consultant* a detailed account of the amount claimed and the grounds upon which the claim is based.
- 6.6.4 Where the event or series of events giving rise to the claim has a continuing effect, the detailed account submitted under paragraph 6.6.3 shall be considered to be an interim account and the party making the claim shall, at such intervals as the *Consultant* may reasonably require, submit further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 6.6.5 The *Consultant's* findings, with respect to a claim made by either party, will be given by *Notice in Writing* to both parties within 30 *Working Days* after receipt of the claim by the *Consultant*, or within such other time period as may be agreed by the parties.
- 6.6.6 If such finding is not acceptable to either party, the claim shall be settled in accordance with Part 8 of the General Conditions - DISPUTE RESOLUTION.

PART 7 DEFAULT NOTICE

GC 7.1 OWNER'S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT

- 7.1.1 If the *Contractor* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Contractor's* insolvency, or if a receiver is appointed because of the *Contractor's* insolvency, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, terminate the *Contractor's* right to continue with the *Work*, by giving the *Contractor* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.1.2 If the *Contractor* neglects to prosecute the *Work* properly or otherwise fails to comply with the requirements of the *Contract* to a substantial degree and if the *Consultant* has given a written statement to the *Owner* and *Contractor* that sufficient cause exists to justify such action, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, give the *Contractor* *Notice in Writing* that the *Contractor* is in default of the *Contractor's* contractual obligations and instruct the *Contractor* to correct the default in the 5 *Working Days* immediately following the receipt of such *Notice in Writing*.

- 7.1.3 If the default cannot be corrected in the 5 *Working Days* specified or in such other time period as may be subsequently agreed in writing by the parties, the *Contractor* shall be in compliance with the *Owner's* instructions if the *Contractor*:
- .1 commences the correction of the default within the specified time, and
 - .2 provides the *Owner* with an acceptable schedule for such correction, and
 - .3 corrects the default in accordance with the *Contract* terms and with such schedule.
- 7.1.4 If the *Contractor* fails to correct the default in the time specified or in such other time period as may be subsequently agreed in writing by the parties, without prejudice to any other right or remedy the *Owner* may have, the *Owner* may:
- .1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Contractor* provided the *Consultant* has certified such cost to the *Owner* and the *Contractor*, or
 - .2 terminate the *Contractor's* right to continue with the *Work* in whole or in part or terminate the *Contract*.
- 7.1.5 If the *Owner* terminates the *Contractor's* right to continue with the *Work* as provided in paragraphs 7.1.1 and 7.1.4, the *Owner* shall be entitled to:
- .1 take possession of the *Work* and *Products* at the *Place of the Work*; subject to the rights of third parties, utilize the *Construction Equipment* at the *Place of the Work*; finish the *Work* by whatever method the *Owner* may consider expedient, but without undue delay or expense, and
 - .2 withhold further payment to the *Contractor* until a final certificate for payment is issued, and
 - .3 charge the *Contractor* the amount by which the full cost of finishing the *Work* as certified by the *Consultant*, including compensation to the *Consultant* for the *Consultant's* additional services and a reasonable allowance as determined by the *Consultant* to cover the cost of corrections to work performed by the *Contractor* that may be required under GC 12.3 - WARRANTY, exceeds the unpaid balance of the *Contract Price*; however, if such cost of finishing the *Work* is less than the unpaid balance of the *Contract Price*, the *Owner* shall pay the *Contractor* the difference, and
 - .4 on expiry of the warranty period, charge the *Contractor* the amount by which the cost of corrections to the *Contractor's* work under GC 12.3 - WARRANTY exceeds the allowance provided for such corrections, or if the cost of such corrections is less than the allowance, pay the *Contractor* the difference.
- 7.1.6 The *Contractor's* obligation under the *Contract* as to quality, correction and warranty of the work performed by the *Contractor* up to the time of termination shall continue after such termination of the *Contract*.

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

- 7.2.1 If the *Owner* is adjudged bankrupt, or makes a general assignment for the benefit of creditors because of the *Owner's* insolvency, or if a receiver is appointed because of the *Owner's* insolvency, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* or receiver or trustee in bankruptcy *Notice in Writing* to that effect.
- 7.2.2 If the *Work* is suspended or otherwise delayed for a period of 20 *Working Days* or more under an order of a court or other public authority and providing that such order was not issued as the result of an act or fault of the *Contractor* or of anyone directly or indirectly employed or engaged by the *Contractor*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, terminate the *Contract* by giving the *Owner* *Notice in Writing* to that effect.
- 7.2.3 The *Contractor* may give *Notice in Writing* to the *Owner*, with a copy to the *Consultant*, that the *Owner* is in default of the *Owner's* contractual obligations if:
- .1 the *Owner* fails to furnish, when so requested by the *Contractor*, reasonable evidence that financial arrangements have been made to fulfill the *Owner's* obligations under the *Contract*, or
 - .2 the *Consultant* fails to issue a certificate as provided in GC 5.3 - PROGRESS PAYMENT, or
 - .3 the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by arbitration or court, or
 - .4 the *Owner* violates the requirements of the *Contract* to a substantial degree and the *Consultant*, except for GC 5.1 - FINANCING INFORMATION REQUIRED OF THE OWNER, confirms by written statement to the *Contractor* that sufficient cause exists.
- 7.2.4 The *Contractor's* *Notice in Writing* to the *Owner* provided under paragraph 7.2.3 shall advise that if the default is not corrected within 5 *Working Days* following the receipt of the *Notice in Writing*, the *Contractor* may, without prejudice to any other right or remedy the *Contractor* may have, suspend the *Work* or terminate the *Contract*.
- 7.2.5 If the *Contractor* terminates the *Contract* under the conditions set out above, the *Contractor* shall be entitled to be paid for all work performed including reasonable profit, for loss sustained upon *Products* and *Construction Equipment*, and such other damages as the *Contractor* may have sustained as a result of the termination of the *Contract*.

PART 8 DISPUTE RESOLUTION

GC 8.1 AUTHORITY OF THE CONSULTANT

- 8.1.1 Differences between the parties to the *Contract* as to the interpretation, application or administration of the *Contract* or any failure to agree where agreement between the parties is called for, herein collectively called disputes, which are not resolved in the first instance by findings of the *Consultant* as provided in GC 2.2 - ROLE OF THE CONSULTANT, shall be settled in accordance with the requirements of Part 8 of the General Conditions - DISPUTE RESOLUTION.
- 8.1.2 If a dispute arises under the *Contract* in respect of a matter in which the *Consultant* has no authority under the *Contract* to make a finding, the procedures set out in paragraph 8.1.3 and paragraphs 8.2.3 to 8.2.8 of GC 8.2 - NEGOTIATION, MEDIATION AND ARBITRATION, and in GC 8.3 - RETENTION OF RIGHTS apply to that dispute with the necessary changes to detail as may be required.
- 8.1.3 If a dispute is not resolved promptly, the *Consultant* will give such instructions as in the *Consultant's* opinion are necessary for the proper performance of the *Work* and to prevent delays pending settlement of the dispute. The parties shall act immediately according to such instructions, it being understood that by so doing neither party will jeopardize any claim the party may have. If it is subsequently determined that such instructions were in error or at variance with the *Contract Documents*, the *Owner* shall pay the *Contractor* costs incurred by the *Contractor* in carrying out such instructions which the *Contractor* was required to do beyond what the *Contract Documents* correctly understood and interpreted would have required, including costs resulting from interruption of the *Work*.

GC 8.2 NEGOTIATION, MEDIATION AND ARBITRATION

- 8.2.1 In accordance with the Rules for Mediation of Construction Disputes as provided in CCDC 40 in effect at the time of bid closing, the parties shall appoint a Project Mediator
- .1 within 20 *Working Days* after the *Contract* was awarded, or
 - .2 if the parties neglected to make an appointment within the 20 *Working Days*, within 10 *Working Days* after either party by *Notice in Writing* requests that the Project Mediator be appointed.
- 8.2.2 A party shall be conclusively deemed to have accepted a finding of the *Consultant* under GC 2.2 - ROLE OF THE CONSULTANT and to have expressly waived and released the other party from any claims in respect of the particular matter dealt with in that finding unless, within 15 *Working Days* after receipt of that finding, the party sends a *Notice in Writing* of dispute to the other party and to the *Consultant*, which contains the particulars of the matter in dispute and the relevant provisions of the *Contract Documents*. The responding party shall send a *Notice in Writing* of reply to the dispute within 10 *Working Days* after receipt of such *Notice in Writing* setting out particulars of this response and any relevant provisions of the *Contract Documents*.
- 8.2.3 The parties shall make all reasonable efforts to resolve their dispute by amicable negotiations and agree to provide, without prejudice, frank, candid and timely disclosure of relevant facts, information and documents to facilitate these negotiations.
- 8.2.4 After a period of 10 *Working Days* following receipt of a responding party's *Notice in Writing* of reply under paragraph 8.2.2, the parties shall request the Project Mediator to assist the parties to reach agreement on any unresolved dispute. The mediated negotiations shall be conducted in accordance with the Rules for Mediation of Construction Disputes as provided in CCDC 40 in effect at the time of bid closing.
- 8.2.5 If the dispute has not been resolved within 10 *Working Days* after the Project Mediator was requested under paragraph 8.2.4 or within such further period agreed by the parties, the Project Mediator shall terminate the mediated negotiations by giving *Notice in Writing* to the *Owner*, the *Contractor* and the *Consultant*.
- 8.2.6 By giving a *Notice in Writing* to the other party and the *Consultant*, not later than 10 *Working Days* after the date of termination of the mediated negotiations under paragraph 8.2.5, either party may refer the dispute to be finally resolved by arbitration under the Rules for Arbitration of Construction Disputes as provided in CCDC 40 in effect at the time of bid closing. The arbitration shall be conducted in the jurisdiction of the *Place of the Work*.
- 8.2.7 On expiration of the 10 *Working Days*, the arbitration agreement under paragraph 8.2.6 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.2.6 within the required time, the parties may refer the unresolved dispute to the courts or to any other form of dispute resolution, including arbitration, which they have agreed to use.

- 8.2.8 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.2.6, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.2.6 shall be
- .1 held in abeyance until
 - (1) *Substantial Performance of the Work*,
 - (2) the *Contract* has been terminated, or
 - (3) the *Contractor* has abandoned the *Work*,whichever is earlier; and
 - .2 consolidated into a single arbitration under the rules governing the arbitration under paragraph 8.2.6.

GC 8.3 RETENTION OF RIGHTS

- 8.3.1 It is agreed that no act by either party shall be construed as a renunciation or waiver of any rights or recourses, provided the party has given the *Notice in Writing* required under Part 8 of the General Conditions - DISPUTE RESOLUTION and has carried out the instructions as provided in paragraph 8.1.3 of GC 8.1 – AUTHORITY OF THE CONSULTANT.
- 8.3.2 Nothing in Part 8 of the General Conditions - DISPUTE RESOLUTION shall be construed in any way to limit a party from asserting any statutory right to a lien under applicable lien legislation of the jurisdiction of the *Place of the Work* and the assertion of such right by initiating judicial proceedings is not to be construed as a waiver of any right that party may have under paragraph 8.2.6 of GC 8.2 – NEGOTIATION, MEDIATION AND ARBITRATION to proceed by way of arbitration to adjudicate the merits of the claim upon which such a lien is based.

PART 9 PROTECTION OF PERSONS AND PROPERTY

GC 9.1 PROTECTION OF WORK AND PROPERTY

- 9.1.1 The *Contractor* shall protect the *Work* and the *Owner's* property and property adjacent to the *Place of the Work* from damage which may arise as the result of the *Contractor's* operations under the *Contract*, and shall be responsible for such damage, except damage which occurs as the result of:
- .1 errors in the *Contract Documents*;
 - .2 acts or omissions by the *Owner*, the *Consultant*, other contractors, their agents and employees.
- 9.1.2 Before commencing any work, the *Contractor* shall determine the location of all underground utilities and structures indicated in the *Contract Documents* or that are reasonably apparent in an inspection of the *Place of the Work*.
- 9.1.3 Should the *Contractor* in the performance of the *Contract* damage the *Work*, the *Owner's* property or property adjacent to the *Place of the Work*, the *Contractor* shall be responsible for making good such damage at the *Contractor's* expense.
- 9.1.4 Should damage occur to the *Work* or *Owner's* property for which the *Contractor* is not responsible, as provided in paragraph 9.1.1, the *Contractor* shall make good such damage to the *Work* and, if the *Owner* so directs, to the *Owner's* property. The *Contract Price* and *Contract Time* shall be adjusted as provided in GC 6.1 – OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.

GC 9.2 TOXIC AND HAZARDOUS SUBSTANCES

- 9.2.1 For the purposes of applicable legislation related to toxic and hazardous substances, the *Owner* shall be deemed to have control and management of the *Place of the Work* with respect to existing conditions.
- 9.2.2 Prior to the *Contractor* commencing the *Work*, the *Owner* shall,
- .1 take all reasonable steps to determine whether any toxic or hazardous substances are present at the *Place of the Work*, and
 - .2 provide the *Consultant* and the *Contractor* with a written list of any such substances that are known to exist and their locations.
- 9.2.3 The *Owner* shall take all reasonable steps to ensure that no person's exposure to any toxic or hazardous substances exceeds the time weighted levels prescribed by applicable legislation at the *Place of the Work* and that no property is damaged or destroyed as a result of exposure to, or the presence of, toxic or hazardous substances which were at the *Place of the Work* prior to the *Contractor* commencing the *Work*.
- 9.2.4 Unless the *Contract* expressly provides otherwise, the *Owner* shall be responsible for taking all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to dispose of, store or otherwise render harmless toxic or hazardous substances which were present at the *Place of the Work* prior to the *Contractor* commencing the *Work*.

- 9.2.5 If the *Contractor*
- .1 encounters toxic or hazardous substances at the *Place of the Work*, or
 - .2 has reasonable grounds to believe that toxic or hazardous substances are present at the *Place of the Work*, which were not brought to the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible and which were not disclosed by the *Owner* or which were disclosed but have not been dealt with as required under paragraph 9.2.4, the *Contractor* shall
 - .3 take all reasonable steps, including stopping the *Work*, to ensure that no person's exposure to any toxic or hazardous substances exceeds any applicable time weighted levels prescribed by applicable legislation at the *Place of the Work*, and
 - .4 immediately report the circumstances to the *Consultant* and the *Owner* in writing.
- 9.2.6 If the *Owner* and *Contractor* do not agree on the existence, significance of, or whether the toxic or hazardous substances were brought onto the *Place of the Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and the *Contractor*.
- 9.2.7 If the *Owner* and *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were not brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Owner* shall promptly at the *Owner's* own expense:
- .1 take all steps as required under paragraph 9.2.4;
 - .2 reimburse the *Contractor* for the costs of all steps taken pursuant to paragraph 9.2.5;
 - .3 extend the *Contract* time for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in 9.2.6 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay; and
 - .4 indemnify the *Contractor* as required by GC 12.1 - INDEMNIFICATION.
- 9.2.8 If the *Owner* and *Contractor* agree or if the expert referred to in paragraph 9.2.6 determines that the toxic or hazardous substances were brought onto the place of the *Work* by the *Contractor* or anyone for whom the *Contractor* is responsible, the *Contractor* shall promptly at the *Contractor's* own expense:
- .1 take all necessary steps, in accordance with applicable legislation in force at the *Place of the Work*, to safely remove and dispose the toxic or hazardous substances;
 - .2 make good any damage to the *Work*, the *Owner's* property or property adjacent to the place of the *Work* as provided in paragraph 9.1.3 of GC 9.1 – PROTECTION OF WORK AND PROPERTY;
 - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.2.6; and
 - .4 indemnify the *Owner* as required by GC 12.1 - INDEMNIFICATION.
- 9.2.9 If either party does not accept the expert's findings under paragraph 9.2.6, the disagreement shall be settled in accordance with Part 8 of the General Conditions - Dispute Resolution. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraph 9.2.7 or 9.2.8 it being understood that by so doing, neither party will jeopardize any claim that party may have to be reimbursed as provided by GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

GC 9.3 ARTIFACTS AND FOSSILS

- 9.3.1 Fossils, coins, articles of value or antiquity, structures and other remains or things of scientific or historic interest discovered at the *Place or Work* shall, as between the *Owner* and the *Contractor*, be deemed to be the absolute property of the *Owner*.
- 9.3.2 The *Contractor* shall take all reasonable precautions to prevent removal or damage to discoveries as identified in paragraph 9.3.1, and shall advise the *Consultant* upon discovery of such items.
- 9.3.3 The *Consultant* will investigate the impact on the *Work* of the discoveries identified in paragraph 9.3.1. If conditions are found that would cause an increase or decrease in the *Contractor's* cost or time to perform the *Work*, the *Consultant*, with the *Owner's* approval, will issue appropriate instructions for a change in the *Work* as provided in GC 6.2 - CHANGE ORDER or GC 6.3 CHANGE DIRECTIVE.

GC 9.4 CONSTRUCTION SAFETY

- 9.4.1 Subject to paragraph 3.2.2.2 of GC 3.2 - CONSTRUCTION BY OWNER OR OTHER CONTRACTORS, the *Contractor* shall be solely responsible for construction safety at the *Place of the Work* and for compliance with the rules, regulations and practices required by the applicable construction health and safety legislation and shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the *Work*.

GC 9.5 MOULD

- 9.5.1 If the *Contractor* or *Owner* observes or reasonably suspects the presence of mould at the *Place of the Work*, the remediation of which is not expressly part of the *Work*,
- .1 the observing party shall promptly report the circumstances to the other party in writing, and
 - .2 the *Contractor* shall promptly take all reasonable steps, including stopping the *Work* if necessary, to ensure that no person suffers injury, sickness or death and that no property is damaged as a result of exposure to or the presence of the mould, and
 - .3 if the *Owner* and *Contractor* do not agree on the existence, significance or cause of the mould or as to what steps need be taken to deal with it, the *Owner* shall retain and pay for an independent qualified expert to investigate and determine such matters. The expert's report shall be delivered to the *Owner* and *Contractor*.
- 9.5.2 If the *Owner* and *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was caused by the *Contractor*'s operations under the *Contract*, the *Contractor* shall promptly, at the *Contractor*'s own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould, and
 - .2 make good any damage to the *Work*, the *Owner*'s property or property adjacent to the *Place of the Work* as provided in paragraph 9.1.3 of GC 9.1 - PROTECTION OF WORK AND PROPERTY, and
 - .3 reimburse the *Owner* for reasonable costs incurred under paragraph 9.5.1.3, and
 - .4 indemnify the *Owner* as required by GC 12.1 - INDEMNIFICATION.
- 9.5.3 If the *Owner* and *Contractor* agree, or if the expert referred to in paragraph 9.5.1.3 determines that the presence of mould was not caused by the *Contractor*'s operations under the *Contract*, the *Owner* shall promptly, at the *Owner*'s own expense:
- .1 take all reasonable and necessary steps to safely remediate or dispose of the mould, and
 - .2 reimburse the *Contractor* for the cost of taking the steps under paragraph 9.5.1.2 and making good any damage to the *Work* as provided in paragraph 9.1.4 of GC 9.1 - PROTECTION OF WORK AND PROPERTY, and
 - .3 extend the *Contract Time* for such reasonable time as the *Consultant* may recommend in consultation with the *Contractor* and the expert referred to in paragraph 9.5.1.3 and reimburse the *Contractor* for reasonable costs incurred as a result of the delay, and
 - .4 indemnify the *Contractor* as required by GC 12.1 - INDEMNIFICATION.
- 9.5.4 If either party does not accept the expert's finding under paragraph 9.5.1.3, the disagreement shall be settled in accordance with Part 8 of the General Conditions - DISPUTE RESOLUTION. If such disagreement is not resolved promptly, the parties shall act immediately in accordance with the expert's determination and take the steps required by paragraphs 9.5.2 or 9.5.3, it being understood that by so doing neither party will jeopardize any claim the party may have to be reimbursed as provided by GC 9.5 - MOULD.

PART 10 GOVERNING REGULATIONS

GC 10.1 TAXES AND DUTIES

- 10.1.1 The *Contract Price* shall include all taxes and customs duties in effect at the time of the bid closing except for *Value Added Taxes* payable by the *Owner* to the *Contractor* as stipulated in Article A-4 of the Agreement - CONTRACT PRICE.
- 10.1.2 Any increase or decrease in costs to the *Contractor* due to changes in such included taxes and duties after the time of the bid closing shall increase or decrease the *Contract Price* accordingly.

GC 10.2 LAWS, NOTICES, PERMITS, AND FEES

- 10.2.1 The laws of the *Place of the Work* shall govern the *Work*.
- 10.2.2 The *Owner* shall obtain and pay for development approvals, building permit, permanent easements, rights of servitude, and all other necessary approvals and permits, except for the permits and fees referred to in paragraph 10.2.3 or for which the *Contract Documents* specify as the responsibility of the *Contractor*.
- 10.2.3 The *Contractor* shall be responsible for the procurement of permits, licences, inspections, and certificates, which are necessary for the performance of the *Work* and customarily obtained by contractors in the jurisdiction of the *Place of the Work* after the issuance of the building permit. The *Contract Price* includes the cost of these permits, licences, inspections, and certificates, and their procurement.
- 10.2.4 The *Contractor* shall give the required notices and comply with the laws, ordinances, rules, regulations, or codes which are or become in force during the performance of the *Work* and which relate to the *Work*, to the preservation of the public health, and to construction safety.

- 10.2.5 The *Contractor* shall not be responsible for verifying that the *Contract Documents* are in compliance with the applicable laws, ordinances, rules, regulations, or codes relating to the *Work*. If the *Contract Documents* are at variance therewith, or if, subsequent to the time of bid closing, changes are made to the applicable laws, ordinances, rules, regulations, or codes which require modification to the *Contract Documents*, the *Contractor* shall advise the *Consultant* in writing requesting direction immediately upon such variance or change becoming known. The *Consultant* will make the changes required to the *Contract Documents* as provided in GC 6.1 - OWNER'S RIGHT TO MAKE CHANGES, GC 6.2 - CHANGE ORDER and GC 6.3 - CHANGE DIRECTIVE.
- 10.2.6 If the *Contractor* fails to advise the *Consultant* in writing; and fails to obtain direction as required in paragraph 10.2.5; and performs work knowing it to be contrary to any laws, ordinances, rules, regulations, or codes; the *Contractor* shall be responsible for and shall correct the violations thereof; and shall bear the costs, expenses and damages attributable to the failure to comply with the provisions of such laws, ordinances, rules, regulations, or codes.
- 10.2.7 If, subsequent to the time of bid closing, changes are made to applicable laws, ordinances, rules, regulations, or codes of authorities having jurisdiction which affect the cost of the *Work*, either party may submit a claim in accordance with the requirements of GC 6.6 – CLAIMS FOR A CHANGE IN CONTRACT PRICE.

GC 10.3 PATENT FEES

- 10.3.1 The *Contractor* shall pay the royalties and patent licence fees required for the performance of the *Contract*. The *Contractor* shall hold the *Owner* harmless from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor's* performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention by the *Contractor* or anyone for whose acts the *Contractor* may be liable.
- 10.3.2 The *Owner* shall hold the *Contractor* harmless against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the *Contractor's* performance of the *Contract* which are attributable to an infringement or an alleged infringement of a patent of invention in executing anything for the purpose of the *Contract*, the model, plan or design of which was supplied to the *Contractor* as part of the *Contract Documents*.

GC 10.4 WORKERS' COMPENSATION

- 10.4.1 Prior to commencing the *Work*, again with the *Contractor's* application for payment of the holdback amount following *Substantial Performance of the Work* and again with the *Contractor's* application for final payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*, including payments due thereunder.
- 10.4.2 At any time during the term of the *Contract*, when requested by the *Owner*, the *Contractor* shall provide such evidence of compliance by the *Contractor* and *Subcontractors*.

PART 11 INSURANCE AND CONTRACT SECURITY

GC 11.1 INSURANCE

- 11.1.1 Without restricting the generality of GC 12.1 - INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the minimum requirements of which are specified in CCDC 41 – CCDC Insurance Requirements in effect at the time of bid closing except as hereinafter provided:
- 1 General liability insurance in the name of the *Contractor* and include, or in the case of a single, blanket policy, be endorsed to name, the *Owner* and the *Consultant* as insureds but only with respect to liability, other than legal liability arising out of their sole negligence, arising out of the operations of the *Contractor* with regard to the *Work*. General liability insurance shall be maintained from the date of commencement of the *Work* until one year from the date of *Substantial Performance of the Work*. Liability coverage shall be provided for completed operations hazards from the date of *Substantial Performance of the Work*, as set out in the certificate of *Substantial Performance of the Work*, on an ongoing basis for a period of 6 years following *Substantial Performance of the Work*.
 - 2 Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Substantial Performance of the Work*.
 - 3 Aircraft or Watercraft Liability Insurance when owned or non-owned aircraft or watercraft are used directly or indirectly in the performance of the *Work*
 - 4 "Broad form" property insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The "Broad form" property insurance shall be provided from the date of commencement of the *Work* until the earliest of:
 - (1) 10 calendar days after the date of *Substantial Performance of the Work*;

- (2) on the commencement of use or occupancy of any part or section of the *Work* unless such use or occupancy is for construction purposes, habitational, office, banking, convenience store under 465 square metres in area, or parking purposes, or for the installation, testing and commissioning of equipment forming part of the *Work*;
 - (3) when left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
- .5 Boiler and machinery insurance in the joint names of the *Contractor*, the *Owner* and the *Consultant*. The policy shall include as insureds all *Subcontractors*. The coverage shall be maintained continuously from commencement of use or operation of the boiler and machinery objects insured by the policy and until 10 calendar days after the date of *Substantial Performance of the Work*.
 - .6 The “Broad form” property and boiler and machinery policies shall provide that, in the case of a loss or damage, payment shall be made to the *Owner* and the *Contractor* as their respective interests may appear. In the event of loss or damage:
 - (1) the *Contractor* shall act on behalf of the *Owner* for the purpose of adjusting the amount of such loss or damage payment with the insurers. When the extent of the loss or damage is determined, the *Contractor* shall proceed to restore the *Work*. Loss or damage shall not affect the rights and obligations of either party under the *Contract* except that the *Contractor* shall be entitled to such reasonable extension of *Contract Time* relative to the extent of the loss or damage as the *Consultant* may recommend in consultation with the *Contractor*;
 - (2) the *Contractor* shall be entitled to receive from the *Owner*, in addition to the amount due under the *Contract*, the amount which the *Owner's* interest in restoration of the *Work* has been appraised, such amount to be paid as the restoration of the *Work* proceeds in accordance with the progress payment provisions. In addition the *Contractor* shall be entitled to receive from the payments made by the insurer the amount of the *Contractor's* interest in the restoration of the *Work*; and
 - (3) to the *Work* arising from the work of the *Owner*, the *Owner's* own forces or another contractor, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to construction by *Owner* or other contractors, pay the *Contractor* the cost of restoring the *Work* as the restoration of the *Work* proceeds and as in accordance with the progress payment provisions.
 - .7 Contractors' Equipment Insurance from the date of commencement of the *Work* until one year after the date of *Substantial Performance of the Work*.
- 11.1.2 Prior to commencement of the *Work* and upon the placement, renewal, amendment, or extension of all or any part of the insurance, the *Contractor* shall promptly provide the *Owner* with confirmation of coverage and, if required, a certified true copy of the policies certified by an authorized representative of the insurer together with copies of any amending endorsements applicable to the *Work*.
 - 11.1.3 The parties shall pay their share of the deductible amounts in direct proportion to their responsibility in regards to any loss for which the above policies are required to pay, except where such amounts may be excluded by the terms of the *Contract*.
 - 11.1.4 If the *Contractor* fails to provide or maintain insurance as required by the *Contract Documents*, then the *Owner* shall have the right to provide and maintain such insurance and give evidence to the *Contractor* and the *Consultant*. The *Contractor* shall pay the cost thereof to the *Owner* on demand or the *Owner* may deduct the cost from the amount which is due or may become due to the *Contractor*.
 - 11.1.5 All required insurance policies shall be with insurers licensed to underwrite insurance in the jurisdiction of the *Place of the Work*.
 - 11.1.6 If a revised version of CCDC 41 – INSURANCE REQUIREMENTS is published, which specifies reduced insurance requirements, the parties shall address such reduction, prior to the *Contractor's* insurance policy becoming due for renewal, and record any agreement in a *Change Order*.
 - 11.1.7 If a revised version of CCDC 41 – INSURANCE REQUIREMENTS is published, which specifies increased insurance requirements, the *Owner* may request the increased coverage from the *Contractor* by way of a *Change Order*.
 - 11.1.8 A *Change Directive* shall not be used to direct a change in the insurance requirements in response to the revision of CCDC 41 – INSURANCE REQUIREMENTS.

GC 11.2 CONTRACT SECURITY

- 11.2.1 The *Contractor* shall, prior to commencement of the *Work* or within the specified time, provide to the *Owner* any *Contract* security specified in the *Contract Documents*.

11.2.2 If the *Contract Documents* require surety bonds to be provided, such bonds shall be issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the *Place of the Work* and shall be maintained in good standing until the fulfillment of the *Contract*. The form of such bonds shall be in accordance with the latest edition of the CCDC approved bond forms.

PART 12 INDEMNIFICATION, WAIVER OF CLAIMS AND WARRANTY

GC 12.1 INDEMNIFICATION

12.1.1 Without restricting the parties' obligation to indemnify as described in paragraphs 12.1.4 and 12.1.5, the *Owner* and the *Contractor* shall each indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings whether in respect to losses suffered by them or in respect to claims by third parties that arise out of, or are attributable in any respect to their involvement as parties to this *Contract*, provided such claims are:

.1 caused by:

(1) the negligent acts or omissions of the party from whom indemnification is sought or anyone for whose acts or omissions that party is liable, or

(2) a failure of the party to the *Contract* from whom indemnification is sought to fulfill its terms or conditions; and

.2 made by *Notice in Writing* within a period of 6 years from the date of *Substantial Performance of the Work* as set out in the certificate of *Substantial Performance of the Work* issued pursuant to paragraph 5.4.2.2 of GC 5.4 – SUBSTANTIAL PERFORMANCE OF THE WORK or within such shorter period as may be prescribed by any limitation statute of the province or territory of the *Place of the Work*.

The parties expressly waive the right to indemnity for claims other than those provided for in this *Contract*.

12.1.2 The obligation of either party to indemnify as set forth in paragraph 12.1.1 shall be limited as follows:

.1 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is to be provided by either party pursuant to GC 11.1 – INSURANCE, the general liability insurance limit for one occurrence as referred to in CCDC 41 in effect at the time of bid closing.

.2 In respect to losses suffered by the *Owner* and the *Contractor* for which insurance is not required to be provided by either party in accordance with GC 11.1 – INSURANCE, the greater of the *Contract Price* as recorded in Article A-4 – CONTRACT PRICE or \$2,000,000, but in no event shall the sum be greater than \$20,000,000.

.3 In respect to claims by third parties for direct loss resulting from bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, the obligation to indemnify is without limit. In respect to all other claims for indemnity as a result of claims advanced by third parties, the limits of indemnity set forth in paragraphs 12.1.2.1 and 12.1.2.2 shall apply.

12.1.3 The obligation of either party to indemnify the other as set forth in paragraphs 12.1.1 and 12.1.2 shall be inclusive of interest and all legal costs.

12.1.4 The *Owner* and the *Contractor* shall indemnify and hold harmless the other from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of their obligations described in GC 9.2 – TOXIC AND HAZARDOUS SUBSTANCES.

12.1.5 The *Owner* shall indemnify and hold harmless the *Contractor* from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings:

.1 as described in paragraph 10.3.2 of GC 10.3 – PATENT FEES, and

.2 arising out of the *Contractor's* performance of the *Contract* which are attributable to a lack of or defect in title or an alleged lack of or defect in title to the *Place of the Work*.

12.1.6 In respect to any claim for indemnity or to be held harmless by the *Owner* or the *Contractor*:

.1 *Notice in Writing* of such claim shall be given within a reasonable time after the facts upon which such claim is based became known;

.2 should any party be required as a result of its obligation to indemnify another to pay or satisfy a final order, judgment or award made against the party entitled by this contract to be indemnified, then the indemnifying party upon assuming all liability for any costs that might result shall have the right to appeal in the name of the party against whom such final order or judgment has been made until such rights of appeal have been exhausted.

GC 12.2 WAIVER OF CLAIMS

- 12.2.1 Subject to any lien legislation applicable to the *Place of the Work*, as of the fifth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the *Contractor* waives and releases the *Owner* from all claims which the *Contractor* has or reasonably ought to have knowledge of that could be advanced by the *Contractor* against the *Owner* arising from the *Contractor's* involvement in the *Work*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the date of *Substantial Performance of the Work*, except as follows:
- .1 claims arising prior to or on the date of *Substantial Performance of the Work* for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* no later than the sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*;
 - .2 indemnification for claims advanced against the *Contractor* by third parties for which a right of indemnification may be asserted by the *Contractor* against the *Owner* pursuant to the provisions of this *Contract*;
 - .3 claims for which a right of indemnity could be asserted by the *Contractor* pursuant to the provisions of paragraphs 12.1.4 or 12.1.5 of GC 12.1 – INDEMNIFICATION; and
 - .4 claims resulting from acts or omissions which occur after the date of *Substantial Performance of the Work*.
- 12.2.2 The *Contractor* waives and releases the *Owner* from all claims referenced in paragraph 12.2.1.4 except for those referred in paragraphs 12.2.1.2 and 12.2.1.3 and claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* within 395 calendar days following the date of *Substantial Performance of the Work*.
- 12.2.3 Subject to any lien legislation applicable to the *Place of the Work*, as of the fifth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the *Owner* waives and releases the *Contractor* from all claims which the *Owner* has or reasonably ought to have knowledge of that could be advanced by the *Owner* against the *Contractor* arising from the *Owner's* involvement in the *Work*, including, without limitation, those arising from negligence or breach of contract in respect to which the cause of action is based upon acts or omissions which occurred prior to or on the date of *Substantial Performance of the Work*, except as follows:
- .1 claims arising prior to or on the date of *Substantial Performance of the Work* for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* no later than the sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*;
 - .2 indemnification for claims advanced against the *Owner* by third parties for which a right of indemnification may be asserted by the *Owner* against the *Contractor* pursuant to the provisions of this *Contract*;
 - .3 claims for which a right of indemnity could be asserted by the *Owner* against the *Contractor* pursuant to the provisions of paragraph 12.1.4 of GC 12.1 - INDEMNIFICATION;
 - .4 damages arising from the *Contractor's* actions which result in substantial defects or deficiencies in the *Work*. “Substantial defects or deficiencies” mean those defects or deficiencies in the *Work* which affect the *Work* to such an extent or in such a manner that a significant part or the whole of the *Work* is unfit for the purpose intended by the *Contract Documents*;
 - .5 claims arising pursuant to GC 12.3 - WARRANTY; and
 - .6 claims arising from acts or omissions which occur after the date of *Substantial Performance of the Work*.
- 12.2.4 The *Owner* waives and releases the *Contractor* from all claims referred to in paragraph 12.2.3.4 except claims for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* within a period of six years from the date of *Substantial Performance of the Work* should any limitation statute of the Province or Territory of the *Place of the Work* permit such agreement. If the applicable limitation statute does not permit such agreement, within such shorter period as may be prescribed by:
- .1 any limitation statute of the Province or Territory of the *Place of the Work*; or
 - .2 if the *Place of the Work* is the Province of Quebec, then Article 2118 of the Civil Code of Quebec.
- 12.2.5 The *Owner* waives and releases the *Contractor* from all claims referenced in paragraph 12.2.3.6 except for those referred in paragraph 12.2.3.2, 12.2.3.3 and those arising under GC 12.3 – WARRANTY and claims for which *Notice in Writing* has been received by the *Contractor* from the *Owner* within 395 calendar days following the date of *Substantial Performance of the Work*.
- 12.2.6 “*Notice in Writing* of claim” as provided for in GC 12.2 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 12.2 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
- .1 a clear and unequivocal statement of the intention to claim;
 - .2 a statement as to the nature of the claim and the grounds upon which the claim is based; and
 - .3 a statement of the estimated quantum of the claim.
- 12.2.7 The party giving “*Notice in Writing* of claim” as provided for in GC 12.2 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.

- 12.2.8 Where the event or series of events giving rise to a claim made under paragraphs 12.2.1 or 12.2.3 has a continuing effect, the detailed account submitted under paragraph 12.2.7 shall be considered to be an interim account and the party making the claim shall submit further interim accounts, at reasonable intervals, giving the accumulated amount of the claim and any further grounds upon which it is based. The party making the claim shall submit a final account after the end of the effects resulting from the event or series of events.
- 12.2.9 If a *Notice in Writing* of claim pursuant to paragraph 12.2.1.1 is received on the seventh or sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the period within which *Notice in Writing* of claim shall be received pursuant to paragraph 12.2.3.1 shall be extended to two calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*.
- 12.2.10 If a *Notice in Writing* of claim pursuant to paragraph 12.2.3.1 is received on the seventh or sixth calendar day before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*, the period within which *Notice in Writing* of claim shall be received pursuant to paragraph 12.2.1.1 shall be extended to two calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work*.

GC 12.3 WARRANTY

- 12.3.1 Except for extended warranties as described in paragraph 12.3.6, the warranty period under the *Contract* is one year from the date of *Substantial Performance of the Work*.
- 12.3.2 The *Contractor* shall be responsible for the proper performance of the *Work* to the extent that the design and *Contract Documents* permit such performance.
- 12.3.3 The *Owner*, through the *Consultant*, shall promptly give the *Contractor Notice in Writing* of observed defects and deficiencies which occur during the one year warranty period.
- 12.3.4 Subject to paragraph 12.3.2, the *Contractor* shall correct promptly, at the *Contractor's* expense, defects or deficiencies in the *Work* which appear prior to and during the one year warranty period.
- 12.3.5 The *Contractor* shall correct or pay for damage resulting from corrections made under the requirements of paragraph 12.3.4.
- 12.3.6 Any extended warranties required beyond the one year warranty period as described in paragraph 12.3.1, shall be as specified in the *Contract Documents*. Extended warranties shall be issued by the warrantor to the benefit of the *Owner*. The *Contractor's* responsibility with respect to extended warranties shall be limited to obtaining any such extended warranties from the warrantor. The obligations under such extended warranties are solely the responsibilities of the warrantor.

CCDC 41
CCDC INSURANCE REQUIREMENTS

PUBLICATION DATE: JANUARY 21, 2008

1. General liability insurance shall be with limits of not less than \$5,000,000 per occurrence, an aggregate limit of not less than \$5,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$5,000. The insurance coverage shall not be less than the insurance provided by IBC Form 2100 (including an extension for a standard provincial and territorial form of non-owned automobile liability policy) and IBC Form 2320. To achieve the desired limit, umbrella or excess liability insurance may be used. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
2. Automobile liability insurance in respect of vehicles that are required by law to be insured under a contract by a Motor Vehicle Liability Policy, shall have limits of not less than \$5,000,000 inclusive per occurrence for bodily injury, death and damage to property, covering all vehicles owned or leased by the *Contractor*. Where the policy has been issued pursuant to a government-operated automobile insurance system, the *Contractor* shall provide the *Owner* with confirmation of automobile insurance coverage for all automobiles registered in the name of the *Contractor*.
3. Aircraft and watercraft liability insurance with respect to owned or non-owned aircraft and watercraft (if used directly or indirectly in the performance of the *Work*), including use of additional premises, shall have limits of not less than \$5,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof and limits of not less than \$5,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.
4. "Broad form" property insurance shall have limits of not less than the sum of 1.1 times *Contract Price* and the full value, as stated in the *Contract*, of *Products* and design services that are specified to be provided by the *Owner* for incorporation into the *Work*, with a deductible not exceeding \$5,000. The insurance coverage shall not be less than the insurance provided by IBC Forms 4042 and 4047 (excluding flood and earthquake) or their equivalent replacement. Subject to satisfactory proof of financial capability by the *Contractor*, the *Owner* may agree to increase the deductible amounts.
5. Boiler and machinery insurance shall have limits of not less than the replacement value of the permanent or temporary boilers and pressure vessels, and other insurable objects forming part of the *Work*. The insurance coverage shall not be less than the insurance provided by a comprehensive boiler and machinery policy.
6. "Broad form" contractors' equipment insurance coverage covering *Construction Equipment* used by the *Contractor* for the performance of the *Work*, shall be in a form acceptable to the *Owner* and shall not allow subrogation claims by the insurer against the *Owner*. Subject to satisfactory proof of financial capability by the *Contractor* for self-insurance, the *Owner* may agree to waive the equipment insurance requirement.
7. Standard Exclusions
 - 7.1 In addition to the broad form property exclusions identified in IBC forms 4042(1995), and 4047(2000), the *Contractor* is not required to provide the following insurance coverage:
 - Asbestos
 - Cyber Risk
 - Mould
 - Terrorism

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-3 CONTRACT DOCUMENTS

Add to 3.1: The Supplementary General Conditions of the Stipulated Price Contract

1.2 ARTICLE A.5 PAYMENT

Insert to Paragraph 5.1: "Ten percent (10%)"

Insert to Paragraph 5.3.1: "The Bank of Nova Scotia"

1.3 SUPPLEMENTARY DEFINITIONS

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.

Definition 20. Substantial Performance of the Work

Delete and replace with the following:

"Substantial Performance of the Work shall have been reached when:

.1 the Work is ready for use or is being used by the Owner for the purpose intended and is so certified by the Consultant; and

.2 a Certificate of Completion has been issued for the Work as a whole."

Add new definitions:

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.

28. Builders Lien Act

Builders Lien Act means the *Builders Lien Act*, S.B.C. 1997, c.45, as amended, and all regulations thereto, and any successor legislation in the Province of British Columbia in relation to builders liens.

29. Certificate of Completion

A *Certificate of Completion* is a certificate of completion as defined in the *Builders Lien Act*.”

2.0 SUPPLEMENTARY GENERAL CONDITIONS

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

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'."

Add new Paragraph 1.1.11:

“The Contractor and any Sub-Contractors at the place of work must possess a valid City of Parksville or Inter-Community Business Licence at all times. Cost of the license shall be the expense of the Contractor or Sub-Contractor.”

2.2 GC 1.5 FORCE MAJEURE

Add new GC 1.5 Force Majeure as follows:

“A party is not liable for failure to perform the party's obligations if such failure is as a result of Acts of God (including fire, flood, earthquake, storm, hurricane or other natural disaster), war, invasion, act of foreign enemies, hostilities (regardless of whether war is declared), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation, terrorist activities, nationalization, government sanction, blockage, embargo, labour dispute, strike, lockout or interruption or failure of electricity.

In the event force majeure occurs, the party who is delayed or fails to perform shall give prompt notice to the other party and shall take all reasonable steps to eliminate the cause. Should the force majeure event last for longer than 30 calendar days, the Regional District, at its sole discretion, may terminate this Agreement by verbal or written notice to the Vendor without further liability, expense, or cost of any kind.”

2.3 GC 2.3 REVIEW AND INSPECTION OF THE WORK

Add new Paragraph 2.3.8:

"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

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".

Add new Paragraph 2.4.4:

"Acceptance of the Work by the Owner or Consultant shall not release the Contractor from responsibility for correcting deficiencies that have not been identified at the time of the deficiency review or that become apparent at a later time."

2.5 GC 3.5 CONSTRUCTION SCHEDULE

Paragraph 3.5.1.1: Delete the words:

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

Add new Paragraph 3.5.1.4:

"Time is of the essence in the performance of this Contract. The Contractor will perform and complete the Work in accordance with the schedule described in GC 3.5.1.1 which is accepted by the Owner (the "Schedule") and if the Contract Documents stipulate any time or times for such performance or delivery, then in accordance with such time or times, provided that the Owner may, from time to time, make reasonable changes in the schedule or schedules and the time or times for performance of the Work under the Contract Documents and the Contractor shall not be entitled to additional compensation therefor. The Contractor acknowledges and agrees that it may be required to proceed with the Work simultaneously with Subcontractors at the Project Site using the same facilities and in the same construction area with a view to obtaining maximum efficiency in orderly and timely completion of the Work. The Contractor agrees that it will not be entitled to nor will it claim any additional compensation by reason of the fact that it is required to coordinate its work and share the facilities and construction area with the Subcontractors. If the Contractor falls behind any critical path items identified in the Schedule it will take all steps necessary to get back on Schedule as soon as possible at no additional cost to the Owner. The Contractor acknowledges that the owner will suffer significant economic loss if the Work is not completed within the Contract Time"

2.6 GC 3.7 SUBCONTRACTORS AND SUPPLIERS

Add new Paragraph 3.7.7:

"The specifications 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

Add new Paragraph 3.8.4:

"The Contractor will do all reasonable things requested by the Owner or the Consultant for the purpose of enabling the Owner or the Consultant to comply with the *Builders Lien Act* including, without limitation, providing, if required, information in connection with contracts entered into by parties under the Contractor and providing such information as the Consultant may require to properly perform the role of payment certifier."

2.8 GC 3.10 SHOP DRAWINGS

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

Delete Paragraphs 5.1.1 and 5.1.2

2.10 GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

Add to Paragraph 5.2.2 as follows:

"Such application for payment shall provide for ten percent (10%) holdback on progress payments in accordance with the *Builders' Lien Act*."

Paragraph 5.2.7 Delete the words:

"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."

Add new Paragraph 5.2.8:

"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:

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

Add new Paragraph 5.2.9:

"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:

the aggregate amount, if any, determined in accordance with GC 5.4.2 multiplied by two, and

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 5.2.9 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 5.2.9 respectively."

Add new Paragraph 5.2.10:

"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"

Add new paragraph 5.2.11:

"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

Paragraph 5.3.1, Sentence .1: Delete Sentence

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."

Paragraph 5.3.1, Sentence .3: Delete in it's entirety and replace with the following:

"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

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,"

Add Paragraph 5.4.4:

"At the time of Substantial Performance of the Work and in addition to the lien holdback, a deficiency holdback shall be established for the defective or incomplete work (the "Deficiency Holdback"). The Consultant shall establish the amount of the Deficiency Holdback as twice the estimated cost to rectify defective work and finish incompletd work using the services of another contractor or the Owner's own forces. If the defective or incomplete work is not corrected or completed within a reasonable time as determined by the Consultant, then all or a portion of the Deficiency Holdback, as assessed by the Consultant, will be retained by the Owner to be applied against the loss and damage suffered by the Owner to correct or complete the work."

2.13 GC 5.6 PROGRESSIVE RELEASE OF HOLDBACK

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

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."

Paragraph 5.7.4: Delete the words:

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

2.15 GC 6.2 CHANGE ORDERS

Paragraph 6.2.1: Add to the end of the paragraph:

“The adjustment for the Contract Price shall not exceed the actual cost of the Contractor’s work for the change in the Work, plus an allowance for overhead and profit as follows:

- .1 For Contractor, for overhead and profit, 10% of the actual cost of the Contractor's work;
- .2 For Contractor, for overhead and profit, 5% of the amount for Subcontractor's work, being the actual cost of the Subcontractor's work plus the amount determined as set out in .3 below;
- .3 For Subcontractor, for overhead and profit, 10% of the actual cost of the Subcontractor's work."

If a change in the *Work* results in a net decrease in the *Contract Price*, the amount of the credit shall be the net cost, without deduction for overhead and profit. When both additions and deletions covering related work or substitutions are involved in a change in the *Work*, the allowance for overhead and profit shall be calculated on the basis of the net increase, if any, with respect to that change in the *Work*.”

Add new Paragraph 6.2.3:

“6.2.3 If requested by the Consultant, 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.

2.16 GC6.3 CHANGE DIRECTIVE

6.3.6.3 Delete and replace with the following:

"Unless otherwise agreed between the Owner and the Contractor, the allowance for overhead and profit shall be calculated as follows:

- .1 For Contractor, for overhead and profit, 10% of the actual cost of the Contractor's work;
- .2 For Contractor, for overhead and profit, 5% of the amount for Subcontractor's work, being the actual cost of the Subcontractor's work plus the amount determined as set out in .3 below;
- .3 For Subcontractor, for overhead and profit, 10% of the actual cost of the Subcontractor's work."

2.17 GC 6.5 DELAYS

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".

Add new paragraph 6.5.6:

"During any delays in the performance of the Work as set out in GC6.5 DELAYS, the Contractor shall maintain adequate surveillance of the Work and undertake such maintenance and protection of the Work as may be reasonable to maintain safety and when possible to protect Products already installed in the Work or delivered to the Place of the Work."

2.18 GC 7.2 CONTRACTOR'S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

Delete Paragraph 7.2.3.1 entirely.

Paragraph 7.2.4: Delete the words:

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

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."

2.19 GC 8.4 AMICABLE NEGOTIATIONS

Add Section 8.4:

"Both parties will make reasonable efforts to resolve any disputes by amicable negotiations. They agree to provide frank, candid and timely disclosure of relevant facts, information and documents to facilitate these negotiations, without prejudice to their rights and recourses.

If the dispute cannot be settled within the first 60 calendar days of formal negotiations, the dispute shall be referred to and finally resolved by arbitration administered by the British Columbia International Commercial Arbitration Centre pursuant to their rules. Place of arbitration shall be Vancouver, British Columbia, Canada."

2.20 GC 9.6 COVID – 19 PANDEMIC RESPONSE MITIGATION

Add Section 9.6:

9.6.1 The Contractor and the Owner acknowledge the presence of the COVID-19 virus in Canada and other jurisdictions forming part of the supply chain for materials and labour required for the Project (the "COVID-19 Pandemic").

9.6.2 Known Impacts – The consequences and impacts of the COVID-19 Pandemic existing as of the date of this Contract include, without restriction:

9.6.2.1 Orders, directives and recommendations of any government authority issued up to and including the date of this Contract, and respecting public health or other requirements related to response to and prevention of infection by the COVID-19 virus;

9.6.2.2 Impacts to availability of labour or materials required in order to carry out the Work, arising from the COVID-19 Pandemic;

9.6.2.3 The impacts of self-isolation/quarantine or regulated quarantine as ordered by the Province of British Columbia;

(the “Known Impacts”), and are known to the Contractor and to the Owner, and have been accounted for by the Contractor within the construction schedule, as well as the Contract Price.

2.21 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, if required)”

2.22 GC 10.4 WORKERS’ COMPENSATION

- .1 Paragraph 10.4.3: Add new paragraph:

"10.4.3. The Contractor shall be deemed to be the Prime Contractor within the meaning of Part 3, Division 3, Section 118(1) of the Workers Compensation Act. 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."

2.23 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”.

2.24 GC 12.3 WARRANTY

- .1 Paragraph 12.3.1: Delete entirely and replace with:

“Provide a written one year warranty on all workmanship and material, and proof of at least a one year Manufacturer’s warranty on all equipment. All parts, freight, travel, room, board, labour, and consumable items shall be included in the contractor’s warranty. Warranty shall start the day after the final handover of equipment from the contractor to the owner. A document detailing the start and end day of the warranty shall be provided by the contractor to the owner.”

- .2 Paragraph 12.3.3: Delete the words:

“through the Consultant”.

- .3 Paragraph 12.3.6: Delete entirely.

END OF SECTION