



# Sunshine Coast Regional District

# Request for Proposal

**Number: 2361301**

**for**

## **Reconstruction Aquatic Center Fire Sprinkler System**

**Issue Date:**

**February 23, 2023**

**Closing Date of**

**March 31, 2023 at 3:00 PM local time**

**MANDATORY SITE MEETING:** A mandatory site meeting will be held on Thursday March 16, 2023 at 12:30 pm local time at the Sechelt Aquatic Center located at 5500 Shorncliffe Avenue, Sechelt BC.

**CONTACT:** All enquiries related to this Request for Proposals, including any requests for information and clarification, are to be submitted by March 20, 2023 and directed, in writing, to [purchasing@scrd.ca](mailto:purchasing@scrd.ca), who will respond if time permits with a Q&A on BCBid by March 24, 2023. Information obtained from any other source is not official and should not be relied upon. Enquiries and any responses providing new information will be recorded and posted to BC Bid or otherwise distributed to prospective Proponents.

**DELIVERY OF PROPOSALS:** Proposals must be in English and must be submitted using one of the submission methods below, and must either (1) include a copy of this cover page that is signed by an authorized representative of the Proponent or (2) be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in the RFP.

**BC Bid Electronic Submission:** Proponents may submit an electronic proposal using BC Bid. Proposals must be submitted in accordance with the BC Bid requirements and e-bidding key requirements (found at [www.bcbid.ca](http://www.bcbid.ca)). Only pre-authorized electronic bidders registered on the BC Bid system can submit an electronic proposal using the BC Bid system. Use of an e-bidding key is effective as a signature.

**OR**

**Hard Copy Submission:** Proponents must submit **ONE (1)** hard-copies and **ONE (1)** electronic copy on a USB Drive of the proposal. Proposals submitted by hard copy must be submitted by hand or courier to:

**Sunshine Coast Regional District  
1975 Field Road  
Sechelt, BC V7Z 0A8**

Regardless of submission method, proposals must be received before Closing Time to be considered.

**A proposal is deemed to incorporate the Confirmation of Proponent's Intent to Be Bound below, without alteration.**

### **CONFIRMATION OF PROPONENT'S INTENT TO BE BOUND:**

The enclosed proposal is submitted in response to the referenced Request for Proposal, including any Addenda. By submitting a proposal the Proponent agrees to all of the terms and conditions of the RFP including the following:

- a) The Proponent has carefully read and examined the entire Request for Proposal;
- b) The Proponent has conducted such other investigations as were prudent and reasonable in preparing the proposal; and
- c) The Proponent agrees to be bound by the statements and representations made in its proposal.

**PROPONENT NAME (please print):** \_\_\_\_\_

**NAME OF AUTHORIZED REPRESENTATIVE (please print):** \_\_\_\_\_

**SIGNATURE OF AUTHORIZED REPRESENTATIVE:** \_\_\_\_\_

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

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## 1. GENERAL TERMS & CONDITIONS

### 1.1 DEFINITIONS

Throughout this Request for Proposal, the following definitions apply:

**"Addenda"** means all additional information regarding this RFP, including amendments to the RFP;

**"BC Bid"** means the BC Bid website located at [www.bcbid.ca](http://www.bcbid.ca);

**"Closing Location"** includes the location or email address for submissions indicated on the cover page of this RFP, or BC Bid, as applicable;

**"Closing Time"** means the closing time and date for this RFP as set out on the cover page of this RFP;

**"Contract"** means the written agreement resulting from the RFP executed by the Regional District and the successful Proponent;

**"Contractor"** means the successful Proponent to the RFP who enters into a Contract with the Regional District;

**"Must"**, or **"mandatory"** means a requirement that must be met in order for a proposal to receive consideration;

**"Proponent"** means a person or entity (excluding its parent, subsidiaries or other affiliates) with the legal capacity to contract, that submits a proposal in response to the RFP;

**"Proposal"** means a written response to the RFP that is submitted by a Proponent;

**"Request for Proposals"** or **"RFP"** means the solicitation described in this document, including any attached or referenced appendices, schedules or exhibits and as may be modified in writing from time to time by the Regional District by Addenda; and

**"Should"**, **"may"** or **"weighted"** means a requirement having a significant degree of importance to the objectives of the Request for Proposals.

**"SCRD"**, **"Regional District"**, **"Organization"**, **"we"**, **"us"**, and **"our"** mean Sunshine Coast Regional District.

### 1.2 FORM OF PROPOSAL

This Proposal must be completed in its entirety. Failure to properly complete this Proposal form may cause your Proposal to be rejected. The signing officer must initial all corrections. The Sunshine Coast Regional District (Regional District) reserves the right to permit a correction, clarification or amendment to the Proposal or to correct minor errors and irregularities.

### 1.3 SUBMISSION OF PROPOSAL

- a) Proposals must be submitted before Closing Time to the Closing Location using one of the submission methods set out on the cover page of this RFP. Proposals must not be sent by fax. The Proponent is solely responsible for ensuring that, regardless of submission method selected, the Regional District receives a complete Proposal, including all attachments or enclosures, before the Closing Time.

- b) For electronic submissions (BC Bid or email), the following applies:
- (i) The Proponent is solely responsible for ensuring that the complete electronic Proposal, including all attachments, is received before Closing Time;
  - (ii) The Regional District limits the maximum size of any single email message to 20MB or less.
  - (iii) Proponents should endeavour to submit emailed proposal submissions in a single message and avoid sending multiple email submissions for the same opportunity. If an electronic submission exceeds the applicable maximum single message size, the Proponent may make multiple submissions (BC Bid upload or multiple emails for the same opportunity). Proponents should identify the order and number of emails making up the email proposal submission (e.g. "email 1 of 3, email 2 of 3...");
  - (iv) For email proposal submissions sent through multiple emails, the Regional District reserves the right to seek clarification or reject the proposal if the Regional District is unable to determine what documents constitute the complete proposal;
  - (v) Attachments must not be compressed or encrypted, must not contain viruses or malware, must not be corrupted, and must be able to be opened using commonly available software (e.g. Adobe Acrobat). Proponents submitting by electronic submission are solely responsible for ensuring that any emails or attachments are not corrupted. The Regional District has no obligation to attempt to remedy any message or attachment that is received corrupted or cannot be viewed. The Regional District may reject proposals that are compressed encrypted, cannot be opened or that contain viruses or malware or corrupted attachments.
- c) For BC Bid e-submissions only pre-authorized e-bidders registered on BC Bid can submit electronic bids on BC Bid. BC Bid is a subscription service (\$150 per year) and the registration process may take two business days to complete. If using this submission method, Proponents should refer to the BC Bid website or contact BC Bid Helpdesk at 250-387-7301 for more information. An electronic proposal submitted on BC Bid must be submitted using the e-bidding key of an authorized representative of the Proponent. Using the e-bidding key of a subcontractor is not acceptable.
- d) For email proposal submissions, including any notices of amendment or withdrawal referred to in Section 1.6, the subject line of the email and any attachment should be clearly marked with the name of the Proponent, the RFP number and the project or program title.
- e) The Regional District strongly encourages Proponents using electronic submissions to submit proposals with sufficient time to complete the upload and transmission of the complete proposal and any attachments before Closing Time.

- f) The Proponent bears all risk associated with delivering its Proposal by electronic submission, including but not limited to delays in transmission between the Proponent's computer and the Regional District Electronic Mail System or BC Bid.
- g) While the Regional District may allow for email proposal submissions, the Proponent acknowledges that email transmissions are inherently unreliable. The Proponent is solely responsible for ensuring that its complete email proposal submission and all attachments have been received before Closing Time. If the Regional District Electronic Mail System rejects an email proposal submission for any reason, and the Proponent does not successfully resubmit its proposal by the same or other permitted submission method before Closing Time, the Proponent will not be permitted to resubmit its proposal after Closing Time. The Proponent is strongly advised to contact the Regional District Contact immediately to arrange for an alternative submission method if:
  - (i) the Proponent's email proposal submission is rejected by the Regional District Electronic Mail System; or
  - (ii) the Proponent does not receive an automated response email from the Regional District confirming receipt of each and every message transmitted, within a half hour of transmission by the Proponent.

An alternate submission method may be made available, at the Regional District's discretion, immediately to arrange for an alternative submission method, and it is the Proponent's sole responsibility for ensuring that a complete proposal (and all attachments) submitted using an approved alternate submission method is received by the Regional District before the Closing Time. The Regional District makes no guarantee that an alternative submission method will be available or that the method available will ensure that a Proponent's proposal is received before Closing Time.

#### **1.4 SIGNATURE REQUIRED**

Proposals must be properly signed by an officer, employee or agent having authority to bind the Proponent by that signature.

#### **1.5 CLARIFICATIONS, ADDENDA & MINOR IRREGULARITIES**

If any Proponent finds any inconsistencies, errors or omissions in the proposal documents or requires information, clarification of any provision contained therein, they shall submit their query in writing or email, addressed as follows:

Purchasing Division  
Sunshine Coast Regional District  
1975 Field Road, Sechelt, BC V7Z 0A8  
[purchasing@scrd.ca](mailto:purchasing@scrd.ca)

Any interpretation of, addition to, deletions from or any corrections to the proposal documents will be issued as written addendum by the Regional District.

All Addenda will be posted on BC Bid. It is the sole responsibility of the Proponent to check for Addenda on BC Bid. Proponents are strongly encouraged to subscribe to BC Bid's email notification service to receive notices of Addenda.

#### **1.6 WITHDRAWAL OR REVISIONS**

Proposals or revisions may be withdrawn by written notice provided such a notice of withdrawal is received prior to the closing date and time. Proposals withdrawn will be returned to the Proponent unopened. Revisions to the proposals already received shall be submitted only by electronic mail, or signed letter. The revision must state only the amount by which a figure is to be increased or decreased, or specific directions as to the exclusions or inclusion of particular words.

#### **1.7 CONDUCT OF THE CONTRACT**

Unless otherwise specified within this document, any queries regarding this Request for Proposal are to be directed to [purchasing@scrd.ca](mailto:purchasing@scrd.ca). No other verbal or written instruction or information shall be relied upon by the Bidder, nor will they be binding upon the Regional District.

#### **1.8 CONFLICT OF INTEREST/NO LOBBYING**

- (a) A Proponent may be disqualified if the Proponent's current or past corporate or other interests, or those of a proposed subcontractor, may, in the Regional District's opinion, give rise to an actual or potential conflict of interest in connection with the services described in the RFP. This includes, but is not limited to, involvement by a Proponent in the preparation of the RFP or a relationship with any employee, contractor or representative of the Regional District involved in preparation of the RFP, participating on the evaluation committee or in the administration of the Contract. If a Proponent is in doubt as to whether there might be a conflict of interest, the Proponent should consult with the Regional District Contact prior to submitting a proposal. By submitting a proposal, the Proponent represents that it is not aware of any circumstances that would give rise to a conflict of interest that is actual or potential, in respect of the RFP.
- (b) A Proponent must not attempt to influence the outcome of the RFP process by engaging in lobbying activities. Any attempt by the Proponent to communicate, for this purpose directly or indirectly with any employee, contractor or representative of the Regional District, including members of the evaluation committee and any elected officials of the

Regional District, or with the media, may result in disqualification of the Proponent.

## **1.9 CONTRACT**

**By submitting a proposal, the Proponent agrees that should its proposal be successful the Proponent will enter into a Contract with the Regional District on substantially the same terms and Conditions set out in <https://www.scrd.ca/go/terms> and such other terms and conditions to be finalized to the satisfaction of the Regional District, if applicable.**

## **1.10 SUSTAINABLE PROCUREMENT**

**The Regional District adheres to its sustainable consideration factors. Proposals will be considered not only on the total cost of services, but Proposals that addresses the environment and social factors.**

## **1.11 INVOICING AND PAYMENT**

Unless otherwise agreed, the Regional District payment terms are Net 30 days following receipt of services or approved invoices, whichever is later. Original invoices are to be forwarded to the accounts payable department of the Regional District. The purchase order number assigned by the Regional District must be stated on the invoice otherwise payment may be delayed.

## **1.12 PRICING, CURRENCY AND TAXES**

Offered prices are to be attached as a price schedule in Canadian dollars with taxes stated separately when applicable.

## **1.13 IRREVOCABLE OFFER**

This Proposal must be irrevocable for 90 days from the Proposal closing date and time.

## **1.14 TIME IS OF THE ESSENCE**

Time shall be of the essence in this contract.

## **1.15 ASSIGNMENT**

The Proponent will not, without written consent of the Regional District, assign or transfer this contract or any part thereof.

## **1.16 OWNERSHIP OF DOCUMENTS & FREEDOM OF INFORMATION**

All documents submitted in response to this Request for Proposal shall become the property of the Regional District and as such will be subject to the disclosure provisions of the *Freedom of Information and Protection of Privacy Act* and any requirement for disclosure of all or a part of a Proposal under that Act.

The requirement for confidentiality shall not apply to any Proposal that is incorporated into a Contract for the Work. Further, the Regional District may disclose the top scoring proponent's aggregate pricing to the Regional District Board at a public meeting, when making a recommendation for the award of the Contract.

For more information on the application of the Act, go to [http://www.cio.gov.bc.ca/cio/priv\\_leg/index.page](http://www.cio.gov.bc.ca/cio/priv_leg/index.page).

## **1.17 AWARD OF CONTRACT**

The Purchasing Policy at the Regional District offers contracts to businesses through an open, fair and consistent competitive bidding process. This ensures that the Regional District will receive the best overall value for the goods and services it requires. The Regional District reserves the right to cancel, award all or part of the scope of work described in this document to a single Proponent or may split the award with multiple Proponents.

All awards are subject to Board approval that meets the needs as determined by the Board. The Regional District, in receipt of a submission from a Proponent, may in its sole discretion consider the Proponent to have accepted the terms and conditions herein, except those expressly excluded or changed by the Proponent in writing.

The RFP shall not be construed as an agreement to purchase goods or services. The lowest priced or any proposal will not necessarily be accepted. The RFP does not commit the Regional District in any way to award a contract and that no legal relationship or obligation regarding the procurement of any good or service will be created between Regional District and the proponent unless and until Regional District and the proponent execute a written agreement for the Deliverables

## **1.18 COST OF PROPOSAL**

The Proponent acknowledges and agrees that the Regional District will not be responsible for any costs, expenses, losses, damage or liability incurred by the Proponent as a result of or arising out submitting a Proposal for the proposed contract or the Regional District's acceptance or non-acceptance of their proposal. Further, except as expressly and specifically permitted herein, no Proponent shall have any claim for any compensation of any kind whatsoever, as a result of participating in this RFP, and by submitting a proposal each Proponent shall be deemed to have agreed that it has no claim.

### 1.19 PROPONENT'S RESPONSIBILITY

It is the Proponent's responsibility to ensure that the terms of reference contained herein are fully understood and to obtain any further information required for this proposal call on its own initiative. The Regional District reserves the right to share, with all proponents, all questions and answers related to this bid call.

### 1.20 EVALUATIONS

Proposals will be evaluated in private, including proposals that were opened and read in public, if applicable. Proposals will be assessed in accordance with the evaluation criteria.

If only one Proposal is received, the Regional District reserves the right to open the Proposal in private or if the total bid price exceeds the estimated budget for the Contract, the Regional District may cancel and re-tender, accept, not accept and cancel or re-scope the Work seeking a better response, with or without any substantive changes being made to the solicitation documents. If more than one Proposal is received from the same Proponent, the last Proposal received, as determined by the Regional District, will be the only Proposal considered.

### 1.21 ACCEPTANCE OF TERMS

The submission of the Proposal constitutes the agreement of the Proponent that all of the terms and conditions of the RFP are accepted by the Proponent and incorporated in its Proposal, except those conditions and provisions which are expressly excluded and clearly stated as excluded by the Proponent's proposal.

### 1.22 MANDATORY REQUIREMENTS

Proposals not clearly demonstrating that they meet the mandatory requirements will receive no further consideration during the evaluation process.

### 1.23 INSURANCE & WCB

The Proponent shall obtain and continuously hold for the term of the contract, insurance coverage with the Regional District Listed as "Additional Insured" the minimum limits as set out in CCDC41 of not less than those stated below:

- (a) General liability insurance shall be with limits of not less than \$10,000,000 per occurrence, an aggregate limit of not less than \$10,000,000 within any policy year with respect to completed operations, and a deductible not exceeding \$10,000. 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.

- (b) 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 \$10,000,000 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*
- (c) Manned 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 \$10,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use thereof and limits of not less than \$10,000,000 for aircraft passenger hazard. Such insurance shall be in a form acceptable to the *Owner*.
- (d) Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the *Work*), shall have limits of not less than \$5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by any applicable law or regulation.
- (e) "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 \$10,000. The insurance coverage shall not be less than the insurance provided by IBC Forms 4042 and 4047 or their equivalent replacement. Subject to satisfactory proof of financial capability by the Contractor, the Owner may agree to increase the deductible amounts.
- (f) 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 including hot testing and commissioning.

- (g) Contractors' equipment insurance coverage written on an "all risks" basis 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.
- (h) Contractors' Pollution liability insurance shall have limits of not less than \$5,000,000 per occurrence for bodily injury, death and damage to property.
- (i) A provision requiring the Insurer to give the Owners a minimum of 30 days' notice of cancellation or lapsing or any material change in the insurance policy;

The Proponent must comply with all applicable laws and bylaws within the jurisdiction of the work. The Proponent must further comply with all conditions and safety regulations of the Workers' Compensation Act of British Columbia and must be in good standing during the term of any contract entered into from this process.

#### **1.24 COLLUSION**

Except otherwise specified or as arising by reason of the provisions of these documents, no person, or corporation, other than the Proponent has or will have any interest or share in this proposal or in the proposal contract which may be completed in respect thereof. There is no collusion or arrangement between the Proponent and any other actual or prospective Proponent in connection with proposals submitted for this project and the Proponent has no knowledge of the context of other proposals and has no comparison of figures or agreement or arrangement, express or implied, with any other party in connection with the making of the proposal.

#### **1.25 CONFLICT OF INTEREST**

Proponents shall disclose in its Proposal any actual or potential conflict of interest and existing business relationship it may have with the Regional District, its elected or appointed officials or employees.

#### **1.26 LIABILITY FOR ERRORS**

While the Regional District has used considerable efforts to ensure an accurate representation of information in these bid documents, the information contained is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Regional District nor is it necessarily comprehensive or exhaustive.

#### **1.27 TRADE AGREEMENTS**

This RFP is covered by trade agreements between the Regional District and other jurisdictions, including the following:

- a) Canadian Free Trade Agreement; and
- b) New West Partnership Trade Agreement.

#### **1.28 LAW**

This contract and any resultant award shall be governed by and construed in accordance with the laws of the Province of British Columbia, which shall be deemed the proper law thereof.

#### **1.29 REPRISAL CLAUSE**

Tenders will not be accepted by the Regional District from any person, corporation, or other legal entity (the "Party") if the Party, or any officer or director of a corporate Party, is, or has been within a period of two years prior to the tender closing date, engaged either directly or indirectly through another corporation or legal entity in a legal proceeding initiated in any court against the Regional District in relation to any contract with, or works or services provided to, the Regional District; and any such Party is not eligible to submit a tender.

#### **1.30 FORCE MAJEURE (ACT OF GOD)**

Neither party shall be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to causes beyond its reasonable control including but not limited to acts of God, war, strikes or labour disputes, embargoes, government orders or any other force majeure event. The Regional District may terminate the Contract by notice if the event lasts for longer than 30 days.

#### **1.31 CONFIDENTIAL INFORMATION OF PROPONENT**

A proponent should identify any information in its proposal or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by Regional District. The confidentiality of such information will be maintained by Regional District, except the total proposed value, which must be publicly released for all proposals, or otherwise required by the Freedom of Information and Protection of Privacy Act ("FOIPPA"), law or by order of a court or tribunal. Proponents are advised that their proposals will, as necessary, be disclosed, on a confidential basis, to advisers retained by Regional District to advise or assist with the RFP process, including the evaluation of proposals. If a proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the RFP Contact.

### **1.32 DISPUTE RESOLUTION**

All unresolved disputes arising out of or in connection with this Proposal or in respect of any contractual relationship associated therewith or derived therewith shall be referred to and finally resolved by arbitration as prescribed by Mediate BC services pursuant to its rules, unless otherwise mutually agreed between the parties.

### **1.33 DEBRIEFING**

At the conclusion of the RFP process, all Proponents will be notified. Proponents may request a debriefing meeting with the Regional District.



## **2. INTRODUCTION**

### **2.1 Purpose**

The Regional District is seeking proposals from a qualified Contractor to replace the existing wet fire sprinkler system with a dry nitrogen system at the Sechelt Aquatic Center located at 5500 Shorncliffe Avenue, Sechelt BC. The existing system has been compromised by microbiologic corrosion and requires replacement. Replacement of the system components in some areas will require; working at heights of up to 32' feet and over pool basins, replacing system components above enclosed drywall ceilings, working above and around installed mechanical equipment and painting exposed piping, fittings and hangers to match existing. To reduce the impacts of the project on the regular scheduled operations of the facility it is planned for completion in two phases over two years starting in 2023. Each phase is to be scheduled to coincide with the four week annual facility maintenance closure which typically begins the last week of May and runs through to the 3rd week of June. Pool basins are drained and remain empty for approximately three weeks during the annual maintenance closure. Phase one will include system replacement in the mechanical and pool areas, phase two will include system replacement in the remaining areas of the facility. The Regional District desires a project approach that will minimize impact on facility users and staff. Proponents are encouraged to look for creative solutions to deliver a cost effective quality installation while minimizing complete facility downtime through the project phasing, after hours work or other methods. The Regional Districts budget for this project is \$607,000

## **3. SITUATION/OVERVIEW**

### **3.1 Background**

The Sechelt Aquatic Center was constructed in 2007, is approximately 22,500 sqft. and features a 25m pool, leisure pool, swirl pool, water slide, steam room, sauna, gym, fitness studio, community use room, three change room areas, viewing lobby, three lobby washrooms, reception area, lifeguard room, staff offices, storage rooms and mechanical rooms. The current sprinkler system was installed in 2007 during original construction of the facility. In January 2021 a leak was discovered in the piping in one of the mechanical rooms. Upon disassembly to repair the leak significant microbiologic corrosion was discovered prompting further investigative work to determine the extent of the corrosion throughout the system. The investigative work has determined that the majority of the sprinkler system is compromised and requires replacement. A sprinkler design engineer was engaged to guide develop the scope of work for the sprinkler system replacement.

### **3.2 Project Objectives**

- Replace existing wet sprinkler system components with a dry sprinkler system per the design specifications and drawings set out in Appendix A.
- Incorporate system design elements to mitigate future corrosion issues such as nitrogen charging.
- Maintain facility aesthetics through colour matching of existing sprinkler piping and components.

- Complete project phases during the regular scheduled annual facility maintenance closure.
- Minimize project time line and impact on facility users and staff.

### **3.3 Scope**

See Appendix A & B

- Fire Protection Upgrades Sprinkler Upgrades – Phases 1 & 2 Specification
- Drawing FP01 Sprinkler Layout
- Drawing FP02 Sprinkler Layout Demolition Plan
- Drawing FP03 Optional Additional Work For Linear Heat Removal

## **4. CONTRACT**

### **4.1 General Contract Terms and Conditions**

Proponents should review carefully the terms and conditions set out in the CCDC 2 Stipulated Price Contract 2020 including the Schedules. The Contract terms can be found in Appendix C.

### **4.2 Service Requirements**

The Contractor's responsibilities will include the following:

- a) Prior to signing the Contract, the Contractor will provide:
  - a. proof that they are registered to conduct business in the Province of British Columbia; and
  - b. Performance and Labour and Material Bond within 15 days of receipt of the written notice of award, will deliver to the Regional District a performance bond and a labour and material bond, each in the amount of 50% of the contract price, covering the performance of the work including the successful Proponent's obligations during the maintenance period, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia and in a form acceptable to the Regional District; or  
A bank draft, in the amount of 20% of the total contract price. The bank draft less 5% of the total contract price will be returned 60 days after the completion of the contract which will be held until the end of the maintenance period; or  
A letter of credit, in the amount of 20% of the total contract price, without a termination date. The letter of credit will be returned 60 days after the completion of the contract and after the issuance of a letter of credit for the warrantee period, without a termination date in the amount of 5% of the total contract price which will be held until the end of the maintenance period.
- b) The Contractor will be expected to work closely with the Regional District staff and representatives throughout the term of the contract
- c) The Contractor will provide all the deliverables as outlined above
- d) The Contractor will conform to all applicable codes, guidelines regulations and all laws as required by the authorities having jurisdiction

- e) The Contract will ensure all engineering work complies with applicable Permit to Practice requirements as articulated by Engineers and Geoscientists of BC.
- f) The Contractor will employ skilled and qualified people to complete the work
- g) The Contractor will be aware of and comply with all by-laws or regulations regarding noise for each respective jurisdiction
- h) The Contractor will notify the Regional District when the work has reached substantial performance and shall review all completed work with the Regional District for the purposes of final inspection, deficiencies and commissioning. Any deficiencies identified the successful Proponent is required to provide the Regional District with a reasonable time period for the correction. The Regional District will provide acknowledgment of those corrections and time frame. The Regional District will conduct further inspections
- i) The Contractor will warrant that the work will be completed in a good and skilful manner and provide a minimum of one (1) year warranty on their work  
If within warranty period any part of the work is found by the Regional District to be defective or faulty due to imperfect or bad construction or material, the successful Contractor will replace such defective items without expense to the Regional District; and
- j) The Contractor will obtain all permits, licenses, approvals and certificate which are generally required for the performance of the work
- k) The Contractor will provide two (2) hard copies and one (1) electronic copy in PDF format of as-built drawings, commissioning report, testing and verification reports and operation and maintenance manuals.

#### **4.3 Related Documents**

1. Appendix A - Fire Protection Upgrades Sprinkler Upgrades – Phases 1 & 2 Specification
2. Appendix B - Drawing FP01 Sprinkler Layout
3. Appendix B - Drawing FP02 Sprinkler Layout Demolition Plan
4. Appendix B - Drawing FP03 Optional Additional Work For Linear Heat Removal

### **5. REQUIREMENTS**

In order for a proposal to be considered, a Proponent must clearly demonstrate that they meet the mandatory requirements set out in Section 7.1 (Mandatory Criteria) of the RFP.

This section includes “Response Guidelines” which are intended to assist Proponents in the development of their proposals in respect of the weighted criteria set out in Section 7.2 of the RFP. The Response Guidelines are not intended to be comprehensive. Proponents should use their own judgement in determining what information to provide to demonstrate that the Proponent meets or exceeds the Regional District’s expectations.

Please address each of the following items in your proposal in the order presented. **Proponents may find it helpful to use the individual Response Guidelines as headings for proposal responses.**

#### **5.1 Capabilities**

##### **5.1.1 Relevant Qualifications**

The Proponent or any subcontractors of the Proponent included in its proposal **need to** have the following qualifications:

- Apprentices or helpers need to have a minimum of year commercial fire suppression system installation experience. All work performed by apprentices or helpers shall be checked and verified by a qualified fire suppression system installation technician.
- All personnel performing the work shall be appropriately certified to install commercial fire suppression systems and shall maintain a valid Province of British Columbia trade qualification or equivalent.

Proponents **need to** provide a list of key project team personnel including their qualifications. Proponents **must** indicate in their proposal that key project team personnel meet the relevant qualifications specified in Appendix A - Fire Protection Upgrades Sprinkler Upgrades – Phases 1 & 2 Specification.

### 5.1.2 Subcontractors

Proponents need to provide a list of all subcontractors they will utilize to perform the services. The list **should** include the legal company name, sub trade and any qualifications. Proponents **must** indicate in their proposal that subcontractors meet the relevant qualifications specified in Appendix A - Fire Protection Upgrades Sprinkler Upgrades – Phases 1 & 2 Specification.

### 5.1.3 Relevant Experience

The Proponent and any subcontractors of the Proponent included in its proposal **should** have a minimum of 5 years within the past 10 years providing services of a similar scope and complexity.

Similar scope and complexity is defined as:

- a) Sprinkler system replacement in a similar size facility.
- b) Previous experience working in an aquatic or similar type facility.
- c) Previous experience designing and installing wet and dry fire sprinkler systems.

### 5.1.4 References

Proponents **should** provide a minimum of **3** references (i.e. names and contact information) of individuals who can verify the quality of work provided specific to the relevant experience of the Proponent and of any subcontractors named in the proposal. References from the Proponent's own organization or from named subcontractors are not acceptable.

The Regional District reserves the right to seek additional references independent of those supplied by the Proponent, including internal references in relation to the Proponent's and any subcontractor's performance under any past or current contracts with the Regional District or other verifications as are deemed necessary by it to verify the information contained in the proposal and to confirm the suitability of the Proponent.

### 5.1.5 Environmental Requirements

All removed existing system components and waste installation materials **should** be disposed of in a manner that meets all regulatory and environmental requirements.

Upcycling or recycling **should** be considered as the preferred method of disposal whenever possible. Proponents **should** provide details on how they will meet any environmental requirements.

## **5.2 Sustainable Social Procurement**

A factor in the Regional District evaluation process is sustainable social procurement and the evaluation of proposals will take this into consideration.

As part of any submission the Proponent is encouraged to identify how they may contribute to the following key social, employment and economical goals, but not limited to the following:

- a) Contribute to a stronger local economy by:
  - promoting a Living Wage
  - Using fair employment practices;
  - Increase training and apprenticeship opportunities;
- b) Local expertise knowledge by:
  - a. Being locally owned;
  - b. Utilization of local subcontractors;
- c) Environmental Cost of Ownership;
- d) Energy efficient products;
- e) Minimal or environmental friendly use of packing materials; and
- f) Reducing hazardous materials (toxics and ozone depleting substances).

## **5.3 Approach**

### **5.3.1 Methodology and Objectives**

Proponents **should** describe its methodology, approach and outline the process to complete the services. Proponents project approach should focus on ways to reduce overall project time, facility downtime, impact on patrons and staff. Consideration should also be given to coordination of sprinkler replacement work with other work occurring during the annual maintenance closure which may required shared access to work areas with Regional District staff or other contractors. Proponents **should** include features of their services that give them a competitive advantage.

### **5.3.2 Workplan**

Proponents **should** provide a detailed work plan for each phase of the project including start date, key project milestones and phase completion date. Proponents **should** indicate if the project phases can be completed during the 2023 and 2024 annual facility maintenance closures.

## **5.4 Added Value**

Proponents **should** describe any additional goods or services in their proposal being offered at no additional cost to the Regional District.

## 5.5 Price

Proponents need to submit a fee proposal that sets out the separate costs of each project described as well as an all-inclusive cost for all the projects; the proposal should include a breakdown of the fix prices including time, travel, hourly billable rates and material costs. A separate cost option for the removal of the temporary linear heat system is to be provided and not included in the all-inclusive project cost.

Prices quoted will be deemed to be:

- in Canadian dollars ;
- inclusive of duty, FOB destination, and delivery charges where applicable; and
- exclusive of any applicable taxes.

## 5.6 Bid Bond

The proposal **must** be accompanied by a bid security in the form of a bid bond issued by a surety licensed to carry on the business of suretyship in British Columbia in a form reasonable satisfactory to the Regional District or a certified cheque or bank draft or letter of credit in a form acceptable to the Owner in the amount equal to 10% of the proposal price.

If the Proponent chooses to use the BC Bid e-submission method the Proponent will need to upload an electronic copy of the Bid Bond, Certified Check, Letter of Credit or Bank Draft with their BC Bid e-submission and the original will need to be received by the Regional District within 5 business days of the closing date.

## 6. PROPOSAL FORMAT

Proponents should ensure that they fully respond to all requirements in the RFP in order to receive full consideration during evaluation.

The following format, sequence, and instructions should be followed in order to provide consistency in Proponent response and ensure each proposal receives full consideration. All pages should be consecutively numbered.

- a) Signed cover page (see section 7.1 Mandatory Criteria).
- b) Table of contents including page numbers.
- c) A short (one or two page) summary of the key features of the proposal.
- d) The body of the proposal, including pricing, i.e. the "Proponent Response".
- e) Appendices, appropriately tabbed and referenced.
- f) Identification of Proponent (legal name)
- g) Identification of Proponent contact (if different from the authorized representative) and contact information.

## 7. EVALUATION

Evaluation of proposals will be by a committee formed by the Regional District and may include other employees and contractors.

The Regional District's intent is to enter into a Contract with the Proponent who has met all Mandatory criteria and minimum scores (if any) and who has the highest overall ranking.

Proposals will be assessed in accordance with the entire requirement of the RFP, including Mandatory and weighted criteria.

The Regional District reserves the right to be the sole judge of a qualified Proponent.

The Evaluation Committee may, at its discretion, request clarifications or additional information from a Proponent with respect to any Proposal, and the Evaluation Committee may make such requests to only selected Proponents. The Evaluation Committee may consider such clarification or additional information in evaluating a Proposal.

## 7.1 Mandatory Criteria

Proposals not clearly demonstrating that they meet the following mandatory criteria will be excluded from further consideration during the evaluation process.

<b>Mandatory Criteria</b>
The proposal must be received at the Closing Location before the Closing Time.
The proposal must be in English.
The proposal must be submitted using one of the submission methods set out on the cover page of the RFP
The proposal must either (1) include a copy of the cover page that is signed by an authorized representative of the Proponent or (2) be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in the RFP
Attendance at the mandatory site meeting
Bid Bond
The proposal must indicate that all key project team personnel and subcontractors meet the relevant qualification requirements specified in Appendix A - Fire Protection Upgrades Sprinkler Upgrades – Phases 1 & 2 Specification.

## 7.2 Weighted Criteria

Proposals meeting all of the mandatory criteria will be further assessed against the following weighted criteria.

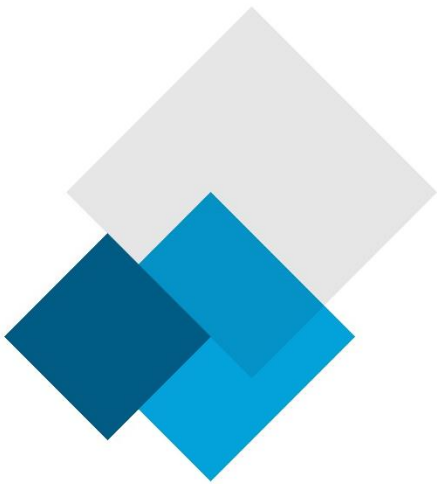
<b>Weighted Criteria</b>	<b>Weight (%)</b>
Qualifications	20
Experience	20
Project Approach and Work Plan	20
Environmental Requirements	5
Sustainable Social Procurement	5
Added Value	5
Price	25
<b>TOTAL</b>	<b>100</b>

### **7.3 Price Evaluation**

The lowest priced Proposal will receive full points for pricing. All other prices will be scored using the following formula: lowest priced proposal/price of this proposal\* total points available for price.



## **Schedule A Specifications**



# **Fire Protection Upgrades Sprinkler Upgrades – Phases 1 & 2 Specification**

Sechelt Aquatic Centre  
5500 Shornecliffe Ave,  
Sechelt BC V0N3A0

Sunshine Coast Regional District

**ISSUED FOR CONSTRUCTION**

SNC- Lavalin Project Number 692085

February 17, 2023



**PART 1 General**

**1.1 LIST OF SPECIFICATION SECTIONS**

.1 The following sections shall form part of this specification:

<b>Section Number</b>	<b>Section Title</b>	<b>No. Of Pages</b>
00 01 10	TABLE OF CONTENTS	2
01 11 00	GENERAL INSTRUCTIONS	9
02 41 99	DEMOLITION FOR MINOR WORKS	2
07 84 00	FIRE STOPPING	4
09 21 16	GYPSON BOARD ASSEMBLIES	5
09 22 14	FURRING AND LATHING	4
09 22 16	NON-STRUCTURAL METAL FRAMING	4
09 91 99	PAINTING FOR MINOR WORKS	5
21 13 16	DRY PIPE SPRINKLER SYSTEMS	10
26 05 00	COMMON WORK RESULTS FOR ELECTRICAL	6
26 05 20	WIRE AND BOX CONNECTORS (0-1000 V)	2
26 05 21	WIRES AND CABLES (0-1000 V)	3
26 05 29	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	3
26 05 31	SPLITTERS, JUNCTION, PULL BOXES AND CABINETS	2
26 05 32	OUTLET BOXES, CONDUIT BOXES AND FITTINGS	2
26 05 34	CONDUITS, CONDUIT FASTENINGS AND CONDUIT FITTINGS	3
28 31 00.01	FIRE ALARM SYSTEM	6

## **1.2 LIST OF DRAWINGS**

.1 The following drawings shall form part of this design package:

<b>Dwg. Number</b>	<b>Drawing Name</b>	<b>Discipline</b>
FP01	SPRINKLER LAYOUT	FIRE PROTECTION
FP02	SPRINKLER LAYOUT DEMOLITION PLAN	FIRE PROTECTION
FP03	OPTIONAL PRICING FOR LINEAR HEAT REMOVAL PLAN	FIRE PROTECTION

## **PART 2 Products**

### **2.1 NOT USED**

.1 Not Used

## **PART 3 Execution**

### **3.1 NOT USED**

.1 Not used.

## **PART 1        GENERAL INSTRUCTIONS**

### **1.1        SCOPE OF WORK**

- .1 Replacement of existing wet pipe sprinkler system is being phased to minimise impact on building operations. The project shall be constructed in two 4 week Regional District defined shutdown windows (beginning late May 2023 and 2024):
  - .1 Phase 1: Machine Room and Pool Area
    - .1 Replacement of existing wet sprinkler system from the water entry to the building with a dry pipe (nitrogen) sprinkler system and includes replacement of existing sprinkler header, piping and risers, replacement of isolation & check valves, zone control assemblies, backflow preventer, sprinklers, hangers, seismic braces & pressure & flow switches, tamper switches and dry pipe valves with air compressor as specified on the fire protection system drawings and referenced specifications.
    - .2 New devices / switches shall be connected to the existing fire alarm system circuits as outlined on the drawings and specifications with the key specification being 28 31 00.01 Fire Alarm System. If the Contractor does not have fire alarm Contractor services a fully qualified Sub-Contractor shall be engaged for these services.
    - .3 The change rooms, showers, fitness area, offices and other areas shall be maintained as a wet system and fully functional until replaced in phase 2 construction.
  - .2 Phase 2: Change Rooms, Showers, Fitness Area, Offices and all other areas
    - .1 Replacement of existing wet sprinkler system with dry pipe (nitrogen) sprinkler system and connecting to phase 1 and this includes replacement of existing sprinkler header, piping and risers, replacement of isolation & check valves, zone control assemblies, backflow preventer, sprinklers, hangers, seismic braces & pressure & flow switches, tamper switches and dry pipe valves with air compressor as specified on the fire protection system drawings and referenced specifications.
    - .2 New devices / switches shall be connected to the existing fire alarm system circuits as outlined on the drawings and specifications with the key specification being 28 31 00.01 Fire Alarm System. If the contractor does not have fire alarm contractor services a fully qualified sub-contractor shall be engaged for these services.
    - .3 Integration of Phase 1 work for a fully operational system.
- .2 Contractor shall be responsible for cutting and repairs to accommodate installation.
- .3 Building is to remain occupied and operational during construction.

## **1.2 OPTIONAL ADDITIONAL WORK FOR REMOVAL OF LINEAR HEAT CABLE**

- .1 Provide separate pricing for the complete removal of the 5 zones of Linear heat detection cable as per drawing FP03.
- .2 Linear heat detection zones to be removed from service. Linear heat cable and associated installation hardware to be removed in full. All fire alarm monitoring modules associated with linear heat detection to be removed in full. Fire alarm panel to be re-programmed for the removal of all linear heat detection zones.
- .3 Firestop with ULC listed system all penetrations affected by the removal of linear heat cable between fire rated separations. Paint and patch to match existing areas as required due to the removal of linear heat cable devices such as monitoring modules, end of line devices, etc.

## **1.3 DEFINITION**

- .1 Regional District Representative – The term “Regional District Representative” is meant to include the property management, consultant or other persons representing the Regional District.

## **1.4 TIME OF COMPLETION**

- .1 Commence work immediately after the contract has been signed by the Contractor and Regional District.

## **1.5 MINIMUM STANDARDS**

- .1 Materials shall be new and work shall conform to the minimum applicable standards of the BC Building Code - 2018 (BCBC) and all applicable Provincial and Municipal codes.

## **1.6 SHOP DRAWINGS**

- .1 Submit for the Regional District Representative review, electronic copies of each shop drawing including design calculations and drawings sealed by the Contractor/Sub-Contractor's Fire Protection Design Engineer registered in the Province of British Columbia and product data sheets.
- .2 The review is for the sole purpose of ascertaining conformance with the general design concept, and does not mean approval of the design details inherent in the shop drawings, responsibility for which shall remain with the Contractor. Such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents.
- .3 Do not commence manufacture or order materials before shop drawings are reviewed.
- .4 Shop drawings shall be submitted in PDF format capable of being searched by way of the “Find” command. Scans of documents shall not be acceptable.
- .5 One complete submittal per discipline shall be provided; partial or incomplete submittals shall be rejected.

## **1.7 PRODUCT DATA**

- .1 Product data: manufacturers catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products.
- .2 Submit electronic copies of product data to Regional District Representative.
- .3 Delete information not applicable to project.

## **1.8 TAXES**

- .1 Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

## **1.9 FEES, PERMITS AND CERTIFICATES**

- .1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of authority having jurisdiction.

## **1.10 FIRE SAFETY REQUIREMENTS**

- .1 Comply with the BC Building Code – 2018 (BCBC) for fire safety in construction and the BC Fire Code – 2018 (BCFC) for fire prevention, firefighting and life safety in building in use. All municipal bylaws related to fire safety and potable water shall be enforced on the project where applicable.
- .2 Retain all related fire safety documents and standards on site.
- .3 Welding and Cutting:
  - .1 Before welding, soldering, grinding and/or cutting work, obtain permit for such work from building operations. Comply with all Regional District Hot Works Procedures.
  - .2 At least 48 hours prior to commencing cutting, welding or soldering procedure, provide to Regional District Representative notice of intent, indicating devices affected, time and duration of isolation or bypass.
  - .3 A fire watcher shall be assigned when welding or cutting operations are carried out in areas where combustible materials within 10 m may be ignited.
- .4 Where work requires interruption of fire alarms or fire suppression, extinguishing or protection systems:
  - .1 Provide fire watcher service; in general, fire watcher service is defined as an individual conversant with the building's Fire Emergency Procedures, performing fire picket duty within an unprotected and unoccupied (no workers) area once per hour.
- .5 Retain services of manufacturer for fire protection systems to isolate and protect all devices relating to:
  - .1 Modification of fire alarms, fire suppression, extinguishing or protection systems; and/or
  - .2 Cutting, welding, soldering or other construction activities which might activate fire protection systems.



- .3 Immediately upon completion of work, restore fire protection systems to normal operation and verify that all devices are fully operational.
- .4 Inform fire alarm system monitoring agency and local Fire Department immediately prior to isolation and immediately upon restoration of normal operation.

#### **1.11 HAZARDOUS MATERIAL**

- .1 Prior to any work, review the building's Designated Substances Report (DSR).
- .2 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of Safety Data Sheets (SDS).
- .3 For work in occupied buildings give the Regional District Representative 48-hours' notice for work involving hazardous substances (the Workers Compensation Act), and before painting, caulking, installing carpet or using adhesives.

#### **1.12 TEMPORARY UTILITIES**

- .1 Existing services required for the work may be used by the Contractor without charge. Ensure capacity is adequate prior to imposing additional loads. Connect and disconnect at own expense and responsibility.
- .2 Notify the Regional District Representative and utility companies of intended interruption of services, obtain requisite permission.
- .3 Give the Regional District Representative 48-hours' notice related to each necessary interruption of any mechanical or electrical service throughout the course of the work. Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends.

#### **1.13 REMOVED MATERIALS**

- .1 Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from site.

#### **1.14 PROTECTION**

- .1 Protect finished work against damage until take-over.
- .2 Protect adjacent work against the spread of dust and dirt beyond the work areas.
- .3 Protect occupants, public and other users of site from all hazards.

#### **1.15 USE OF SITE AND FACILITIES**

- .1 Execute work with least possible interference or disturbance to the normal use of premises. Make arrangements with Regional District Representative to facilitate work as stated. Refer to article 1.30 Scheduling for work that shall be done during "off hours".
- .2 Maintain existing services to building.

- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Contractor to provide temporary sanitary facilities, as required. Existing facilities on site will not be available.
- .5 Protect work temporarily until permanent enclosures completed.

#### **1.16 SITE STORAGE**

- .1 Do not unreasonably encumber site with materials or equipment.
- .2 Move stored products or equipment which interferes with operations of the operations of the facility and/or District of Sechelt.
- .3 Obtain and pay for use of additional storage or work areas needed for operations.

#### **1.17 CUT, PATCH AND MAKE GOOD**

- .1 Cut existing surfaces as required to accommodate new work. No cutting shall be done without prior approval of Regional District Representative. All proposed locations for cutting shall be demonstrated to the Regional District Representative prior to executing work and approval, in writing, shall be obtained. Should changes to cutting locations be required, new locations shall be reviewed by Regional District Representative to obtain approval and sign-off.
- .2 At no time shall decorative features on ceiling or decorative mouldings be damaged. Routing of piping and conduits shall be planned as to not cause any damage to architectural features.
- .3 Remove all items so shown or specified.
- .4 Patch and make good surfaces cut, damaged or disturbed, to Regional District Representative approval. Match existing material, colour, finish and texture. Perform a detailed walkthrough of the site with the Regional District Representative prior to cutting to identify each different ceiling type / material to develop a rehabilitation plan for patching ceilings / wall penetrations.

#### **1.18 FIRESTOPPING**

- .1 Any new penetrations through fire separations, or exiting penetrations through which piping is installed, shall be sealed using ULC listed firestopping materials.
- .2 All firestop installations shall be as per a ULC / cUL listed installation system to achieve the required fire resistance rating through which the piping is installed.
- .3 Provide a list of ULC / cUL listed installation system and locations in which each will be used prior to installation. Material data sheets for all materials required in the listed installation system shall be submitted simultaneously.
- .4 Where no ULC / cUL listed installation system exist for a penetration, the Contractor shall be responsible for obtaining an engineering judgement / opinion from the material manufacturer to allow for the sealing of the penetration. Engineering judgement / opinion shall be sealed by a professional engineer licenced in the province of British Columbia.

- .5 Minimum fire resistance rating to be achieved: 1-hour.

#### **1.19 EXAMINATION**

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.
- .2 Provide photographs of surrounding properties, objects and structures liable to be damaged or be the subject of subsequent claims.

#### **1.20 SIGNS**

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, and etcetera, in both official languages or by the use of commonly-understood graphic symbols. Submit proposed signage to the Regional District Representative for review prior to fabrication.
- .2 No advertising will be permitted on this project.
- .3 The Regional District may provide a sign describing the project for the information of building users.

#### **1.21 WASTE MANAGEMENT**

- .1 Conduct "waste audit" to determine waste generated during demolition or construction operations, prepare written "waste reduction work plan" and implement procedures to reduce, reuse and recycle materials to the extent possible.
- .2 Submit complete records of all removals from site for both "materials designated for alternative disposal" and "general waste" including:
  - .1 Time and date of removal.
  - .2 Description of material and quantities.
  - .3 Proof that materials have been received at an Approved Waste Processing Site or certified Waste Disposal Site as required.

#### **1.22 OPERATION AND MAINTENANCE MANUALS**

- .1 Two (2) weeks prior to any scheduled training, submit to Regional District Representative electronic and two (2) hard copies of approved Operations Data and Maintenance Manual compiled as follows:
  - .1 Bind data in vinyl hard cover 3 "D" ring type loose leaf binders for 212 mm x 275 mm size paper. Binders should not exceed 75 mm thick or be more than 2/3 full.
  - .2 Enclose title sheet labelled "Operation Data and Maintenance Manual," project name, date and list of contents. Project name shall appear on binder face and spine.
  - .3 Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
  - .4 Include following information plus data specified:

- .1 Maintenance instruction for equipment and materials.
- .5 Description: Operation of the equipment and systems defining start-up, shut-down and emergency procedures, and any fixed or adjustable set points that affect the efficiency of the operation. Include nameplate information such as make, size, capacity and serial number.
- .6 Manual shall also be provided in electronic format (PDF) on USB key. All information shall be contained in a single PDF file which shall be searchable by means of the “find” command; scans of data sheets shall not be permitted.
- .7 Maintenance: Use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:
  - .1 Lubrication products and schedules.
  - .2 Trouble shooting procedures.
  - .3 Adjustment techniques.
  - .4 Operational checks.
  - .5 Supplier's names, addresses and telephone numbers and components supplied by them shall be included in this section. Components shall be identified by a description and manufacturers part number.
- .8 Guarantees showing:
  - .1 Name and address of projects.
  - .2 Guarantee commencement date (date of Interim Certificate of Completion).
  - .3 Duration of guarantee (minimum of 1 year from the time of final completion of project).
  - .4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.
  - .5 Seal of guarantor.
  - .6 Additional material used in project listed under various sections showing name of manufacturer and source of supply.
- .9 Spare parts: List all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate to unique application. All parts/tools detailed shall be identified as to manufacturer, manufacturer part number and supplier (including address).
- .10 Include one complete set of final reviewed shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

## **1.23 RECORDS**

- .1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Regional District Representative inspection for issuance of final certificate of completion, supply to the Regional District Representative detailed as-built drawings showing location of all equipment including all piping / conduits and associate fittings / junction boxes. The Regional District Representative will provide electronic copies of drawings for this purpose.

**1.24 GUARANTEES AND WARRANTIES**

- .1 Before completion of work collect all manufacturer's guarantees and warranties and deposit with Regional District Representative.

**1.25 CLEAN-UP**

- .1 Clean up work area as work progresses. At the end of each work period and more often if ordered by the Regional District Representative, remove debris from site.
- .2 Wash floors and hardware. Clean manufactured articles in accordance with manufacturer's directions.
- .3 Clean areas under contract to a condition at least equal to that previously existing and to approval of Regional District Representative.

**1.26 CONTRACT DOCUMENTS**

- .1 Drawings and specifications are complementary, items shown or mentioned in one and not in the other are deemed to be included in the contract work.
- .2 Where Contractor believes conflict exists between drawings and specification documents, Contractor shall seek clarification from Regional District Representative at time of tender.

**1.27 SECURITY CLEARANCES**

- .1 All personnel employed on this project will be subject to a Vulnerable Sector CPIC security check. Obtain, at own cost, requisite clearance, for each individual required to enter the premises. Shall be dated no older than 30 days from the start of the contract and upon request by the Regional District shall be provided along with the date of birth for each individual to be on site during the course of the project. The Contractor will be required to complete the checks and notify the Regional District in writing that the checks have been completed

**1.28 BUILDING SMOKING ENVIRONMENT**

- .1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.

**1.29 DUST CONTROL**

- .1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of work and public.
- .2 Maintain and relocate protection until such work is complete.
- .3 All areas where work is dust generating shall be cleaned to a condition at least equal to that which existed prior to the start of work immediately upon completion of the work or at the end of each work shift.

**1.30 SCHEDULING**

- .1 On award of contract submit Gantt chart construction schedule for work, indicating anticipated progress stages within time of completion. When schedule has been reviewed by the Regional District Representative, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Regional District Representative.
- .2 Carry out work during "regular hour" Monday to Friday from 07:30 to 16:00 hours and schedule other work periods with the Regional District Representative.
- .3 Carry out work which interrupts building services as well as all testing during "off hours" Monday to Friday from 21:00 – 06:00 hours and on Saturdays, Sundays, and statutory holidays. Gym Facility is open on Saturdays during the maintenance closure. Provide a 48 hour notice prior to all work to be done during off hours.

**1.31 COST BREAKDOWN**

- .1 Before submitting first progress claim submit breakdown of Contract Amount in detail as directed by Regional District Representative and aggregating the Contract Amount. After approval by Regional District Representative cost breakdown will be used as the basis of progress payments.

**PART 2 Products**

**2.1 NOT USED**

- .1 Not used.

**PART 3 Execution**

**3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**PART 1 General**

**1.1 REFERENCE STANDARDS**

- .1 British Columbia Building Code (BCBC) [2018]
- .2 British Columbia Fire Code (BCFC) [2018]
- .3 CSA S350-M1980 (R2003), Code of Practice for Safety in Demolition of Structures.

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2 Construction Waste Management:
  - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.

**1.3 SITE CONDITIONS**

- .1 Review "Designated Substance Report" and take precautions to protect environment.
- .2 If material resembling spray or trowel-applied asbestos or other designated substance listed as hazardous be encountered, stop work, take preventative measures, and notify Regional District Representative immediately.
  - .1 Proceed only after written instructions have been received from Regional District Representative.
- .3 Notify Regional District Representative before disrupting building access or services.

**PART 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**PART 3 Execution**

**3.1 EXAMINATION**

- .1 Inspect building with Regional District Representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3 Notify and obtain approval of utility companies before starting demolition.
- .4 Disconnect, cap, plug or divert, as required, existing public utilities within the property where they interfere with the execution of the work, in conformity with the

requirements of the authorities having jurisdiction. Mark the location of these and previously capped or plugged services on the site and indicate location (horizontal and vertical) on the record drawings. Support, shore up and maintain pipes and conduits encountered.

- .1 Immediately notify Regional District Representative and utility company concerned in case of damage to any utility or service, designated to remain in place.

### **3.2 PREPARATION**

- .1 Protection of In-Place Conditions:
  - .1 Prevent movement, settlement, or damage to adjacent utilities and parts of building to remain in place. Provide bracing and shoring required.
  - .2 Keep noise, dust, and inconvenience to occupants to minimum.
  - .3 Protect building systems, services and equipment.
  - .4 Provide temporary dust screens, covers, railings, supports and other protection as required.
  - .5 Do Work in accordance with Section 01 11 00 – General Instructions.
- .2 Demolition/Removal:
  - .1 Remove items as indicated.
  - .2 Remove parts of existing building to permit new construction.

### **3.3 CLEANING**

- .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for recycling in accordance with Section 01 11 00 – General Instructions.
- .4 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**



## **1 GENERAL**

### **1.1 REFERENCES**

- .1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .2 Underwriter's Laboratories of Canada (ULC)
  - .1 CAN/ULC-S115, Fire Tests of Fire stop Systems.

### **1.2 DEFINITIONS**

- .1 Fire Stop Material: device intended to close off opening or penetration during fire or materials that fill openings in wall or floor assembly where penetration is by cables, cable trays, conduits, ducts and pipes and poke-through termination devices, including electrical outlet boxes along with their means of support through wall or floor openings.
- .2 Single Component Fire Stop System: fire stop material that has Listed Systems Design and is used individually without use of high temperature insulation or other materials to create fire stop system.
- .3 Multiple Component Fire Stop System: exact group of fire stop materials that are identified within Listed Systems Design to create on site fire stop system.
- .4 Tightly Fitted; ref: OBC Part 3.1.9.1.(1)(b): penetrating items that are cast in place in buildings of noncombustible construction or have "0" annular space in buildings of combustible construction.
  - .1 Words "tightly fitted" should ensure that integrity of fire separation is such that it prevents passage of smoke and hot gases to unexposed side of fire separation.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with CCDC 2 - 2020.
- .2 Product Data:
  - .1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish, and limitations.
- .3 Shop Drawings:
  - .1 Submit shop drawings to show proposed material, reinforcement, anchorage, fastenings, and method of installation.
  - .2 Construction details should accurately reflect actual job conditions.

### **1.4 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Installer: company specializing in fire stopping installations with 5 years documented experience.

## **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Packing, shipping, handling, and unloading:
  - .1 Deliver, store, and handle materials in accordance with manufacturer's written instructions.
  - .2 Deliver materials to the site in undamaged condition and in original unopened containers, marked to indicate brand name, manufacturer, ULC markings.
- .2 Storage and Protection:
  - .1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Replace defective or damaged materials with new.
- .3 Waste Management and Disposal:
  - .1 Separate waste materials for reuse and recycling in accordance with standard construction/demolition waste management and disposal processes.

## **2 PRODUCTS**

### **2.1 MATERIALS**

- .1 Fire stopping and smoke seal systems: in accordance with CAN/ULC-S115.
  - .1 Provide 2-hour firestops at all penetrations.
- .2 Service penetration assemblies: systems tested to CAN/ULC-S115.
- .3 Service penetration fire stop components: certified by test laboratory to CAN/ULC- S115.
- .4 Fire stopping and smoke seals at openings intended for ease of re-entry such as cables: elastomeric seal.
- .5 Fire stopping and smoke seals at openings around penetrations for pipes, ductwork and other mechanical items requiring sound and vibration control: elastomeric seal.
- .6 Primers: to manufacturer's recommendation for specific material, substrate, and end use.
- .7 Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.
- .8 Damming and backup materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.
- .9 Sealants for vertical joints: non-sagging.

### **3 EXECUTION**

#### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

#### **3.2 PREPARATION**

- .1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials.
  - .1 Ensure that substrates and surfaces are clean, dry and frost free.
- .2 Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturer's instructions.
- .3 Maintain insulation around pipes and ducts penetrating fire separation without interruption to vapour barrier.
- .4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

#### **3.3 INSTALLATION**

- .1 Install fire stopping and smoke seal material and components in accordance with manufacturer's certified tested system listing.
- .2 Seal holes or voids made by through penetrations, poke-through termination devices, and unpenetrated openings or joints to ensure continuity and integrity of fire separation are maintained.
- .3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.
- .4 Tool or trowel exposed surfaces to neat finish.
- .5 Remove excess compound promptly as work progresses and upon completion.

#### **3.4 SEQUENCES OF OPERATION**

- .1 Proceed with installation only when submittals have been reviewed by OCH Representative.
- .2 Install floor fire stopping before interior partition erections.
- .3 Metal deck bonding: fire stopping to precede spray applied fireproofing to ensure required bonding.
- .4 Mechanical pipe insulation: certified fire stop system component.
  - .1 Ensure pipe insulation installation precedes fire stopping.

### **3.5 FIELD QUALITY CONTROL**

- .1 Inspections: notify OCH representative when ready for inspection and prior to concealing or enclosing fire stopping materials and service penetration assemblies.

### **3.6 CLEANING**

- .1 Progress Cleaning: clean in accordance with CCDC 2 - 2020.
  - .1 Leave work area clean at end of each day.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools, and equipment.
- .3 Remove temporary dams after initial set of fire stopping and smoke seal materials.

### **3.7 SCHEDULE**

- .1 Fire stop and smoke seal at:
  - .1 Penetrations through fire-resistance rated masonry, concrete, and gypsum board partitions and walls.

**END OF SECTION**

**PART 1        General**

**1.1            REFERENCE STANDARDS**

- .1    British Columbia Building Code (BCBC) [2018]
- .2    British Columbia Fire Code (BCFC) [2018]
- .3    ASTM International
  - .1    ASTM C475-17, Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
  - .2    ASTM C514-04(2014), Standard Specification for Nails for the Application of Gypsum Board.
  - .3    ASTM C840-18, Standard Specification for Application and Finishing of Gypsum Board.
  - .4    ASTM C1002-18, Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
  - .5    ASTM C1396/C1396M-17, Standard Specification for Gypsum Wallboard.
- .4    Association of the Wall and Ceiling Industries International (AWCI)
  - .1    AWCI Levels of Gypsum Board Finish.
- .5    Canadian General Standards Board (CGSB)
  - .1    CAN/CGSB-71.25-M88, Adhesive, for Bonding Drywall to Wood Framing and Metal Studs.
- .6    Underwriters' Laboratories of Canada (ULC)
  - .1    CAN/ULC-S102-10, Standard Method of Test of Surface Burning Characteristics of Building Materials and Assemblies.

**1.2            ACTION AND INFORMATIONAL SUBMITTALS**

- .1    Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2    Product Data:
  - .1    Submit manufacturer's instructions, printed product literature and data sheets for gypsum board assemblies and include product characteristics, performance criteria, physical size, finish, and limitations.

**1.3            DELIVERY, STORAGE AND HANDLING**

- .1    Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
- .2    Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3    Storage and Handling Requirements:

- .1 Store materials in dry location, off ground, indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .2 Store and protect furring and lathing application from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse and return of pallets and crates.

#### **1.4 AMBIENT CONDITIONS**

- .1 Maintain temperature 10 degrees C minimum, 21 degrees C maximum for 48 hours prior to and during application of gypsum boards and joint treatment, and for 48 hours minimum after completion of joint treatment.
- .2 Apply board and joint treatment to dry, frost free surfaces.
- .3 Ventilation: ventilate building spaces as required to remove excess moisture that would prevent drying of joint treatment material immediately after its application.

### **PART 2 Products**

#### **2.1 MATERIALS**

- .1 Standard board: to ASTM C1396/C1396M Type X, 16 mm thick, regular, 13 mm thick, 1200 mm wide x maximum practical length, ends square cut, edges squared.
- .2 Gypsum sheathing board: to ASTM C1396/C1396M, Type X, 16 mm thick, regular, 16 mm thick, 1200 mm wide x maximum practical length.
- .3 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.
- .4 Resilient drywall furring: 0.5 mm base steel thickness galvanized steel for resilient attachment of gypsum board.
- .5 Nails: to ASTM C514.
- .6 Steel drill screws: to ASTM C1002.
- .7 Stud adhesive: to ASTM C557 and CAN/CGSB-71.25.
- .8 Laminating compound: as recommended by manufacturer, asbestos-free.
- .9 Casing beads, corner beads, and edge trim: to ASTM C1047, metal, 0.5 mm base thickness, perforated flanges, one piece length per location.
- .10 Joint compound: to ASTM C475, asbestos-free.

#### **2.2 FINISHES**

- .1 Texture finish: asbestos-free standard white texture coating and primer-sealer, recommended by gypsum board manufacturer.
  - .1 Primer: VOC limit 50 g/L maximum to GS-11.

## **PART 3 Execution**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for gypsum board assemblies installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Regional District Representative.
  - .2 Inform Regional District Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Regional District Representative.

### **3.2 ERECTION**

- .1 Do application and finishing of gypsum board to ASTM C840 except where specified otherwise.
- .2 Do application of gypsum sheathing to ASTM C1280.
- .3 Erect hangers and runner channels for suspended gypsum board ceilings to ASTM C840 except where specified otherwise.
- .4 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.
- .5 Install work level to tolerance of 1:1200.
- .6 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers and grilles.
- .7 Install 19 x 64 mm furring channels parallel to, and at exact locations of steel stud partition header track.
- .8 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.
- .9 Install wall furring for gypsum board wall finishes to ASTM C840, except where specified otherwise.
- .10 Furr openings and around built-in equipment, cabinets and access panels.
- .11 Furr duct shafts, beams, columns, pipes and exposed services.
- .12 Erect drywall resilient furring transversely across studs between the layers of gypsum board, spaced maximum 600 mm on centre and not more than 150 mm from ceiling/wall juncture. Secure to each support with 25 mm drywall screw.

### **3.3 APPLICATION**

- .1 Apply gypsum board after bucks, anchors, blocking, electrical and mechanical work have been approved.
- .2 Apply layers of gypsum board to furring or framing using screw fasteners. Maximum spacing of screws 300 mm on centre.

- .1 Single-Layer Application:
  - .1 Apply gypsum board on ceilings prior to application of walls to ASTM C840.
  - .2 Apply gypsum board vertically or horizontally, providing sheet lengths that will minimize end joints.
- .2 Double-Layer Application:
  - .1 Install gypsum board for base layer and exposed gypsum board for face layer.
  - .2 Apply base layer to ceilings prior to base layer application on walls; apply face layers in same sequence. Offset joints between layers at least 250 mm.
  - .3 Apply base layers at right angles to supports unless otherwise indicated.
  - .4 Apply base layer on walls and face layers vertically with joints of base layer over supports and face layer joints offset at least 250 mm with base layer joints.
- .3 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.
- .4 Install gypsum board on walls vertically to avoid end-butt joints. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs, except where local codes or fire-rated assemblies require vertical application.
- .5 Install gypsum board with face side out.
- .6 Do not install damaged or damp boards.
- .7 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

### **3.4 INSTALLATION**

- .1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure at 150 mm on centre.
- .2 Install casing beads around perimeter of suspended ceilings.
- .3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated.
- .4 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.
- .5 Install shadow mould at gypsum board/ceiling juncture. Minimize joints; use corner pieces and splicers.
- .6 Splice corners and intersections together and secure to each member with 3 screws.
- .7 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.



- .8 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with AWCI Levels of Gypsum Board Finish:
  - .1 Level of finish:
    - .1 Level 4: embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; surfaces smooth and free of tool marks and ridges.
- .9 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.
- .10 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.
- .11 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
- .12 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
- .13 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.
- .14 Mix joint compound slightly thinner than for joint taping.
- .15 Apply thin coat to entire surface using trowel or drywall broad knife to fill surface texture differences, variations or tool marks.
- .16 Allow skim coat to dry completely.
- .17 Remove ridges by light sanding or wiping with damp cloth.

### **3.5 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for recycling.
- .4 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### **3.6 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by application.

**END OF SECTION**

## **PART 1        General**

### **1.1            REFERENCE STANDARDS**

- .1    British Columbia Building Code (BCBC) [2018]
- .2    British Columbia Fire Code (BCFC) [2018]
- .3    ASTM International
  - .1    ASTM C841-03(2018)e1, Standard Specification for Installation of Interior Lathing and Furring.
  - .2    ASTM C847-14a, Standard Specification for Metal Lath.
  - .3    ASTM C933-14, Standard Specification for Welded Wire Lath.
  - .4    ASTM C1032-14, Standard Specification for Woven Wire Plaster Base.
  - .5    ASTM C1047-14a, Standard Specification for Accessories for Gypsum Wallboard and Gypsum Base Veneer.
  - .6    ASTM C1063-18b, Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.
- .4    Canadian General Standards Board (CGSB)
  - .1    CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
  - .2    CAN/CGSB-7.1-98, Lightweight Steel Wall Framing Components.

### **1.2            ACTION AND INFORMATIONAL SUBMITTALS**

- .1    Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2    Product Data:
  - .1    Submit manufacturer's instructions, printed product literature and data sheets for furring and lathing application and include product characteristics, performance criteria, physical size, finish and limitations.

### **1.3            DELIVERY, STORAGE AND HANDLING**

- .1    Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
- .2    Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3    Storage and Handling Requirements:
  - .1    Store materials in dry location, off ground, indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2    Store and protect furring and lathing application from nicks, scratches, and blemishes.
  - .3    Replace defective or damaged materials with new.

- .4 Packaging Waste Management: remove for reuse and return of pallets and crates.

## **PART 2 Products**

### **2.1 MATERIALS**

- .1 Metal furring members: channels, fasteners, inserts, anchors, hangers, tie wire: ASTM C841.
- .2 Metal lath: STM C933, ASTM C847, of type and weight to suit plaster system and support spacing, galvanized.
- .3 Gypsum lath: ASTM C847 Type X. Thickness to suit plaster system and support spacing.
- .4 Plaster reinforcement over rigid insulation: ASTM C1032, 0.9 mm steel wire, galvanized, 25 mm hexagonal mesh.
- .5 Cement plaster reinforcement: 1.6 mm steel wire, galvanized, 50 mm square mesh.
- .6 Metal accessories (corner beads, base screeds, cornerite, casing beads): ASTM C1047.

## **PART 3 Execution**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections are acceptable for furring and lathing application in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Regional District Representative.
  - .2 Inform Regional District Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Regional District Representative.

### **3.2 PREPARATION**

- .1 Use galvanized supports, members, angles and metal lathing in wet areas, exterior walls and exterior soffits.
- .2 Do not lath over bucks, anchors, blocking, electrical and mechanical work until they are inspected and approved by Regional District Representative.
- .3 Leave finished work rigid, secure, square, level, plumb, curved to detailed radius and erected to maintain finish plaster line dimensions and contours.
  - .1 Make allowance for thermal movement.
- .4 Provide clearance under beams and structural slabs to prevent transmission of structural loads to vertical furring.

### 3.3 INSTALLATION

- .1 Furring and lathing work: in accordance with ASTM C1063, ASTM C841 except as specified otherwise.
- .2 Ceiling Furring:
  - .1 Install runners level to tolerance of 3 mm over 3.5 m. Provide runners at interruptions of continuity and change in direction.
  - .2 Frame with furring channels, perimeter of openings to accommodate access panels, light fixtures, diffusers, grilles.
  - .3 Furr for vertical bulkheads within or at termination of ceilings.
  - .4 Furr above suspended ceilings for fire and sound stops and to form plenum areas indicated.
  - .5 In concrete, place anchors hangers by attachment to reinforcing steel by loops embedded at least 50 mm or by approved inserts.
  - .6 Brace suspension for exterior soffits and entrance vestibule ceilings to prevent upward movements due to wind pressure.
  - .7 Provide galvanized drips continuously along edges of exterior soffits.
  - .8 Do not fasten hangers to steel roof deck.
- .3 Wall Furring:
  - .1 Install steel furring for braced walls, free standing walls as indicated.
  - .2 Frame openings and around built-in equipment, cabinets, access panels, on four sides, with channels. Extend furring into reveals.
    - .1 Check clearances with equipment suppliers.
  - .3 Construct bulkheads and boxed-in duct shafts, for beams, columns, pipes and around exposed services where indicated.
    - .1 Install 19 mm channels at corners and at 300 mm on centre.
  - .4 Fit ends and edges closely, but not forced together, stagger end joints in succeeding courses.
  - .5 Build in hollow metal frames in plastered furred walls.
- .4 Gypsum Lathing:
  - .1 Install gypsum lath only on straight flat surfaces of partitions and walls using drywall screws or lathing clips to metal framing.
  - .2 Apply gypsum lath to ceilings first, then walls.
  - .3 Butt lath together to moderate contact. Neatly cut around outlets, pipes and openings.
  - .4 Erect gypsum lath proprietary ceiling system in accordance with manufacturer's instructions.
- .5 Metal Lathing:
  - .1 Apply metal lath taut.

- .1 Locate end joints over framing members; stagger end joints on alternate courses; on vertical surfaces lap lower sheet over upper sheet.
- .2 Install ribbed lath over chases and openings.
  - .1 Extend 450 mm each side of opening.
- .3 Secure lath to furring channels with 18 gauge tie wire at intervals not exceeding 150 mm.

### **3.4 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for recycling.
- .4 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### **3.5 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by furring and lathing application.

**END OF SECTION**

## **PART 1        General**

### **1.1            REFERENCE STANDARDS**

- .1    British Columbia Building Code (BCBC) [2018]
- .2    British Columbia Fire Code (BCFC) [2018]
- .3    ASTM International
  - .1     ASTM C645-18, Standard Specification for Nonstructural Steel Framing Members.
  - .2     ASTM C754-18, Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
- .4    Environmental Choice Program (ECP)
  - .1     CCD-047, Architectural Surface Coatings.
  - .2     CCD-048, Surface Coatings - Recycled Water-Borne.
- .5    Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1     Material Safety Data Sheets (MSDS).
- .6    The Master Painters Institute (MPI)
  - .1     Architectural Painting Specification Manual.
    - .1     MPI #26, Primer, Galvanized Metal, Cementitious.

### **1.2            ACTION AND INFORMATIONAL SUBMITTALS**

- .1    Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2    Product Data:
  - .1     Submit manufacturer's instructions, printed product literature and data sheets for metal framing and include product characteristics, performance criteria, physical size, finish and limitations.

### **1.3            QUALITY ASSURANCE**

- .1    Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .2    Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

### **1.4            DELIVERY, STORAGE AND HANDLING**

- .1    Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
- .2    Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

- .3 Storage and Handling Requirements:
  - .1 Store materials in dry location, off ground, indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect furring and lathing application from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse and return of pallets and crates.

## **PART 2 Products**

### **2.1 MATERIALS**

- .1 Non-load bearing channel stud framing: to ASTM C645, roll formed 53 and 91 mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum board
  - .1 Knock-out service holes at 460 mm centres.
- .2 Floor and ceiling tracks: to ASTM C645, in widths to suit stud sizes, 32 mm flange height.
- .3 Non-load bearing truss stud framing system: to consist of:
  - .1 Studs: truss type bent rod web with double rod chord. 12 x 6 x 1.2 mm channel chords welded together at contact points.
    - .1 Make rod of minimum 4.5 mm diameter cold drawn steel wire having tensile strength of 620 MPa.
    - .2 Design studs for clip attachment of gypsum lath or wire tying of metal lath.
  - .2 Floor track: snap-in type formed to hold studs securely in place at 50 mm intervals; fabricated from 0.5 mm thick steel sheet; size to suit studs.
  - .3 Ceiling track: channel shaped track for use with stud shoes and 1.2 mm diameter double wire ties; size to suit studs.
  - .4 After fabrication apply one shop coat of MPI #26 primer to steel surfaces.
    - .1 Descale and clean surfaces before painting.
- .4 Metal channel stiffener: 1.4 mm thick cold rolled steel, coated with rust inhibitive coating.
- .5 Sealants: VOC limit 30 g/L maximum to GS-36.

## **PART 3 Execution**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections are acceptable for non-structural metal framing application in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Regional District Representative.

- .2 Inform Regional District Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Regional District Representative.

### **3.2 ERECTION**

- .1 Align partition tracks at floor and ceiling and secure at 600 mm on centre maximum.
- .2 Install damp proof course under stud shoe tracks of partitions on slabs on grade.
- .3 Place studs vertically at 50 mm from abutting walls, and at each side of openings and corners.
  - .1 Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.
- .4 Erect metal studding to tolerance of 1:1000.
- .5 Attach studs to ceiling and bottom track using screws.
- .6 Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified.
  - .1 Secure studs together, 50 mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.
- .7 Install heavy gauge single jamb studs at openings.
- .8 Erect track at head of door/window openings and sills of sidelight/window openings to accommodate intermediate studs.
  - .1 Secure track to studs at each end, in accordance with manufacturer's instructions.
  - .2 Install intermediate studs above and below openings in same manner and spacing as wall studs.
- .9 Frame openings and around built-in equipment, cabinets, access panels, on four sides. Extend framing into reveals. Check clearances with equipment suppliers.
- .10 Install steel studs or furring channel between studs for attaching electrical and other boxes.
- .11 Extend partitions to ceiling height except where noted otherwise on drawings.
- .12 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs.
  - .1 Use 50 mm leg ceiling tracks.
- .13 Install continuous insulating strips to isolate studs from uninsulated surfaces.
- .14 Install two continuous beads of acoustical sealant under studs and tracks around perimeter of sound control partitions.



**3.3 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for recycling.
- .4 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**3.4 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by application.

**END OF SECTION**

**PART 1        General**

**1.1            REFERENCE STANDARDS**

- .1        British Columbia Building Code (BCBC) [2018]
- .2        British Columbia Fire Code (BCFC) [2018]
- .3        Green Seal Environmental Standards (GS)
  - .1        GS-11, Paints and Coatings.
- .4        Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1        Material Safety Data Sheets (MSDS).
- .5        The Master Painters Institute (MPI)
  - .1        Architectural Painting Specification Manual.
  - .2        Maintenance Repainting Manual.

**1.2            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2        Product Data:
  - .1        Submit manufacturer's instructions, printed product literature and data sheets for paint and coating products and include product characteristics, performance criteria, physical size, finish and limitations.
- .3        Submit copies of WHMIS SDS for all materials used.
- .4        Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

**1.3            QUALITY ASSURANCE**

- .1        Test Reports: submit certified test reports showing compliance with specified performance characteristics and physical properties.
- .2        Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

**1.4            DELIVERY, STORAGE AND HANDLING**

- .1        Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
- .2        Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3        Storage and Handling Requirements:
  - .1        Provide and maintain dry, temperature controlled, secure storage.

- .2 Store painting materials and supplies away from heat generating devices.
- .3 Store materials and equipment in well ventilated area within temperature as recommended by manufacturer.
- .4 Fire Safety Requirements:
  - .1 Supply 2.25 kg dry chemical fire extinguisher with A:B:C rating adjacent to storage area.
  - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
  - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with British Columbia Fire Code (OFC) requirements.
- .5 Packaging Waste Management: remove for reuse and return of pallets and crates.

## **1.5 SITE CONDITIONS**

- .1 Heating, Ventilation and Lighting:
  - .1 Ventilate enclosed spaces.
  - .2 Co-ordinate use of existing ventilation system with Regional District Representative and ensure its operation during and after application of paint as required.
  - .3 Provide minimum lighting level of 323 Lux on surfaces to be painted.
- .2 Temperature, Humidity and Substrate Moisture Content Levels:
  - .1 Apply paint finishes when ambient air and substrate temperatures at location of installation can be satisfactorily maintained during application and drying process, within MPI and paint manufacturer's prescribed limits.
  - .2 Test concrete, masonry and plaster surfaces for alkalinity as required.
  - .3 Apply paint to adequately prepared surfaces, when moisture content is below paint manufacturer's prescribed limits.
- .3 Additional application requirements:
  - .1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
  - .2 Apply paint in occupied facilities during silent hours only. Schedule operations to approval of Regional District Representative such that painted surfaces will have dried and cured sufficiently before occupants are affected.

## **PART 2 Products**

### **2.1 MATERIALS**

- .1 Supply paint materials for paint systems from single manufacturer.
- .2 Conform to latest MPI requirements for painting work including preparation and priming.

- .3 Materials in accordance with MPI - Architectural Painting Specification Manual and MPI - Maintenance Repainting Manual Approved Product" listing.
  - .1 Use MPI listed materials having an E3 or E2 rating where indoor air quality requirements exist.
  - .2 Primer: VOC limit 100 g/L maximum to GS-11.
  - .3 Paint: VOC limit 100 g/L maximum to GS-11.
- .4 Colours:
  - .1 Contractor shall match existing colour and submit proposed Colour Schedule to Regional District Representative for review.
- .5 Mixing and tinting:
  - .1 Perform colour tinting operations prior to delivery of paint to site, in accordance with manufacturer's written recommendations.
  - .2 Use and add thinner in accordance with paint manufacturer's recommendations.
    - .1 Do not use kerosene or similar organic solvents to thin water-based paints.
  - .3 Thin paint for spraying in accordance with paint manufacturer's written recommendations.
  - .4 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.
- .6 Gloss/sheen ratings:
  - .1 Gloss level ratings of painted surfaces shall match existing.
- .7 Interior painting:
  - .1 Plaster and gypsum board: gypsum wallboard, drywall, "sheet rock" type material, etc.
    - .1 INT 9.2A - Latex (over latex sealer).
    - .2 INT 9.2C - Alkyd (over latex sealer).
    - .3 INT 9.2M - Institutional low odour/low VOC.
- .8 Interior re-painting:
  - .1 Plaster and Gypsum Board: gypsum wallboard, drywall, "sheet rock" type material, etc.
    - .1 RIN 9.2A - Latex.
    - .2 RIN 9.2C - Alkyd.

## **PART 3 Execution**

### **3.1 GENERAL**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.
- .2 Perform preparation and operations for interior painting in accordance with MPI - Architectural Painting Specifications Manual and MPI - Maintenance Repainting Manual except where specified otherwise.

### **3.2 EXAMINATION**

- .1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Regional District Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Conduct moisture testing of surfaces to be painted using properly calibrated electronic moisture meter, except test concrete floors for moisture using simple "cover patch test". Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

### **3.3 PREPARATION**

- .1 Protection of in-place conditions:
  - .1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by Regional District Representative.
  - .2 Protect items that are permanently attached such as Fire Labels on doors and frames.
  - .3 Protect factory finished products and equipment.
- .2 Surface Preparation:
  - .1 Remove electrical cover plates, light fixtures, and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.
  - .2 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.
  - .3 Place "WET PAINT" signs in occupied areas as painting operations progress. Signs to approval of Regional District Representative.
  - .4 Clean and prepare surfaces in accordance with MPI - Architectural Painting Specification Manual or MPI - Maintenance Repainting Manual specific requirements and coating manufacturer's recommendations.
  - .5 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

- .6 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements.
- .7 Touch up of shop primers with primer as specified.

### **3.4 APPLICATION**

- .1 Paint only after prepared surfaces have been accepted by Regional District Representative.
- .2 Use method of application approved by Regional District Representative.
  - .1 Conform to manufacturer's application recommendations.
- .3 Apply coats of paint in continuous film of uniform thickness.
  - .1 Repaint thin spots or bare areas before next coat of paint is applied.
- .4 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .5 Sand and dust between coats to remove visible defects.
- .6 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.
- .7 Mechanical/Electrical Equipment:
  - .1 Paint conduits, piping, hangers, ductwork and other mechanical and electrical equipment exposed in finished areas, to match adjacent surfaces, except as indicated.
  - .2 Do not paint over nameplates.
  - .3 Keep sprinklers and fire alarm devices free of paint.
  - .4 Paint to match adjacent wall/ceiling colour.

### **3.5 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for recycling.
- .4 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- .5 Place paint and primer defined as hazardous or toxic waste, including tubes and containers, in containers or areas designated for hazardous waste.

**END OF SECTION**

**PART 1        General**

**1.1            RELATED REQUIREMENTS**

- .1        Section 28 31 00.01 – Fire Alarm System

**1.2            REFERENCE STANDARDS**

- .1        British Columbia Building Code (BCBC) [2018]
- .2        National Fire Prevention Association (NFPA)
  - .1        NFPA 13-2013, Standard for the Installation of Sprinkler Systems.
- .3        CSA:
  - .1        B64.10-11/B64.10.1-11 (R2016) - Selection and Installation of Backflow Preventers/Maintenance and Field Testing of Backflow Preventers.

**1.3            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2        Product Data:
  - .1        Provide manufacturer's printed product literature and data sheets, and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2        Indicate:
    - .1        Materials.
    - .2        Finishes.
    - .3        Method of anchorage.
    - .4        Number of anchors.
    - .5        Supports.
    - .6        Reinforcement.
    - .7        Assembly details.
    - .8        Accessories.
- .3        Manufacturer's catalogue Data, including specific model, type, and size for:
  - .1        Pipe and fittings.
  - .2        Valves, including gate, check, and globe.
  - .3        Dry pipe valve.
  - .4        Sprinklers.
  - .5        Pressure, tamper, and flow switch.
  - .6        Backflow preventer.
  - .7        Fire Department connection.
  - .8        Air Compressor / Nitrogen Generator or Compressed Air Nitrogen Tank Supply.

- .9 Pipe hangers and supports.
- .10 Tamper and flow switches.
- .11 Mechanical couplings and fittings.
- .12 Hangers and seismic bracing.
- .4 Detailed Design Drawings and calculations:
  - .1 Submit detailed design calculations and drawings stamped and signed by professional engineer registered or licensed in the Province of British Columbia, Canada.
  - .2 Sprinkler and piping system layout.
    - .1 Prepare detail working drawings of system layout in accordance with NFPA 13, "Working Drawings (Plans)".
    - .2 Show data essential for proper installation of each system.
    - .3 Show details, plan view, elevations, and sections of systems supply and piping.
    - .4 Show piping schematic of systems supply, devices, valves, pipe, and fittings.
    - .5 Seismic bracing.
    - .6 The Fire Protection Design Engineer is to submit recommendations including cost assessment between the options of a Air Compressor / Nitrogen Generator or Compressed Air Nitrogen Tank Supply.
  - .3 Sprinkler hydraulic calculations and seismic bracing calculations.
  - .4 Drawings, hydraulic calculations and seismic calculations shall be sealed and signed by professional engineer registered or licensed in Province of British Columbia, Canada.
  - .5 Electrical wiring diagrams.
    - .1 Show point to point electrical wiring diagrams.
  - .6 Manufacturers' Instructions:
    - .1 Instructions: provide manufacturer's installation instructions for all components to be installed on the system.

#### **1.4 CLOSEOUT SUBMITTALS**

- .1 Provide operation, maintenance and engineering data for incorporation into manual specified in Section 01 11 00- General Instructions.
- .2 Records:
  - .1 As-built drawings of each system.
    - .1 After completion, but before final acceptance, submit complete set of as-built drawings of each system for record purposes.
    - .2 Submit electronic drawings and one (1) hard copy with title block matching full size contract drawings.
- .3 Operation and Maintenance Manuals:



- .4 Provide detailed Material and Test Certificate for piping and all other documentation for incorporation into manual in accordance with NFPA 13.

## **1.5 DESIGN REQUIREMENTS**

- .1 Design automatic dry pipe fire suppression sprinkler systems in accordance with required and advisory provisions of NFPA 13 over design area for:
  - .1 Ordinary Hazard Group 1 Occupancy –Electrical / mechanical service rooms.
  - .2 Light Hazard – All other areas.
- .2 Pipe sizes for the header, feed mains and risers to be followed as per the preliminary drawings provided.
- .3 Include with each system materials, accessories, and equipment inside and outside building to provide each system complete and ready for use.
- .4 Devices and equipment for fire protection service: ULC approved for use in dry pipe sprinkler systems.
- .5 Design for earthquake protection.
- .6 Design and provide each system to give full consideration to blind spaces, piping, electrical equipment, ducts, and other construction and equipment in accordance with detailed shop drawings.
- .7 Locate sprinklers in consistent pattern with ceiling grid, lights, and air supply diffusers. Provide sprinklers above and below cloud ceilings as shown on drawings.
- .8 Devices and equipment for fire protection service: ULC approved for use in dry pipe sprinkler systems.
- .9 Location of Sprinkler:
  - .1 Locate sprinkler in relation to ceiling and spacing of sprinklers not to exceed that permitted by NFPA 13 for light or ordinary hazard based on location.
  - .2 In ceiling tiles, install on centre tile or quarter tile only.
- .10 Water Distribution:
  - .1 Make distribution uniform throughout the area in which sprinklers will open.
  - .2 Discharge from individual heads in hydraulically most remote area to be 100 % of specified density.
- .11 Density of Application of Water:
  - .1 Size pipe to provide specified density when system is discharging specified total maximum required flow.
  - .2 Application to horizontal surfaces below sprinklers shall be 12.1 m<sup>2</sup> per sprinkler in ordinary hazard areas and 20.9 m<sup>2</sup> in light hazard areas.
- .12 Sprinkler Discharge Area:
  - .1 Area: hydraulically most remote 181 m<sup>2</sup>. Reduction of coverage area may be applied as permitted by NFPA 13.
- .13 Outside Hose Allowances:

- .1 Include allowance in hydraulic calculations of 379 L/min for light hazard calculations and 946 L/min for ordinary hazard calculations.
- .2 Friction Losses:
  - .1 Calculate losses in piping in accordance with Hazen-Williams formula with 'C' value of 120 for steel piping, 150 for copper tubing, and 140 for cement-lined ductile-iron piping.
- .14 Water Supply:
  - .1 A hydrant test has been performed in 2022 Perform hydrant flow test at site prior to performing hydraulic calculations.
    - .1 Water supply information from December 16, 2021 along Shornecliffe Avenue and Toreda Street and :
    - .2 Static Pressure: 1,055 kPa (153 psi)
    - .3 Residual Pressure: 965 kPa (140 psi)
    - .4 Pitot Pressure 621 kPa (90 psi)
    - .5 Residual Flow: 5091 lpm (1345 GPM)

## **1.6 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Installer: company or person specializing in dry sprinkler systems with documented experience.
- .2 Supply grooved joint couplings, fittings, valves, grooving tools and specialties from a single manufacturer. Use date stamped castings for coupling housings, fittings, valve bodies, for quality assurance and traceability.

## **1.7 MAINTENANCE MATERIAL SUBMITTALS**

- .1 Extra Materials:
  - .1 Provide maintenance materials in accordance with Section 01 11 00- General Instructions.
  - .2 Provide spare sprinklers and tools in accordance with NFPA 13.

## **1.8 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 11 00- General Instructions with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
  - .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.
- .3 Storage and Protection:
  - .1 Store materials in dry location indoors.
  - .2 Store and protect materials from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

- .4 Packaging Waste Management: remove for reuse and return of packaging materials in accordance with Section 01 11 00- General Instructions.

## **PART 2 Products**

### **2.1 ABOVE GROUND PIPING SYSTEMS**

- .1 Provide fittings for changes in direction of piping and for connections.
  - .1 Make changes in piping sizes through tapered reducing pipe fittings, bushings will not be permitted.
- .2 Perform welding in shop; field welding will only be permitted on a case by case basis.
- .3 Conceal piping in areas with suspended ceiling.

### **2.2 PIPE, FITTINGS AND VALVES**

- .1 Pipe:
  - .1 Ferrous: to NFPA 13.
  - .2 Piping to be schedule 40.
- .2 Fittings and joints to NFPA 13:
  - .1 Ferrous: threaded, welded, flanged or roll grooved.
    - .1 Grooved joints designed with two ductile iron housing segments, pressure responsive gasket, and zinc-electroplated steel bolts and nuts. Cast with offsetting angle-pattern bolt pads for rigidity and visual pad-to-pad offset contact.
  - .2 Provide 25 mm threaded, fittings into which sprinklers, sprinkler riser nipples or flexible drops are threaded.
  - .3 Plain-end fittings with mechanical couplings and fittings which use steel gripping devices to bite into pipe when pressure is applied will not be permitted.
  - .4 Rubber gasketed grooved-end pipe and fittings with mechanical couplings are permitted in pipe sizes 32 mm and larger. Gap seal required for dry systems.
  - .5 Fittings: ULC approved for use in dry pipe sprinkler systems.
  - .6 Ensure fittings, mechanical couplings, and rubber gaskets are supplied by same manufacturer.
  - .7 Sprinkler pipe and fittings: metal.
- .3 Valves:
  - .1 ULC listed for fire protection service.
  - .2 Gate valves: open by counter clockwise rotation.
  - .3 Provide indicating valve above and below each dry pipe valve.
  - .4 Check valves: flanged clear opening swing or spring actuated check type with flanged inspection and access cover plate for sizes 10 mm and larger.

- .4 Pipe hangers:
  - .1 ULC listed for fire protection services in accordance with NFPA.

## **2.3 SPRINKLERS**

- .1 General: to NFPA 13 and ULC listed for fire services.
- .2 Sprinkler Type:
  - .1 Upright, bronze, glass bulb type.
  - .2 Pendant, bronze, glass bulb type.
  - .3 Semi-recessed, chrome, glass bulb type with ring and cup.
  - .4 Concealed, glass bulb or link and lever type with white concealing plate.
  - .5 All sprinkler heads are to have a corrosion resistant coating.
- .3 Provide nominal 1.2 cm orifice sprinklers.
  - .1 Release element of each sprinkler to be of ordinary temperature rating or higher as suitable for specific application.
  - .2 Deflector: not more than 50 mm below suspended ceilings.

## **2.4 DRY PIPE VALVE**

- .1 ULC listed.
- .2 Cast or ductile iron, flanged or grooved end type, sized to suit water main.
- .3 Components:
  - .1 Accelerator (where required).
  - .2 Pressure gauges.
  - .3 Air maintenance device with low pressure alarm.
  - .4 Alarm pressure switch with supervisory capability.
  - .5 Test valve and associated piping.
  - .6 Drain valve.
  - .7 Indicating shut off valves with tamper-proof device upstream and downstream of dry pipe valve.
- .4 All the pressure switches, flow switches, tamper switches and supervisory signals shall be interfaced with the existing fire alarm system.
- .5 Provide valve complete with internal components that are replaceable without removing valve from installed position.

## **2.5 NITROGEN SUPPLY**

- .1 The Nitrogen supply is to be either a Nitrogen generator with features summarized in this section or Nitrogen tanks. The Fire Protection Design Engineer is to submit recommendations including cost assessment between the options of a Air Compressor / Nitrogen Generator or Compressed Air Nitrogen Tank Supply
- .2 Nitrogen Generator requirements

- .1 Single nitrogen compressor shall supply all dry pipe valves.
- .2 Nitrogen generator to be provided with:
  - .1 Incorporated leak detection system and air bypass tamper alarm.
  - .2 Integral receiver tank.
  - .3 Electrical requirements: Review site power availability and provide recommendations,
- .3 Nitrogen generator shall be capable of maintaining minimum nitrogen purity of 98%.
- .4 Automatic air compressor to be provided as part of package with nitrogen generator. To be provided with:
  - .1 Accumulator tank with pneumatic auto-drain.
  - .2 Air dryer.
  - .3 Electrical Requirements: Review site power availability and provide recommendations, complete with factory mounted starter.
  - .4 Air compressor shall be provided with backup air compressor mounted on same accumulator tank to act as back-up upon failure of primary compressor. Transfer to back-up compressor shall be automatic.
- .5 Supply line for each sprinkler system shall be provided with air maintenance device.
- .6 Each system shall be provided with auto-purge system at the most remote point of the sprinkler system. Auto-purge shall be pneumatic only and shall not require any electrical connections.
- .7 Provide one 1 portable nitrogen purity sensor as part of maintenance equipment for building operators.
- .8 Capacity:
  - .1 To restore normal air pressure in system within 30 minutes.

## **2.6 ALARM AND SUPERVISORY SWITCHES**

- .1 General: to NFPA 13 and ULC listed for fire service.
- .2 Valves:
  - .1 Mechanically attached to valve body, with normally open and normally closed contacts and supervisory capability.
- .3 Pressure and flow switch type:
  - .1 With normally open and normally closed contacts and supervisory capability.
  - .2 Provide switch with circuit opener or closer for automatic transmittal of alarm over facility fire alarm system.
  - .3 Connect into building fire alarm system.
  - .4 Connection of switch: Section 28 31 00.01 - Fire Alarm System.

## **2.7 PRESSURE GAUGES**

- .1 ULC listed, maximum limit of not less than twice normal working pressure at point where installed.

## **2.8 FIRE DEPARTMENT CONNECTION**

- .1 Provide connections 0.9 m above finish grade, location as indicated on drawings.
- .2 To NFPA 13 and ULC listed.
- .3 Polished chrome plated recessed of approved two-way type with two (2) 65 mm National Standard female hose threads with plug, chain, and identifying fire department connection escutcheon plate.
- .4 Thread specifications: compatible with local fire department.
- .5 Install a 90-degree elbow with drain connection at the low-point near each fire department connection to allow for system drainage to prevent freezing.

## **2.9 BACKFLOW PREVENTER**

- .1 Provide ULC listed double check valve backflow preventer per CSA-B64.
- .2 Install centreline of backflow 900 mm to 1,500 mm from finish floor.
- .3 Valves to be monitored by existing fire alarm system.

## **2.10 BACKFLOW PREVENTER TEST HEADER**

- .1 Provide connections approximately 0.9 m above finish grade, location as indicated on drawings.
- .2 Provide with shutoff valve listed to be monitored normally closed.
- .3 Polished chrome plated recessed with two (2) 65 mm hose valves with plug, chain, and identifying test header escutcheon plate.
- .4 Install a 90-degree elbow with drain connection at the low-point near each fire department connection to allow for system drainage to prevent freezing.

## **2.11 ESCUTCHEON PLATES**

- .1 Provide split hinge type metal plates for piping passing through walls in exposed spaces.
- .2 Paint to match existing wall colour.

## **2.12 SIGNS**

- .1 Attach properly lettered bilingual and approved metal signs to each valve and alarm device to NFPA 13.
- .2 Permanently fix hydraulic design data nameplates to riser of each system.

# **PART 3 Execution**

## **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

### **3.2 INSTALLATION**

- .1 Install, inspect and test to acceptance in accordance with NFPA 13.

### **3.3 PIPE INSTALLATION**

- .1 Install piping straight and true to bear evenly on hangers and supports. Do not hang piping from plaster / gypsum ceilings.
- .2 Keep interior and ends of new piping and existing piping thoroughly cleaned of water and foreign matter.
- .3 Keep piping systems clean during installation by means of plugs or other approved methods. When work is not in progress, securely close open ends of piping to prevent entry of water and foreign matter.
- .4 Inspect piping before placing into position.
- .5 Coordinate passage of piping through fire separations for proper firestopping of penetrations.

### **3.4 ELECTRICAL CONNECTIONS**

- .1 Coordinate electrical work associated with this section with the electrical trade.
- .2 Provide connectivity to existing fire alarm system in conformance with Section 28 31 00.01- Fire Alarm System.

### **3.5 FIELD PAINTING**

- .1 All exposed piping is to be painted in accordance with Section 09 91 99 – Painting For Minor Works, to provide corrosion protection. Concealed space piping can be unpainted.
- .2 Provide directional flow arrows and markings on pipe indicating “sprinkler”. Labels to have red background with white writing. One label to be location on each run of pipe at intervals not greater than 15 m, at each a each change in direction and on each side of a wall or floor.

### **3.6 FIELD QUALITY CONTROL**

- .1 Site Test, Inspection:
  - .1 Perform test to determine compliance with specified requirements in presence of Regional District Representative.
  - .2 Test, inspect, and approve piping before covering or concealing.
  - .3 Preliminary Tests:
    - .1 Perform pneumatic test on sprinkler systems at 2.75 bar of a period of 24 hours with a maximum permitted pressure loss of 0.1 bar. Test shall be recorded and test report provided.
    - .2 Following successful pneumatic test, hydrostatically test each system at 13.8 bar for a 2 hour period with no leakage or reduction in pressure.

- .3 Piping above suspended ceilings: tested, inspected, and approved before installation of ceilings.
- .4 Test alarms and other devices.
- .5 Test water flow alarms by flowing water through inspector's test connection. When tests have been completed and corrections made, submit signed and dated certificate in accordance with NFPA 13.
- .6 Piping is to be drained and dried following pressure tests so no water remains in the piping.
- .4 Formal Tests and Inspections:
  - .1 Do not submit request for formal test and inspection until preliminary test and corrections are completed and approved.
  - .2 Submit written request for formal inspection at least 5 days prior to inspection date.
  - .3 Repeat required tests as directed.
  - .4 Correct defects and make additional tests until systems comply with contract requirements.
  - .5 Furnish appliances, equipment, instruments and personnel for tests.
  - .6 authority of jurisdiction may witness formal tests and approve systems before they are accepted.

### **3.7 CLEANING**

- .1 Clean in accordance with Section 01 11 00- General Instructions.
  - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.
- .2 Waste Management: separate waste materials for recycling in accordance with Section 01 11 00- General Instructions.

**END OF SECTION**



**PART 1        General**

**1.1            RELATED REQUIREMENTS**

- .1        All Division 26 Sections
- .2        28 31 00.01 – Fire Alarm System

**1.2            REFERENCE STANDARDS**

- .1        CSA Group
  - .1        CSA C22.1-18, Canadian Electrical Code, Part 1 (22nd Edition), Safety Standard for Electrical Installations with British Columbia Provincial Amendments.
  - .2        CSA C22.2.
  - .3        CAN3-C235-[83(R2010)], Preferred Voltage Levels for AC Systems, 0 to 50,000 V.
- .2        Institute of Electrical and Electronics (IEEE)/National Electrical Safety Code Product Line (NESC)
  - .1        IEEE SP1122-2000, The Authoritative Dictionary of IEEE Standards Terms, 7th Edition.

**1.3            DEFINITIONS**

- .1        Electrical and electronic terms: unless otherwise specified or indicated, terms used in these specifications, and on drawings, are those defined by IEEE SP1122.

**1.4            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Submit in accordance with Section 01 11 00- General Instructions.
- .2        Product Data:
  - .1        Submit manufacturer's instructions, printed product literature and data sheets for all products installed under this division.
- .3        Submit for review modified fire alarm riser diagram, plan and zoning of building at fire alarm control panel.
- .4        Shop drawings:
  - .1        Submit wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, conduits and other items that must be shown to ensure co-ordinated installation.
  - .2        Identify on wiring diagrams circuit terminals and indicate internal wiring for each item of equipment and interconnection between each item of equipment.
  - .3        Indicate of drawings clearances for operation, maintenance, and replacement of operating equipment devices.
  - .4        Submit electronic drawings to Regional District Representative.

- .5 If changes are required, notify Regional District Representative of these changes before they are made.
- .5 Certificates:
  - .1 Submit test results of installed electrical systems and instrumentation.
  - .2 Permits and fees: in accordance with General Conditions of contract.
  - .3 Submit certificate of acceptance from authority having jurisdiction upon completion of Work to Regional District Representative.
- .6 Manufacturer's Field Reports: submit to Regional District Representative manufacturer's written report, within three (3) days of review, verifying compliance of Work and electrical system and instrumentation testing, as described in PART 3 - FIELD QUALITY CONTROL.

## **1.5 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 11 00- General Instructions.
- .2 Operation and Maintenance Data: submit operation and maintenance data for all supplied equipment.
  - .1 Provide for each system and principal item of equipment as specified in technical sections for use by operation and maintenance personnel.
  - .2 Operating instructions to include following:
    - .1 Wiring diagrams, control diagrams, and control sequence for each principal system and item of equipment.
    - .2 Start up, proper adjustment, operating, lubrication, and shutdown procedures.
    - .3 Safety precautions.
    - .4 Procedures to be followed in event of equipment failure.
    - .5 Other items of instruction as recommended by manufacturer of each system or item of equipment.
  - .3 Print or engrave operating instructions and frame under glass or in approved laminated plastic.
  - .4 Post instructions where directed.
  - .5 For operating instructions exposed to weather, provide weather-resistant materials or weatherproof enclosures.
  - .6 Ensure operating instructions will not fade when exposed to sunlight and are secured to prevent easy removal or peeling.

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

- .1 Deliver, store and handle materials in accordance with Section 01 11 00- General Instructions and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:

- .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .2 Store and protect against nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse of padding, crates, pallets, packaging materials as specified in Section 01 11 00- General Instructions.

## **PART 2 Products**

### **2.1 DESIGN REQUIREMENTS**

- .1 Existing Notifier NFS-320C to remain.
- .2 Operating voltages: to CAN3-C235.
- .3 Language operating requirements: provide identification labels and nameplates for control items in English.

### **2.2 MATERIALS AND EQUIPMENT**

- .1 Provide ULC and CSA certified materials.
- .2 Provide ULC and CSA certified material and equipment are not available, obtain special approval from Regional District Representative before delivery to site.
- .3 Factory assemble control panels and component assemblies.

### **2.3 WARNING SIGNS**

- .1 Warning Signs: in accordance with requirements of Regional District Representative.
- .2 Decal signs, minimum size 175 x 250 mm.

### **2.4 WIRING TERMINATIONS**

- .1 Ensure lugs, terminals, screws used for termination of wiring are suitable for copper conductors.

### **2.5 EQUIPMENT IDENTIFICATION**

- .1 Identify electrical equipment with labels and nameplates as follows:
  - .1 Nameplates: lamicoid 3 mm thick plastic engraving sheet, black face, white core, lettering accurately aligned and engraved into core mechanically attached with self tapping screws.
  - .2 Sizes as follows:

NAMEPLATE SIZES			
Size 1	10 x 50 mm	1 line	3 mm high letters
Size 2	12 x 70 mm	1 line	5 mm high letters
Size 3	12 x 70 mm	2 lines	3 mm high letters
Size 4	20 x 90 mm	1 line	8 mm high letters
Size 5	20 x 90 mm	2 lines	5 mm high letters

Size 6	25 x 100 mm	1 line	12 mm high letters
Size 7	25 x 100 mm	2 lines	6 mm high letters

- .2 Labels: embossed plastic labels with 6 mm high letters unless specified otherwise.
- .3 Wording on nameplates and labels to be approved by Regional District Representative prior to manufacture.
- .4 Allow for minimum of twenty-five (25) letters per nameplate.
- .5 Nameplates for terminal cabinets and junction boxes to indicate system and/or voltage characteristics.
- .6 Disconnects, starters and contactors: indicate equipment being controlled and voltage.
- .7 Terminal cabinets and pull boxes: indicate system and voltage.
- .8 Transformers: indicate capacity, primary and secondary voltages.

## 2.6 WIRING IDENTIFICATION

- .1 Identify wiring with permanent indelible identifying markings, numbered coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring.
- .2 Maintain phase sequence and colour coding throughout.
- .3 Colour coding: to CSA C22.1.
- .4 Use colour coded wires in communication cables, matched throughout system.

## 2.7 CONDUIT AND CABLE IDENTIFICATION

- .1 Colour code conduits, boxes and metallic sheathed cables.
- .2 Code with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor, and at 3 m intervals.
- .3 Colours: 25 mm wide prime colour and 20 mm wide auxiliary colour.

Type	Prime	Auxiliary
up to 250 V	Yellow	
Fire Alarm	Red	
Emergency Voice	Red	Blue

## PART 3 Execution

### 3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for use and connection.
  - .1 Visually inspect substrate in presence of Regional District Representative.
  - .2 Inform Regional District Representative of unacceptable conditions immediately upon discovery.

- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Regional District Representative.

### **3.2 INSTALLATION**

- .1 Do complete installation in accordance with CSA C22.1 except where specified otherwise.
- .2 Do overhead and underground systems in accordance with CAN/CSA-C22.3 No.1 except where specified otherwise.

### **3.3 NAMEPLATES AND LABELS**

- .1 Ensure manufacturer's nameplates, CSA labels and identification nameplates are visible and legible after equipment is installed.

### **3.4 CONDUIT AND CABLE INSTALLATION**

- .1 Install cables, conduits and fittings embedded or plastered over, close to building structure so furring can be kept to minimum.

### **3.5 MOUNTING HEIGHTS**

- .1 Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicated otherwise.
- .2 If mounting height of equipment is not specified or indicated, verify before proceeding with installation.

### **3.6 CO-ORDINATION OF PROTECTIVE DEVICES**

- .1 Ensure circuit protective devices such as overcurrent trips, relays and fuses are installed to required values and settings.

### **3.7 FIELD QUALITY CONTROL**

- .1 Conduct following tests in accordance with Section 28 31 00.01 Fire Alarm System.
- .2 Carry out tests in presence of Regional District Representative as required.
- .3 Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project.
- .4 Manufacturer's Field Services:
  - .1 Obtain written report from manufacturer verifying compliance of Work, in handling, installing, applying, protecting, and cleaning of product and submit Manufacturer's Field Reports as described in PART 1 - ACTION AND INFORMATIONAL SUBMITTALS.
  - .2 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

**3.8 SYSTEM STARTUP**

- .1 Instruct Regional District Representative operating personnel in operation, care and maintenance of systems, system equipment and components.

**3.9 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 11 00- General Instructions.
- .3 Waste Management: separate waste materials for recycling and reuse in accordance with Section 01 11 00- General Instructions.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**

**PART 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 20 05 00 – Common Work Results for Electrical

**1.2 REFERENCE STANDARDS**

- .1 CSA Group
  - .1 CAN/CSA-C22.2 No.18.1-2013 Metallic Outlet Boxes (Tri-National Standard with UL 514 A and ANCE NMX-J-023/1).
  - .2 CAN/CSA-C22.2 No.65-2013, Wire Connectors (Tri-National Standard with UL 486A-486B and NMX-J-543-ANCE-03).
- .2 Electrical and Electronic Manufacturers' Association of Canada (EEMAC)
  - .1 EEMAC 1Y-2-1961, Bushing Stud Connectors and Aluminum Adapters (1200 Ampere Maximum Rating).
- .3 National Electrical Manufacturers Association (NEMA)

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 11 00- General Instructions.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for wire and box connectors and include product characteristics, performance criteria, physical size, finish and limitations.

**1.4 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 11 00- General Instructions.
- .2 Operation and Maintenance Data: submit operation and maintenance data for wire and box connectors for incorporation into manual.

**1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect wire and box connectors from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## **PART 2 Products**

### **2.1 MATERIALS**

- .1 Pressure type wire connectors to: CAN/CSA-C22.2 No.65, with current carrying parts of copper sized to fit copper conductors as required.
- .2 Fixture type splicing connectors to: CAN/CSA-C22.2 No.65, with current carrying parts of copper sized to fit copper conductors 10 AWG or less.
- .3 Clamps or connectors for armoured cable, TECK cable flexible conduit as required to: CAN/CSA-C22.2 No.18.

## **PART 3 Execution**

### **3.1 EXAMINATION**

- .1 Refer to 26 05 00 - Common Work Results for Electrical.

### **3.2 INSTALLATION**

- .1 Remove insulation carefully from ends of conductors and cables and:
  - .1 Apply coat of zinc joint compound on aluminum conductors prior to installation of connectors.
  - .2 Install mechanical pressure type connectors and tighten screws with appropriate compression tool recommended by manufacturer. Installation shall meet secureness tests in accordance with CAN/CSA-C22.2 No.65.
  - .3 Install fixture type connectors and tighten to CAN/CSA-C22.2 No.65. Replace insulating cap.

### **3.3 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 11 00- General Instructions.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 11 00- General Instructions.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**



**PART 1        General**

**1.1            RELATED REQUIREMENTS**

- .1        Section 26 05 00 – Common Work Results for Electrical

**1.2            REFERENCE STANDARDS**

- .1        CSA Group
  - .1        CSA C22.2 No .0.3-09 (R2014), Test Methods for Electrical Wires and Cables.

**1.3            PRODUCT DATA**

- .1        Provide product data in accordance with Section 01 11 00- General Instructions.

**1.4            DELIVERY, STORAGE AND HANDLING**

- .1        Packaging Waste Management: remove for reuse and return by manufacturer of crates, packaging materials, padding and pallets in accordance with Section 01 11 00- General Instructions.
- .2        Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3        Packaging Waste Management: remove for reuse and return of padding, pallets, packaging materials as specified in accordance with Section 01 11 00- General Instructions.

**PART 2        Products**

**2.1            BUILDING WIRES**

- .1        Conductors: stranded for 10 AWG and larger. Minimum size: 12 AWG.
- .2        Copper conductors: size as indicated, with thermoplastic insulation type rated at 600 V.

**2.2            FIRE ALARM CABLE**

- .1        Cable: in accordance with manufacturer's requirements. Minimum 18 AWG, FAS 90.
  - .1        To initiating circuits: 18 AWG minimum.
  - .2        To signal circuits: 16 AWG minimum.
  - .3        To control circuits: 14 AWG minimum. Multi-conductor cables are not permitted.

**2.3            ARMOURED CABLES**

- .1        Conductors: insulated, copper, size as indicated.

- .2 Type: FAS 90.
- .3 Armour: interlocking type fabricated from galvanized steel strip.
- .4 Connectors: anti short connectors.
- .5 Armour cable is to be installed only from slab to suspended junction boxes or for final connections to fire protection devices.

### **PART 3 Execution**

#### **3.1 FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00- Common Work Results for Electrical.
- .2 Perform tests before energizing electrical system.

#### **3.2 GENERAL CABLE INSTALLATION**

- .1 Terminate cables in accordance with Section 26 05 20- Wire and Box Connectors - (0-1000 V).
- .2 Cable Colour Coding: to Section 26 05 00- Common Work Results for Electrical.
- .3 Lace or clip groups of feeder cables at distribution centres, pull boxes, and termination points.
- .4 Wiring in walls: typically drop or loop vertically from above to better facilitate future renovations. Generally wiring from below and horizontal wiring in walls to be avoided unless indicated.

#### **3.3 INSTALLATION OF BUILDING WIRES**

- .1 Install wiring as follows:
  - .1 In conduit systems in accordance with Section 26 05 34- Conduits, Conduit Fastenings and Conduit Fittings.
- .2 Splices are not permitted.

#### **3.4 INSTALLATION OF FIRE ALARM CABLE**

- .1 Install wiring as follows:
  - .1 In conduit systems in accordance with Section 26 05 34- Conduits, Conduit Fastenings and Conduit Fittings.
- .2 Splices are not permitted.

#### **3.5 INSTALLATION OF ARMOURED CABLES**

- .1 Group cables wherever possible on channels.

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WIRES AND CABLES (0-1000 V)  
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**END OF SECTION**

**PART 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 All Division 26 Sections
- .2 28 31 00.01 – Fire Alarm System

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 11 00- General Instructions.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for hangers and supports and include product characteristics, performance criteria, physical size, finish and limitations.

**1.3 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 11 00- General Instructions and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials in dry location in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect hangers and supports from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

**PART 2 Products**

**2.1 SUPPORT CHANNELS**

- .1 U shape, size 41 x 41 mm, 2.5 mm thick, suspended or surface mounted concealed wherever possible.

**PART 3 Execution**

**3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for hangers and supports installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Regional District Representative.

- .2 Inform Regional District Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Regional District Representative.

### **3.2 INSTALLATION**

- .1 Secure equipment to solid masonry and other such surfaces with nylon shields.
- .2 Secure equipment to poured concrete and stone with expandable inserts.
- .3 Secure equipment to hollow masonry walls or suspended ceilings with toggle bolts. Do not secure to plaster / gypsum ceilings.
- .4 Secure surface mounted equipment with twist clip fasteners to inverted T bar ceilings. Ensure that T bars are adequately supported to carry weight of equipment specified before installation.
- .5 Support equipment, conduit or cables using clips, spring loaded bolts, cable clamps designed as accessories to basic channel members.
- .6 Fasten exposed conduit or cables to building construction or support system using straps.
  - .1 One-hole steel straps to secure surface conduits and cables 50 mm and smaller.
  - .2 Two-hole steel straps for conduits and cables larger than 50 mm.
  - .3 Beam clamps to secure conduit to exposed steel work.
- .7 Suspended support systems.
  - .1 Support individual cable or conduit runs with 6 mm diameter threaded rods and spring clips.
  - .2 Support 2 or more cables or conduits on channels supported by 6 mm diameter threaded rod hangers where direct fastening to building construction is impractical.
- .8 For surface mounting of two or more conduits use channels at 1 m.
- .9 Provide metal brackets, frames, hangers, clamps and related types of support structures where indicated or as required to support conduit and cable runs.
- .10 Ensure adequate support for raceways and cables dropped vertically to equipment where there is no wall support.
- .11 Do not use wire lashing or perforated strap to support or secure raceways or cables.
- .12 Do not use supports or equipment installed for other trades for conduit or cable support except with permission of other trade and approval of Regional District Representative.
- .13 Install fastenings and supports as required for each type of equipment cables and conduits, and in accordance with manufacturer's installation recommendations.

**3.3 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 11 00- General Instructions.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 11 00- General Instructions.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 11 00- General Instructions.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**

**PART 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 26 05 00 Common Work Results for Electrical

**1.2 REFERENCE STANDARDS**

- .1 CSA Group
  - .1 CSA C22.1-2015, Canadian Electrical Code, Part 1, 20th Edition.
  - .2 British Columbia Amendments to the Canadian Electrical Code Part I.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2 Product Data:
  - .1 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

**1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect against nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.
- .3 Separate waste materials for reuse and recycling in accordance with Section 01 11 00- General Instruction.

**PART 2 Products**

**2.1 JUNCTION AND PULL BOXES**

- .1 Construction: welded steel enclosure.
- .2 Covers Flush Mounted: 25 mm minimum extension all around.
- .3 Covers Surface Mounted: screw-on flat covers.

**2.2 CABINETS**

- .1 Provide manufacturer's cabinet for surface installation with factory finish.

**PART 3 Execution**

**3.1 JUNCTION, PULL BOXES AND CABINETS INSTALLATION**

- .1 Install pull boxes in inconspicuous but accessible locations.
- .2 Mount cabinets with top not higher than 1.8 m above finished floor with LCD display no more than 1.5 m above finish floor.
- .3 Only main junction and pull boxes are indicated. Install additional pull boxes as required by CSA C22.1; no not exceed 30 m between pull boxes.
- .4 All components installed outside of service rooms shall be painted to match adjacent surface colour on which they are installed. No visible junction components shall be installed in areas deemed heritage.

**3.2 IDENTIFICATION**

- .1 Equipment Identification: to Section 26 05 00- Common Work Results for Electrical.
- .2 Identification Labels: size 2 indicating FIRE ALARM SYSTEM.

**END OF SECTION**



**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 26 05 00 – Common Work Results for Electrical

**1.2 REFERENCE STANDARDS**

- .1 CSA Group
  - .1 CSA C22.1-15, Canadian Electrical Code, Part 1 (23<sup>rd</sup> Edition), Safety Standard for Electrical Installations.
  - .2 British Columbia Amendments to the Canadian Electrical Code Part I, C22.1-15.
  - .3 CAN/CSA- C22.2 No. 18.1-2013 Metallic Outlet Boxes (Tri-national standard, with UL 514A and ANCE NMX- J-023/1).

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2 Product data:
  - .1 Provide manufacturer's printed product literature, specifications and datasheets and include product characteristics, performance criteria, physical size, finish and limitations.

**1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 11 00- General Instructions and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect against nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.
- .4 Packaging Waste Management: remove for reuse padding, crates, pallets, packaging materials as specified in Section 01 11 00- General Instructions.

**Part 2 Products**

**2.1 OUTLET AND CONDUIT BOXES GENERAL**

- .1 Size boxes in accordance with CSA C22.1.
- .2 102 mm square or larger outlet boxes as required.

- .3 Gang boxes where wiring devices are grouped.
- .4 Blank cover plates for boxes without wiring devices.
- .5 Weatherproof boxes to be supplied with weatherproof devices for devices at building exterior (pull station at stair access).

## **2.2 GALVANIZED STEEL OUTLET BOXES**

- .1 One-piece electro-galvanized construction.
- .2 Single and multi-gang flush device boxes for flush installation, minimum size 76 x 50 x 38 mm or as indicated. 102 mm square outlet boxes when more than one conduit enters one side with extension and plaster rings as required.
- .3 Utility boxes for outlets connected to surface-mounted EMT conduit, minimum size 102 x 54 x 48 mm.

## **2.3 FITTINGS - GENERAL**

- .1 Bushing and connectors with nylon insulated throats.
- .2 Knock-out fillers to prevent entry of debris.
- .3 Conduit outlet bodies for conduit up to 35 mm and pull boxes for larger conduits.
- .4 Double locknuts and insulated bushings on sheet metal boxes.

## **Part 3 Execution**

### **3.1 INSTALLATION**

- .1 Support boxes independently of connecting conduits.
- .2 Fill boxes with paper, sponges or foam or similar approved material to prevent entry of debris during construction. Remove upon completion of work.
- .3 Provide correct size of openings in boxes for conduit, mineral insulated and armoured cable connections. Do not install reducing washers.
- .4 Vacuum clean interior of outlet boxes before installation of wiring devices.
- .5 Identify systems for outlet boxes as required.
- .6 Ceiling boxes to be mounted as close to centre of the space as possible while observing spacing rules for automatic detection devices.
- .7 All components installed outside of service rooms shall be painted to match adjacent surface on which they are installed.

**END OF SECTION**

**PART 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 26 05 00 - Common Work Results For Electrical

**1.2 REFERENCE STANDARDS**

- .1 CSA Group
  - .1 CSA C22.1-15, Canadian Electrical Code, Part 1 (23<sup>rd</sup> Edition), Safety Standard for Electrical Installations.
  - .2 British Columbia Amendments to the Canadian Electrical Code Part I, C22.1-15.
  - .3 CSA C22.2 NO. 45.2-08 (R2013) - Electrical rigid metal conduit - Aluminum, red brass, and stainless steel (Tri-national standard, with NMX-J-576-ANCE and UL 6A)
  - .4 CSA C22.2 No. 56-13, Flexible Metal Conduit and Liquid-Tight Flexible Metal Conduit.
  - .5 CSA C22.2 No. 83-M1985 (R2013), Electrical Metallic Tubing.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 11 00- General Instructions.
- .2 Product Data:
  - .1 Provide manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

**1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 11 00- General Instructions and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Replace defective or damaged materials with new.

**1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for recycling and reuse in accordance with Section 01 11 00- General Instructions

## **PART 2 Products**

### **2.1 CONDUITS**

- .1 Epoxy coated conduit: to CSA C22.2 No. 45, with zinc coating and corrosion resistant epoxy finish inside and outside.
- .2 Electrical metallic tubing (EMT): to CSA C22.2 No. 83, with couplings.
- .3 Flexible metal conduit: to CSA C22.2 No. 56, liquid-tight flexible metal.

### **2.2 CONDUIT FASTENINGS**

- .1 One hole steel straps to secure surface conduits 50 mm and smaller.
- .2 Two hole steel straps for conduits larger than 50 mm.
- .3 Channel type supports for two or more conduits at 2,000 mm on center.
- .4 Threaded rods, minimum 6 mm diameter, to support suspended channels.

### **2.3 CONDUIT FITTINGS**

- .1 Fittings: manufactured for use with conduit specified with coating same as conduit.
- .2 Ensure factory "ells" where 90 degrees bends for 25 mm and larger conduits.
- .3 Watertight connectors and couplings for EMT for all sprinkler devices and weatherproof devices. If used, set screws are to be steel.

### **2.4 EXPANSION FITTINGS FOR RIGID CONDUIT**

- .1 Weatherproof expansion fittings with internal bonding assembly suitable for 200 mm linear expansion.
- .2 Weatherproof expansion fittings for linear expansion at entry to panel.

### **2.5 FISH CORD**

- .1 Polypropylene.
- .2 Provide in all new and all unused conduits.

## **PART 3 Execution**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

### **3.2 INSTALLATION**

- .1 Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass.

- .2 Surface mount conduits in all areas. In finished areas, install conduits parallel with building lines in locations where they are least visible and do not create obstructions.
- .3 Use electrical metallic tubing (EMT) above 2.4 m where not subject to mechanical injury
- .4 Use flexible metal conduit for drops from ceiling to suspended ceiling mounted boxes and to sprinkler devices.
- .5 Use liquid tight flexible metal conduit in damp, wet or corrosive locations and for all sprinkler devices.
- .6 Minimum conduit size: 19 mm.
- .7 Bend conduit cold:
  - .1 Replace conduit if kinked or flattened more than 1/10th of its original diameter.
- .8 Mechanically bend steel conduit over 19 mm diameter.
- .9 Field threads on rigid conduit shall be of sufficient length to draw conduits up tight.
- .10 Install fish cord in new and empty conduits.
- .11 Remove and replace blocked conduit sections.
  - .1 Do not use liquids to clean out conduits.
- .12 Dry conduits out before installing wire.

### **3.3 SURFACE CONDUITS**

- .1 Run parallel or perpendicular to building lines.
- .2 Group conduits wherever possible on surface channels.
- .3 Do not pass conduits through structural members.
- .4 Do not locate conduits less than 75 mm parallel to steam or hot water lines with minimum of 25 mm at crossovers.
- .5 All conduits installed outside of service rooms shall be painted to match adjacent surface on which they are installed.

### **3.4 CONCEALED CONDUITS**

- .1 Run parallel or perpendicular to building lines.

### **3.5 CLEANING**

- .1 Proceed in accordance with Section 01 11 00- General Instructions.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

**END OF SECTION**

**Part 1            General**

**1.1               RELATED SECTIONS**

- .1      Section 23 13 16 – Dry Pipe Sprinkler Systems.
- .2      Section 26 05 00 - Common Work Results For Electrical.
- .3      Section 26 05 20 – Wire and Box Connectors (0-1000 V).
- .4      Section 26 05 21 - Wires and Cables (0-1000 V).
- .5      Section 26 05 31 – Splitters, Junction, Pull Boxes and Cabinets.
- .6      Section 26 05 32 – Outlet Boxes, Conduit Boxes and Fittings.
- .7      Section 26 25 34 – Conduit, Conduit Fastening and Conduit Fittings.

**1.2               REFERENCE STANDARDS**

- .1      British Columbia Building Code – 2018
- .2      British Columbia Fire Code – 2018
- .3      British Columbia Electrical Code - 2021
- .4      Workplace Hazardous Materials Information System (WHMIS)
  - .1      Material Safety Data Sheets (MSDS).
- .5      Underwriter's Laboratories of Canada (ULC)
  - .1      CAN/ULC-S524-2014, Standard for the Installation of Fire Alarm Systems (ULC S524).
  - .2      CAN/ULC-S537-2013, Verification of Fire Alarm Systems (ULC S537).

**1.3               ACTION AND INFORMATIONAL SUBMITTALS**

- .1      Submit in accordance with Section 01 11 00 – 1.6 Shop Drawings
- .2      Product Data:
  - .1      Submit manufactures instructions, printed product literature and data sheets for fire alarm system and include product characteristics, performance criteria, physical size, finish, and limitations.
- .3      Shop Drawings:
  - .1      Submit shop drawings.
  - .2      Include:
    - .1      Overall system riser wiring diagram identifying control equipment initiating zones, signaling circuits; identifying terminations, terminal numbers, conductors, and raceways.
    - .2      Battery and power calculation, showing compliance with this specification.
    - .3      Bill of material for equipment shipping.

- .4 Quality assurance submittals:
  - .1 Certificates:
    - .1 Submit certificate signed by manufacturer certifying that fire alarm technician is approved to provide installation and verification services on the equipment being installed.
    - .2 Submit certificates signed by training provider that installers are certified to modify the existing fire alarm system.
  - .2 Instructions: submit manufacturer's installation instructions.
  - .3 Manufacturer's Field Reports: fire alarm verification reports.
- .5 Closeout Submittals:
  - .1 Submit in accordance with Section 01 11 00 – General Instructions.
  - .2 Provide operation and maintenance data for fire alarm and sprinkler system for incorporation into an owner's manual.
  - .3 Include:
    - .1 Instructions for complete fire alarm system to permit effective operation and maintenance.
    - .2 Technical data - illustrated parts lists with parts catalogue numbers.
    - .3 Copy of approved shop drawings with corrections completed and marks removed except review stamps.
    - .4 Electronic version (pdf format) of ULC-S537 fire alarm verification report.
    - .5 Copy of fire panel compare program before and after construction.

#### **1.4 QUALIFICATIONS**

- .1 The fire alarm supplier should have 24-hour, 7 day a week service with a maximum response time of one (1) hour for any service/warranty call.
- .2 The fire alarm supplier should have at least five (2) local technicians trained and available to service the supplied equipment within the required response time. Provide names and proof of qualifications with bid submittal.
- .3 The fire alarm manufacturer should have at least five (5) years of experience in the local market for the supply of projects of this size.
- .4 The fire alarm manufacturer should have direct access to factory engineering support and the factory parts supply.

#### **1.5 REQUIREMENTS OF REGULATORY AGENCIES**

- .1 System:
  - .1 To British Columbia Building Code.
  - .2 Subject to Regional District Representative approval.
  - .3 Subject to authority having jurisdiction acceptance.

- .2 System components: listed by ULC and comply with applicable provisions of BC Building Code and meet requirements of local authority having jurisdiction.

## **1.6 MAINTENANCE AND WARRANTY**

- .1 Provide two (2) year's free warranty maintenance.
- .2 All parts, labour, etc. to be included such that the Regional District incurs no cost during warranty period. Warranty/service work to be provided 24 hours per day, 7 days per week with a maximum of 1 hour's response time.
- .3 Provide program changes during construction period, to include zone labels, control functions, system operation, etc. at no additional cost to the Regional District.
- .4 Assume care and control of the existing fire alarm system during construction.

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions and Regional District's requirements.
- .2 Store and protect material from damage.
- .3 Replace defective or damage material with new.
- .2 Waste Management and Disposal:
  - .1 Separate and recycle waste materials.
  - .2 Place materials defined as hazardous or toxic waste in designated containers.
  - .3 Ensure emptied containers are sealed and stored safely for disposal away from children.
  - .4 Unless otherwise directed by the Regional District Representative, all material removed becomes the property of the Contractor to be environmentally recycled.

## **1.8 OWNER OCCUPANCY**

- .1 Regional District will occupy premises during the entire construction period.
- .2 Co-operation with the Regional District in scheduling operation to minimize conflict and to facilitate Regional District usage.
- .3 Provide workflow schedule at least 2 weeks in advance to allow the Regional District to co-ordinate.

## **1.9 TRAINING**

- .1 Provide on-site lectures and demonstration by fire alarm equipment manufacturer to train operational personnel in use and maintenance of fire alarm system.
- .2 Provide one training session of two (2) hours duration.
- .3 Conduct a field walk-through prior to training session.
- .4 A 'live', functional demonstration is to be provided.



- .5 Provide a training session agenda for review by the Regional District's Representative prior to the actual training. Revise document per Regional District's Representative comments.
- .6 Provide proof of training in Operations and Maintenance manuals.

#### **1.10 SYSTEM DESCRIPTION**

- .1 Existing Notifier NFS-320C to remain.
- .2 Existing fire alarm system to continue to carry out fire alarm and protection functions; including receiving alarm signals; initiating single-stage alarm; supervising components and wiring; actuating annunciators and auxiliary functions; initiating trouble signals and signalling to fire department. Refer to Section 01 11 00 – General Instructions and the drawings for Phase 1 and Phase 2 work definition and coordination.
- .3 Existing programming and sequence of operation to be maintained.
- .4 One new Notifier XP-10A and BB-XP cabinet to added to existing data loop and installed within the sprinkler room. New sprinkler inputs to be terminated to new conventional zone inputs provided on the XP-10A. Existing sprinkler devices to be transferred to input zones on XP-10A.
- .5 New XP-10A to monitor the following new and existing sprinkler contact points as follows:
  - .1 1- New dry system control valve,
  - .2 1- New dry system low pressure switch,
  - .3 1- New dry system alarm switch,
  - .4 1- New main entry tamper switch,
  - .5 1- Existing backflow inlet tamper switch,
  - .6 1- Existing backflow outlet tamper switch.
- .6 End-of-line devices to control supervisory current in alarm circuits and signalling circuits, sized to ensure correct supervisory current for each circuit. Open, short or ground fault in any circuit will alter supervisory current in that circuit, producing audible and visible alarm at main control panel and remotely as indicated.
  - .1 Replace all end-of line devices on sprinkler system with verifying type EOL, similar to Offside Technologies SM-001 or approved equivalent for Class B conventional zones.
  - .2 Surface mounted boxes to be supplied by device supplier and be listed for use.
- .7 Firewatch's are to be co-ordinated with Regional District as required. 48-hour notice to be provided.
- .8 Firewatch cost to be carried by Contractor.

### **1.11 REMOTE ANNUNCIATOR PANEL**

- .1 Display:
  - .1 Alarms, supervisory and troubles for new sprinkler zones to be displayed at remote annunciator.

### **1.12 AS-BUILT RISER DIAGRAM**

- .1 A color fire alarm system riser to be installed in glazed frame on 5 mm vellum/mylar sheet with bevelled edges, white lettering and designations, minimum size 600 x 600 mm to be installed with shatter proof Lexan or equivalent and tamperproof mounting hardware to be installed at remote annunciators.

### **1.13 OPTIONAL ADDITIONAL WORK FOR REMOVAL OF LINEAR HEAT CABLE**

- .1 Provide separate pricing for the complete removal of the 5 zones of Linear heat detection cable as per drawing FP03.
- .2 Linear heat detection zones to be removed from service. Linear heat cable and associated installation hardware to be removed in full. All fire alarm monitoring modules associated with linear heat detection to be removed in full. Fire alarm panel to be re-programmed for the removal of all linear heat detection zones.
- .3 Firestop with ULC listed system all penetrations affected by the removal of linear heat cable between fire rated separations. Paint and patch to match existing areas as required due to the removal of linear heat cable devices such as monitoring modules, end of line devices, etc.

## **Part 2 Execution**

### **2.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

### **2.2 INSTALLATION**

- .1 Install systems in accordance with ULC S524.
- .2 Connect circuits to main control panel.
- .3 Ensure that wiring is free of opens, shorts or grounds, before system testing and handing over.
- .4 Identify circuits and other related wiring at central control unit, annunciators, and terminal boxes.

### **2.3 FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results - For Electrical and ULC S537 Standard for Verification.
- .2 Fire alarm system:

- .1 Test device and alarm circuit to ensure detectors transmit alarm to control panel and actuate first stage alarm general alarm ancillary devices.
  - .2 Check annunciator panels to ensure zones are shown correctly. Ensure the Annunciators cannot control the fire alarm system.
  - .3 Simulate grounds and breaks on alarm and signalling circuits to ensure proper operation of systems.
  - .4 All input / output correlations shall be tested and documented. Testing to include confirmation that each sequence has performed as required in the field by ensuring that all required outputs have operated, Interconnection with other.  
systems to be tested with the assistance of the other service provider to confirm proper connection and functioning.
  - .5 Ensure all visual and audible devices are activated.
  - .6 Provide complete testing document as per specified edition of ULC S537 signed by technician.
- .3 Provide final program change for system Engineer incorporating program changes made during construction.
  - .4 Perform one (1) test for the Engineer followed by one (1) test for the authority having jurisdiction; tests are to be performed independently of one another. Provide finalized ULC S537 verification report prior to Engineer test.

## **2.4 TRAINING**

- .1 Provide on-site lectures and demonstration by fire alarm equipment manufacturer to train operational personnel in use and maintenance of fire alarm system. Refer to 1.9 – Training.

## **2.5 REMOVAL OF OLD MATERIAL**



- .1 Dispose of old fire alarm material in an environmental manner.

## **2.6 CLEANING**

- .1 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools, and equipment.

**END OF SECTION**

## **Schedule B Drawings**

Total Sprinklers on This Sheet			
200	QR PEN CORROSION RESISTANT FOR POOLS	5.6	2
155	QR UP CORROSION RESISTANT FOR POOLS	5.6	80
155	QR UPRIGHT-CORROSION RESIST COATING	5.6	10
155	QR PENDENT - DRY BARREL	5.6	21
155	QR PEN CORROSION RESISTANT FOR POOLS	5.6	7
200	QR UP CORROSION RESISTANT FOR POOLS	5.6	41
155	CONCEALED QR PENDENT-WHITE COVER PL	5.6	68
Sym	Temp	Type	K-Factor
Sprinkler Summary			
C	ISSUED FOR CONSTRUCTION		2023-02-07
B	ISSUED FOR CLIENT REVIEW		2023-01-17
A	ISSUED FOR 90% DESIGN REVIEW		2022-10-07
Rev	Issued for		Date
			
 <div> <p><b>SNC-Lavalin Inc.</b>  1145 Hunt Club Road, Suite 300  Ottawa (Ontario) K1Y 0T3 Canada</p> <p>Telephone: (613) 907-7100  <a href="http://www.snc-lavalin.com">www.snc-lavalin.com</a></p> </div>			
Approved by	J. REMPEL		
Reviewed by	J. REMPEL		
Designed by	B.MILLS		
Drawn by	B. MILLS		
Scale	AS INDICATED		
Client	SUNSHINE COAST REGIONAL DISTRICT 1975 FIELD ROAD SECHELT, BC V7Z 0A8		
Project	SCRD FIRE SPRINKLER REPLACEMENT		
	-		
Title	-		
	SPRINKLER LAYOUT		
	-		
Project No	Code	Drawing No	Revision
692085	-	FP01	C



## KEY PLAN



## NOTES

Total Sprinklers on This Sheet

Rev.	Issued for	Date
C	ISSUED FOR CONSTRUCTION	2023-02-07
B	ISSUED FOR CLIENT REVIEW	2023-01-17
A	ISSUED FOR 90% DESIGN REVIEW	2022-10-07
Rev.	Issued for	Date
Seals (s)		

Sym. Temp. Type K-Factor Qty

Sprinkler Summary

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Rev.	Issued for	Date
Seals (s)		



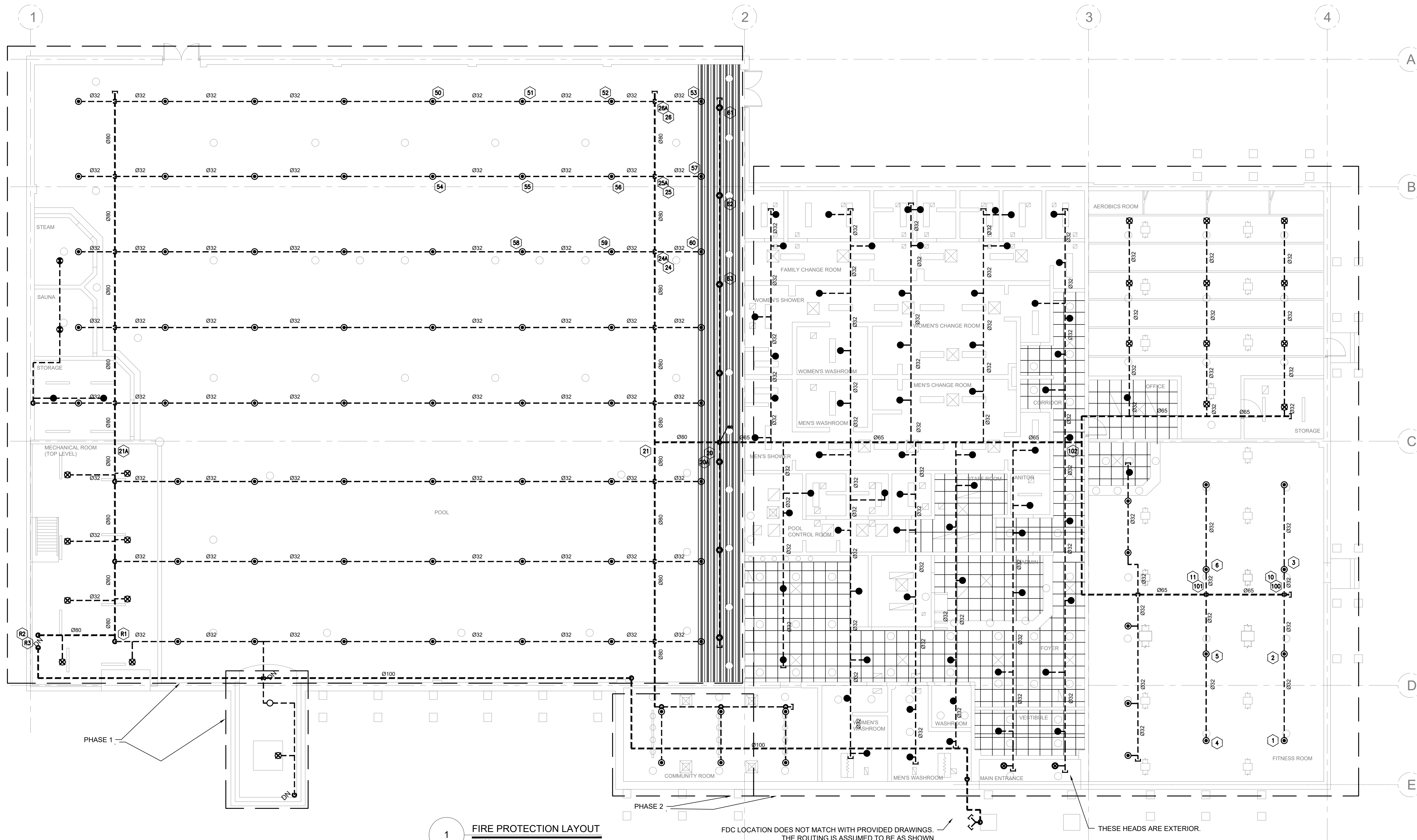
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Approved by **J. REMPEL**  
Reviewed by **J. REMPEL**  
Designed by **B. MILLS**  
Drawn by **B. MILLS**  
Scale **AS INDICATED**  
Client **SUNSHINE COAST REGIONAL DISTRICT**  
**1975 FIELD ROAD**  
**SECHLT, BC V7Z 0A8**  
Project **SCRD**  
**FIRE SPRINKLER REPLACEMENT**

Title  
SPRINKLER LAYOUT DEMOLITION PLAN

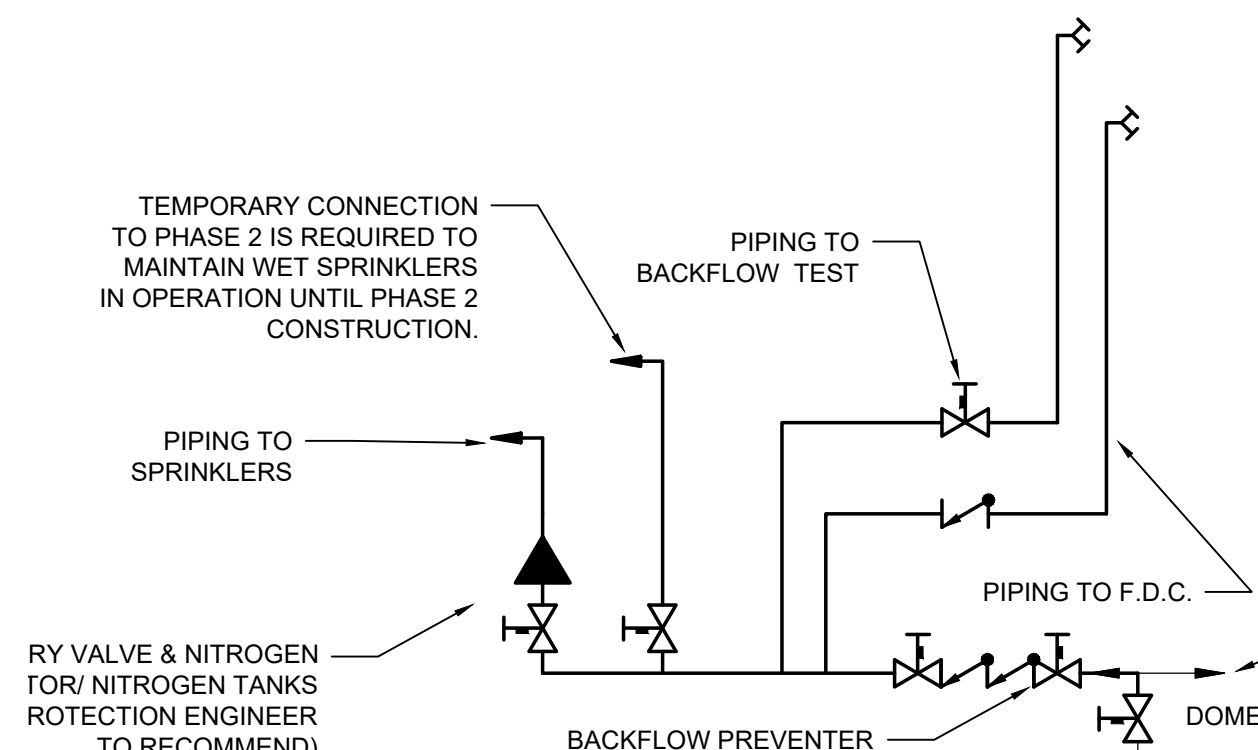
Project No	Code	Drawing No	Revision
<b>692085</b>	<b>-</b>	<b>FP02</b>	<b>C</b>



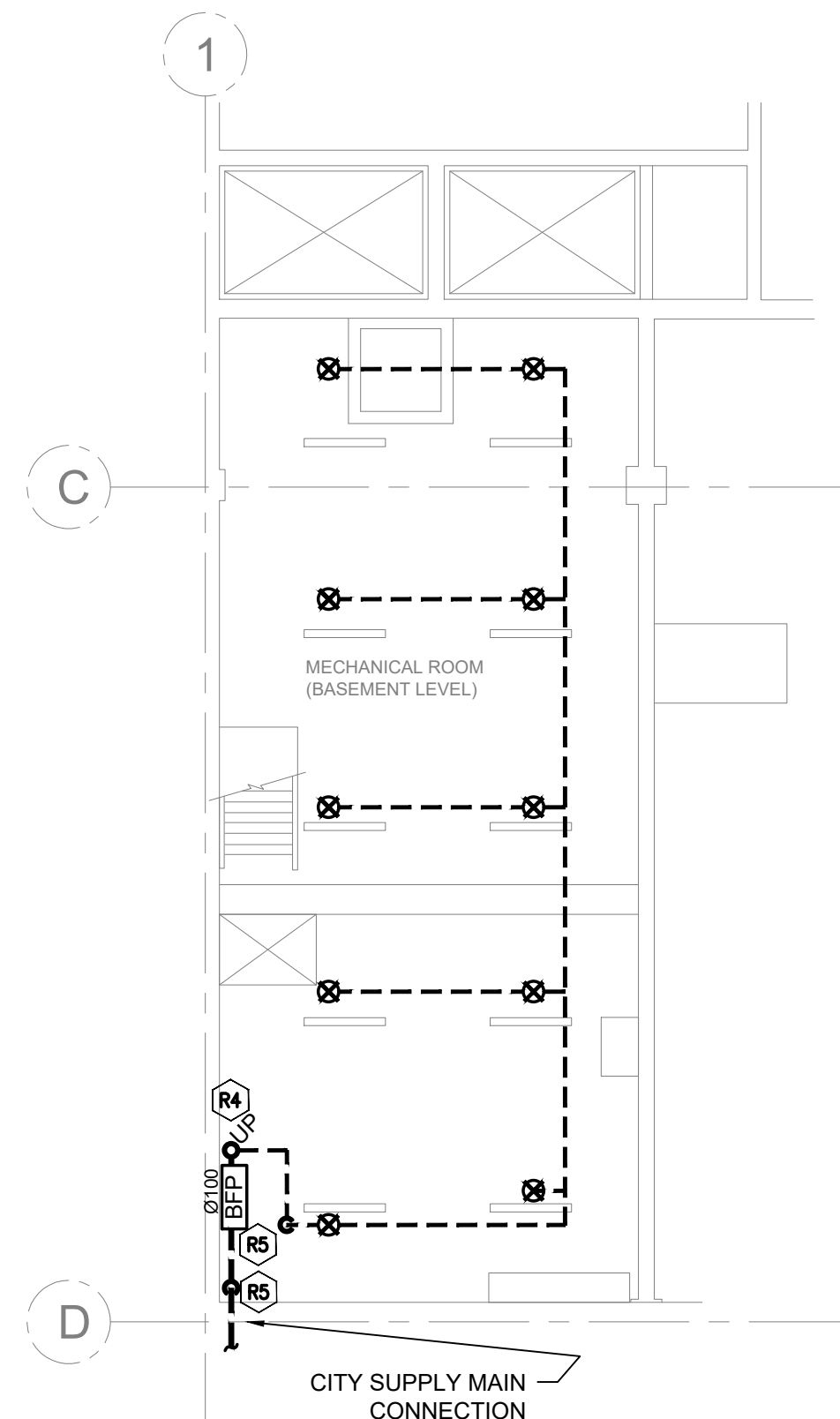
1 FIRE PROTECTION LAYOUT  
1=100

## GENERAL NOTES

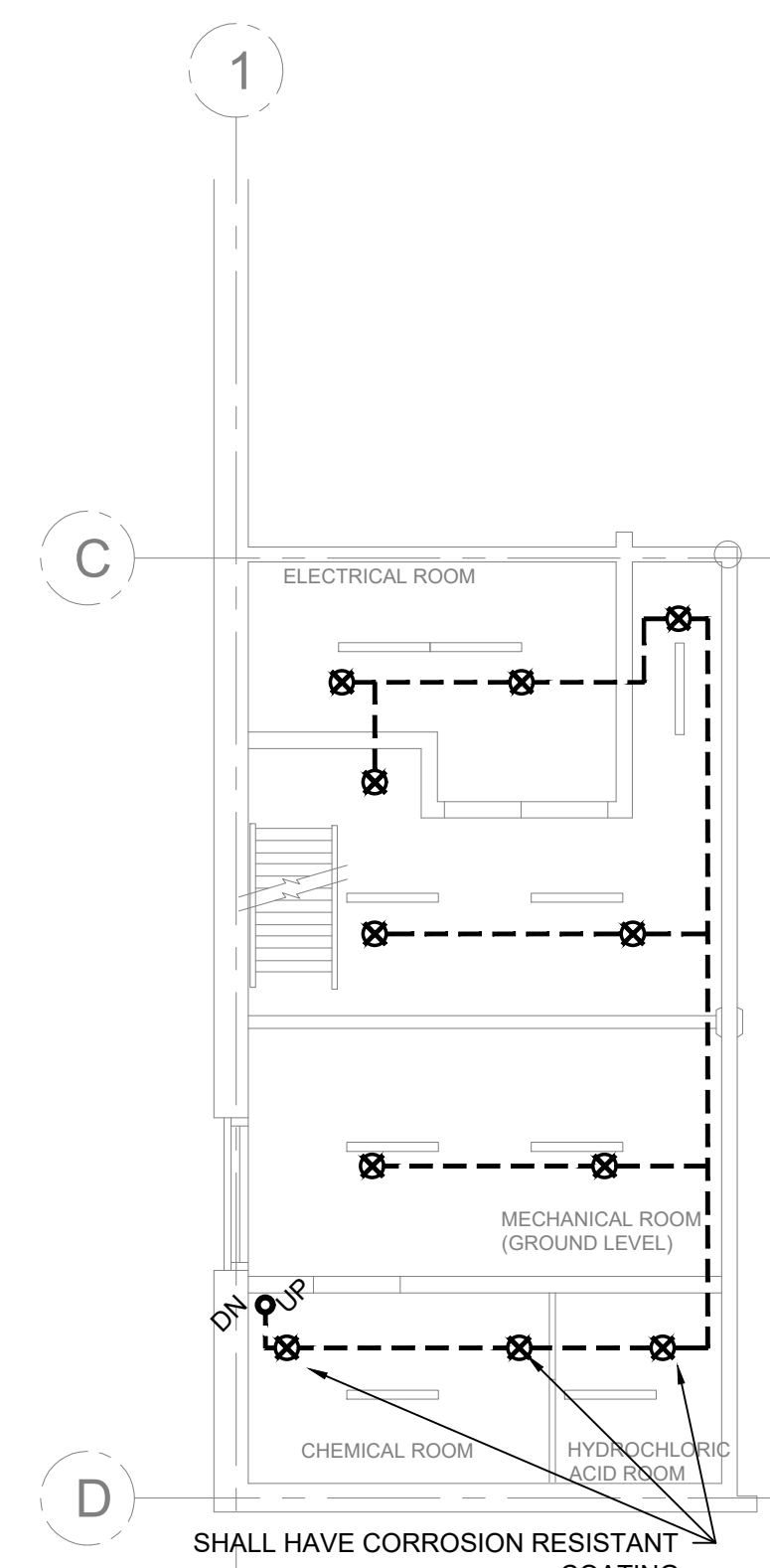
- ENTIRE BUILDING IS TO BE PROVIDED WITH SPRINKLER PROTECTION. LAYOUTS HAVE BEEN PROVIDED FOR CEILINGS IN AREAS OF SIGNIFICANT IMPORTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUTS IN OTHER AREAS BASED ON THE HAZARDS TO BE PROTECTED.
- WHERE PRACTICAL, ALL PIPING FOR THE SPRINKLER SYSTEMS SHALL BE LOCATED IN CONCEALED AREAS. ALL EXPOSED PIPING AND FITTINGS SHALL BE PAINTED TO MATCH ADJACENT MATERIAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SEALED DESIGN DRAWINGS AND CALCULATIONS.
- ALL EXISTING SPRINKLER/STANDPIPE PIPING SHOWN AS DEMO TO BE REMOVED BACK TO SOURCE. PIPING SHALL NOT BE LEFT ABANDONED IN THE CEILING OR WALL SPACES.
- NONE OF THE EXISTING SYSTEM PIPING, VALVES, SPRINKLERS OR OTHER COMPONENTS SHALL BE REUSED IN THE NEW INSTALLATION.
- EXISTING RISERS AND ASSOCIATED PIPING FOR THE SPRINKLER AND STANDPIPE SYSTEMS MAY BE REMOVED TO PERMIT THE INSTALLATION OF NEW PIPING IN THE SAME LOCATION.
- ALL PIPING INSTALLATION IN CEILING SHALL BE COORDINATED WITH FIRE ALARM SYSTEM CONSULTANTS TO MINIMIZE IMPACT.
- WHERE PENETRATIONS ARE CUT INTO CEILINGS OR WALLS, ENTIRE SECTION OF WALL OR CEILING SHALL BE REPAIRED. PAINTING ONLY AT AFFECTED LOCATIONS SHALL NOT BE PERMITTED. CONTRACTOR SHALL BE RESPONSIBLE FOR MATCHING EXISTING PAINT COLOURS.
- CONTRACTOR DRAWINGS ARE TO BE USED FOR PERMITTING AND CONSTRUCTION AND ALL QUANTITY TAKEOFFS.
- CONTRACTOR TO SUPPLY NECESSARY SPRINKLER FIELD DEVICES TO INTEGRATE INTO THE FIRE ALARM SYSTEM AS NECESSARY.



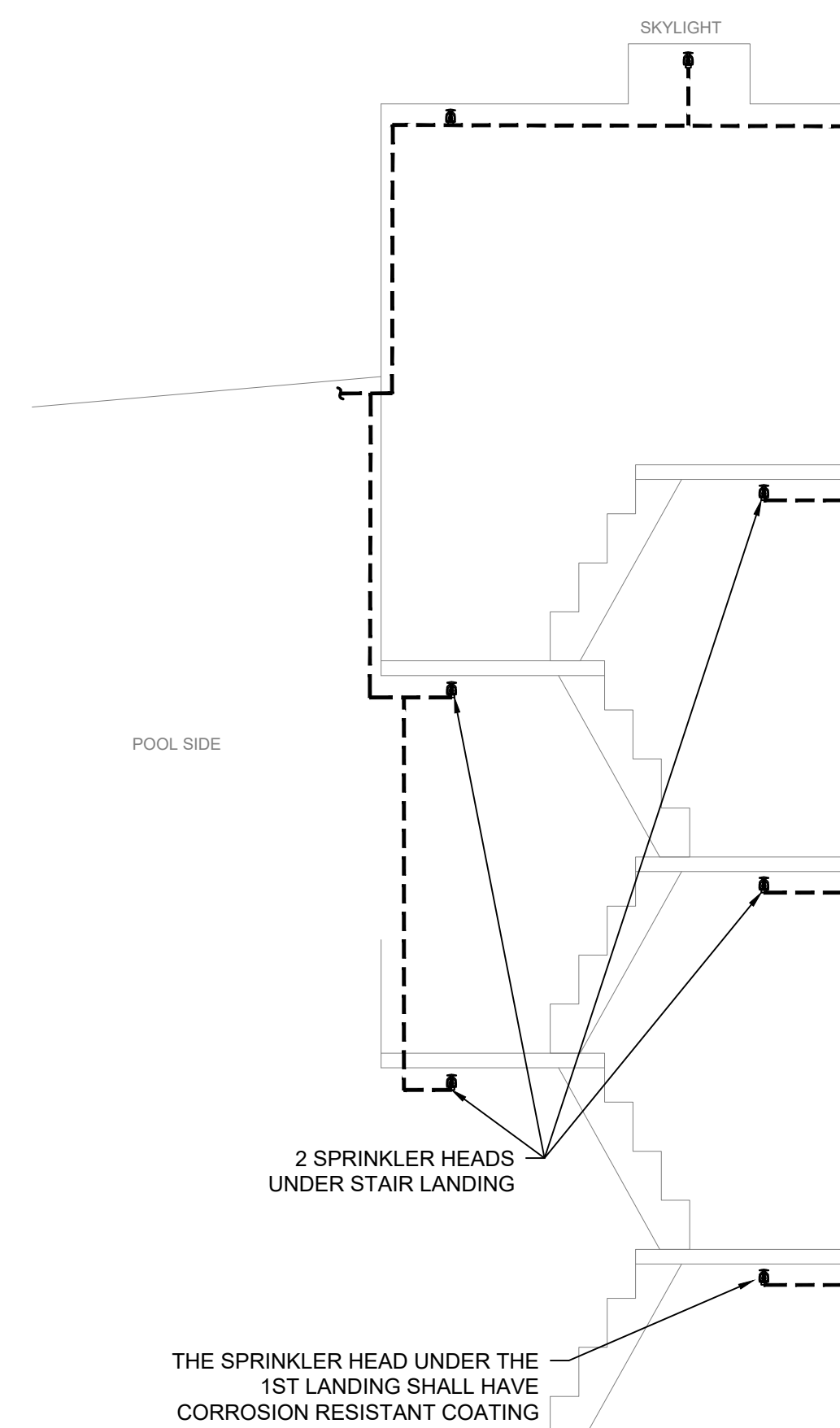
2 VALVE ROOM SCHEMATIC  
1=100



3 MECHANICAL ROOM (BASEMENT LEVEL) - FIRE PROTECTION LAYOUT  
1=100



4 MECHANICAL ROOM (GROUND LEVEL) - FIRE PROTECTION LAYOUT  
1=100



5 SCHEMATIC SECTION - STAIRWAY TO SLIDE  
NTS





## **Schedule C CCDC 2 Stipulated Price Contract**



CCDC 2

# Stipulated Price Contract

2 0 2 0

Name of Project

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# CCDC 2 STIPULATED PRICE CONTRACT

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CCDC 2 is the product of a consensus-building process aimed at balancing the interests of all parties on the construction project. It reflects recommended industry practices. The CCDC and its constituent member organizations do not accept any responsibility or liability for loss or damage which may be suffered as a result of the use or interpretation of CCDC 2.

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## AGREEMENT BETWEEN OWNER AND CONTRACTOR

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

This Agreement made on \_\_\_\_\_ 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 (insert below the description or title of the *Work*)

located at (insert below the Place of the *Work*)

for which the Agreement has been signed by the parties, and for which (insert below the name of the Consultant)

is acting as and is hereinafter called the "Consultant" and

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 *Ready-for-Takeover*, 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 bid 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*.

## 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
- General Conditions

\*

*\* (Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; Division 01 of the Specifications – GENERAL REQUIREMENTS; Project information that the Contractor may rely upon; technical 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; time schedule)*

## 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 *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 *Payment Legislation*, and in accordance with legislation and statutory regulations respecting holdback percentages, 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* unless otherwise prescribed by *Payment Legislation* together with such *Value Added Taxes* as may be applicable to such payments,
- .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 Interest

- .1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by adjudication, 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 5.2.1 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.

6.2 The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, or by other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender.

6.3 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 will 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* will be deemed to have been received on the *Working Day* next following such day.

6.4 A *Notice in Writing* sent by any form of electronic communication will 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 will 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.

6.5 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*

*email address*

## Contractor

*name of Contractor\**

*address*

*email address*

## Consultant

*name of Consultant\**

*address*

*email address*

*\* If it is intended that a specific individual must receive the notice, 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.

## 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**

**OWNER**

\_\_\_\_\_  
*name of Owner*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*name of person signing*

\_\_\_\_\_  
*name and title of person signing*

**WITNESS**

**CONTRACTOR**

\_\_\_\_\_  
*name of Contractor*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*signature*

\_\_\_\_\_  
*name of person signing*

\_\_\_\_\_  
*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*.

### 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*.

### 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.

### 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*.

### 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*.

### 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.

### 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.

### Contract Price

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

### Contract Time

The *Contract Time* is the time from commencement of the *Work* to the date of *Ready-for-Takeover* as stipulated in paragraph 1.3 of Article A-1 of the Agreement – THE WORK.

### Contractor

The *Contractor* is the person or entity identified as such in the Agreement.

### 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.

### 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.

### Owner

The *Owner* is the person or entity identified as such in the Agreement.

### Other Contractor

*Other Contractor* means a contractor, other than the *Contractor* or a *Subcontractor*, engaged by the *Owner* for the *Project*.

### Payment Legislation

*Payment Legislation* means such legislation in effect at the *Place of the Work* which governs payment under construction contracts.

### Place of the Work

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

### Product

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



**Project**

The *Project* means the total construction contemplated of which the *Work* may be the whole or a part.

**Ready-for-Takeover**

*Ready-for-Takeover* shall have been attained when the conditions set out in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER have been met, as verified by the *Consultant* pursuant to paragraph 12.1.4.2 of GC 12.1 – READY-FOR-TAKEOVER.

**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*.

**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*.

**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*.

**Substantial Performance of the Work**

*Substantial Performance of the Work* is as defined in the lien legislation applicable to the *Place of the Work*.

**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*.

**Supplier**

A *Supplier* is a person or entity having a direct contract with the *Contractor* to supply *Products*.

**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*.

**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 tax legislation.

**Work**

The *Work* means the total construction and related services required by the *Contract Documents*.

**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

### 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 The *Contract Documents* are complementary, and what is required by one shall be as binding as if required by all. Performance by the *Contractor* shall be required only to the extent consistent with the *Contract Documents*.
- 1.1.3 The *Contractor* shall review the *Contract Documents* for the purpose of facilitating co-ordination and execution of the *Work* by the *Contractor*.
- 1.1.4 The *Contractor* is not responsible for errors, omissions or inconsistencies in the *Contract Documents*. If there are perceived errors, omissions or inconsistencies discovered by or made known to the *Contractor*, the *Contractor* shall promptly report to the *Consultant* and shall not proceed with the work affected until the *Contractor* has received corrected or additional information from the *Consultant*.
- 1.1.5 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 *Owner* and *Contractor*,
    - the Definitions,
    - Supplementary Conditions,
    - the General Conditions,
    - Division 01 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 amended or later dated documents shall govern over earlier documents of the same type.
  - .5 noted materials and annotations shall govern over graphic indications.
- 1.1.6 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*.
- 1.1.7 Words and abbreviations which have well known technical or trade meanings are used in the *Contract Documents* in accordance with such recognized meanings.
- 1.1.8 References in the *Contract Documents* to the singular shall be considered to include the plural as the context requires.
- 1.1.9 Neither the organization of the *Specifications* nor the arrangement of *Drawings* shall control the *Contractor* in dividing the work among *Subcontractors* and *Suppliers*.
- 1.1.10 *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*.
- 1.1.11 Physical 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*, the *Consultant* or the *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 *Consultant* and the *Contractor*.

#### **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 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 – PAYMENT and GC 5.5 – FINAL PAYMENT.
- 2.2.5 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 perform the *Work* in accordance with the *Contract Documents*.
- 2.2.6 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*.
- 2.2.7 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.
- 2.2.8 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*.
- 2.2.9 The *Consultant's* interpretations and findings will be given in writing to the parties within a reasonable time.
- 2.2.10 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.
- 2.2.11 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*.
- 2.2.12 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*.
- 2.2.13 The *Consultant* will review and take appropriate action upon *Shop Drawings*, samples and other submittals by the *Contractor*, in accordance with the *Contract Documents*.

- 2.2.14 The *Consultant* will prepare *Change Orders* and *Change Directives* as provided in GC 6.2 – CHANGE ORDER and GC 6.3 – CHANGE DIRECTIVE.
- 2.2.15 The *Consultant* will conduct reviews of the *Work* to determine the date of *Substantial Performance of the Work* and verify that *Ready-for-Takeover* has been attained.
- 2.2.16 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.
- 2.2.17 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.
- 2.2.18 If the *Consultant's* engagement is terminated, the *Owner* shall immediately engage a *Consultant* against whom the *Contractor* makes no reasonable objection and whose duties and responsibilities under the *Contract Documents* will be that of the former *Consultant*.

## **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*, 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 required 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 others 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 was incorporated in the *Work* or 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 finding.

## **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 THE 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 the *Owner*'s own forces with the *Work* of the *Contract*;
  - .2 enter into separate contracts with *Other Contractors* under conditions of contract which are compatible with the conditions of the *Contract*;
  - .3 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
  - .4 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 co-ordinate and schedule the *Work* with the work of *Other Contractors* or the *Owner*'s own forces that are identified in the *Contract Documents*;
  - .3 participate with *Other Contractors* and the *Owner* in reviewing their construction schedules when directed to do so; and
  - .4 report promptly 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 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.
- 3.2.5 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. In the absence of *Other Contractors* having reciprocal obligations, disputes and other matters in question initiated by the *Contractor* against *Other Contractors* will be considered disputes and other matters in question between the *Contractor* and the *Owner*.
- 3.2.6 Should the *Owner*, the *Consultant*, *Other Contractors*, or anyone employed by them directly or indirectly 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.

### **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* unless otherwise specified in the *Contract Documents*.
- 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 CONSTRUCTION SCHEDULE

3.4.1 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 3.5 SUPERVISION

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

3.5.2 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 3.6 SUBCONTRACTORS AND SUPPLIERS

3.6.1 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 applicable 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 any persons directly or indirectly employed by them as for acts and omissions of persons directly employed by the *Contractor*.

3.6.2 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.

3.6.3 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.

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

3.6.5 The *Contractor* shall not be required to employ as a *Subcontractor* or *Supplier*, a person or firm to which the *Contractor* may reasonably object.

3.6.6 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 3.7 LABOUR AND PRODUCTS

3.7.1 The *Contractor* shall maintain good order and discipline among the *Contractor*'s employees engaged on the *Work* and employ only workers that are skilled in the tasks assigned.

3.7.2 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*.

3.7.3 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*.

### GC 3.8 SHOP DRAWINGS

3.8.1 The *Contractor* shall provide *Shop Drawings* as required in the *Contract Documents*.

3.8.2 The *Contractor* shall provide *Shop Drawings* to the *Consultant* to review in accordance with an agreed schedule, or in the absence of an agreed schedule, in orderly sequence and sufficiently in advance so as to cause no delay in the *Work* or in the work of *Other Contractors* or the *Owner*'s own forces.

- 3.8.3 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*.
- 3.8.4 The *Consultant's* review is for conformity to the design concept and for general arrangement only.
- 3.8.5 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.
- 3.8.6 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*.
- 3.8.7 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*.

## **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 the *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, any unexpended amounts from other cash allowances shall be reallocated, at the *Consultant's* direction, to cover the shortfall, and, in that case, there shall be no additional amount added to the *Contract Price* for overhead and profit. Only where the actual cost of the *Work* under all cash allowances exceeds the total amount of all cash allowances shall the *Contractor* be compensated for the excess incurred and substantiated, plus an amount for overhead and profit on the excess only, as set out in the *Contract Documents*.
- 4.1.5 The net amount of any unexpended cash allowances, after providing for any reallocations as contemplated in paragraph 4.1.4, shall be deducted from the *Contract Price* by *Change Order* without any adjustment for the *Contractor's* overhead and profit on such amount.
- 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 items called for under cash allowances must be ordered 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 fulfil the *Owner's* obligations under the *Contract* during the performance of the *Contract*.

## **GC 5.2 APPLICATIONS FOR PAYMENT**

- 5.2.1 Applications for payment on account as provided in Article A-5 of the Agreement – PAYMENT shall be submitted monthly to the *Owner* and the *Consultant* simultaneously 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 as specified in the *Contract* and supported by such evidence as the *Consultant* may reasonably require.
- 5.2.6 Applications for payment shall be based on the schedule of values accepted by the *Consultant* and shall comply with the provisions of *Payment Legislation*.
- 5.2.7 Each application for payment shall include evidence of compliance with workers' compensation legislation at the *Place of the Work* and after the first payment, a declaration by the *Contractor* as to the distribution made of the amounts previously received using document CCDC 9A 'Statutory Declaration'.
- 5.2.8 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 PAYMENT**

- 5.3.1 After receipt by the *Consultant* and the *Owner* of an application for payment submitted by the *Contractor* in accordance with GC 5.2 – APPLICATIONS FOR PAYMENT:
  - .1 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* certifies a different amount, or rejects the application or part thereof, the *Owner* shall promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
  - .2 The *Owner* shall make payment to the *Contractor* on account as provided in Article A-5 of the Agreement – PAYMENT on or before 28 calendar days after the receipt by the *Owner* and the *Consultant* of the application for payment, and in any event, in compliance with *Payment Legislation*.

## **GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK AND PAYMENT OF HOLDBACK**

- 5.4.1 The *Consultant* will review the *Work* to certify or verify the validity of the application for *Substantial Performance of the Work* and will promptly, and in any event, no later than 20 calendar days after receipt of the *Contractors* 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*.
- 5.4.2 Where the holdback amount required by the applicable lien legislation has not been placed in a separate lien holdback account, the *Owner* shall, no later than 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*.
- 5.4.3 Subject to the requirements of any *Payment Legislation*, all holdback amount prescribed by the applicable lien legislation for the *Work* shall become due and payable to the *Contractor* no later than 10 *Working Days* following the expiration of the holdback period stipulated in the lien legislation applicable to the *Place of the Work*.
- 5.4.4 The *Contractor* shall submit an application for payment of the lien holdback amount in accordance with GC 5.3 – PAYMENT.
- 5.4.5 Where legislation permits progressive release of the holdback for a portion of the *Work* and the *Consultant* has certified or verified that the part of the *Work* has been performed prior to *Substantial Performance of the Work*, the *Owner* hereby agrees to release, and shall release, such portion to the *Contractor* in accordance with such legislation.



- 5.4.6 Notwithstanding any progressive release of the holdback, the *Contractor* shall ensure that such parts of the *Work* 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 the holdback was released.

## **GC 5.5 FINAL PAYMENT**

- 5.5.1 When the *Contractor* considers that the *Work* is completed, the *Contractor* shall submit an application for final payment.
- 5.5.2 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 when the *Consultant* finds the *Contractor's* application for final payment valid, the *Consultant* will promptly issue a final certificate for payment to the *Owner*, with a copy to the *Contractor*.
- 5.5.3 If the *Consultant* rejects the application or part thereof, the *Owner* will promptly issue a written notice to the *Contractor* giving reasons for the revision or rejection, such written notice to be in compliance with *Payment Legislation*.
- 5.5.4 Subject to the provision of paragraph 10.4.1 of GC 10.4 – WORKERS' COMPENSATION, and any 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 and in any event, in compliance with *Payment Legislation*.

## **GC 5.6 DEFERRED WORK**

- 5.6.1 If because of climatic or other conditions reasonably beyond the control of the *Contractor*, or if the *Owner* and the *Contractor* agree that, there are items of work that must be deferred, 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 deferred *Work*.

## **GC 5.7 NON-CONFORMING WORK**

- 5.7.1 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 to the *Consultant*, in a form that can be reasonably evaluated, 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 the *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 applications 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 in as much as it contributes directly to the implementation of the *Change Directive*:

#### **Labour**

- .1 rates that are listed in the schedule or as agreed by the *Owner* and the *Contractor* including wages, benefits, compensation, contributions, assessments, or taxes incurred for such items as employment insurance, provincial or territorial health insurance, workers' compensation, and Canada or Quebec Pension Plan for:
  - (1) trade labour in the direct employ of the *Contractor*;
  - (2) the *Contractor*'s personnel when stationed at the field office;
  - (3) the *Contractor*'s personnel engaged at shops or on the road, in expediting the production or transportation of materials or equipment; and
  - (4) the *Contractor*'s office personnel engaged in a technical capacity, or other personnel identified in Article A-3 of the Agreement – CONTRACT DOCUMENTS for the time spent in the performance of the *Work*;

#### **Products, Construction Equipment and Temporary Work**

- .2 cost of all *Products* including cost of transportation thereof;
- .3 in the absence of agreed rates, cost less salvage value of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under \$1,000 owned by the *Contractor*;
- .4 rental cost of *Construction Equipment*, *Temporary Work* and tools, exclusive of hand tools under \$1,000;
- .5 cost of all equipment and services required for the *Contractor*'s field office;

#### **Subcontract**

- .6 subcontract amounts of Subcontractor with pricing mechanism approved by the *Owner*;

#### **Others**

- .7 travel and subsistence expenses of the *Contractor*'s personnel described in paragraph 6.3.7.1;
- .8 deposits lost provided that they are not caused by negligent acts or omissions of the *Contractor*;
- .9 cost of quality assurance such as independent inspection and testing services;
- .10 charges levied by authorities having jurisdiction at the *Place of the Work*;
- .11 royalties, patent license 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;
- .12 premium for all contract securities and insurance for which the *Contractor* is required, by the *Contract Documents*, to provide, maintain and pay in relation to the performance of the *Work*;
- .13 losses and expenses sustained by the *Contractor* for matters which are the subject of insurance under the policies prescribed in GC 11.1 – INSURANCE when such losses and expenses are not recoverable because the amounts are in excess of collectible amounts or within the deductible amounts;
- .14 taxes and duties, other than *Value Added Taxes*, income, capital, or property taxes, relating to the *Work* for which the *Contractor* is liable;
- .15 charges for voice and data communications, courier services, expressage, transmittal and reproduction of documents, and petty cash items;
- .16 cost for removal and disposal of waste products and debris;
- .17 legal costs, incurred by the *Contractor*, in relation to the performance of the *Work* provided that they are not:
  - (1) relating to a dispute between the *Owner* and the *Contractor* unless such costs are part of a settlement or awarded by arbitration or court,
  - (2) the result of the negligent acts or omissions of the *Contractor*, or
  - (3) the result of a breach of this *Contract* by the *Contractor*;
- .18 cost of auditing when requested by the *Owner*; and
- .19 cost of *Project* specific information technology in accordance with the method determined by the parties.

- 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* performance of the *Work* attributable to the *Change Directive* 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.
- 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 a finding.
- 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* and 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 *Owner*, through the *Consultant*, shall 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 promptly inform 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 the *Owner*, the *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, resulting in the failure of the *Contractor* to attain *Ready-for-Takeover* by the date stipulated in Article A-1 of the Agreement – THE WORK, 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*, the *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 2.2.12 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 and the *Consultant* will make a finding upon such claim.
- 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 perform 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* which provides the detail of such neglect to perform the *Work* properly or such failure to comply with the requirements of the *Contract* to a substantial degree, the *Owner* may, without prejudice to any other right or remedy the *Owner* may have, give the *Contractor Notice in Writing*, containing particulars of the default including references to applicable provisions of the *Contract*, 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,
  - .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 by giving *Notice in Writing*:
- .1 correct such default and deduct the cost thereof from any payment then or thereafter due the *Contractor* for the *Work* 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,
  - .2 withhold further payment to the *Contractor* until a final certificate for payment is issued,
  - .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 in force 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*,
  - .2 the *Consultant* fails to issue a certificate as provided in Part 5 of the General Conditions – PAYMENT,
  - .3 the *Owner* fails to pay the *Contractor* when due the amounts certified by the *Consultant* or awarded by adjudication, arbitration or court, or
  - .4 the *Owner* fails to comply with the requirements of the *Contract* to a substantial degree and the *Consultant*, except for GC 5.1 – FINANCING INFORMATION REQUIRED OF THE OWNER, gives a written statement to the *Owner* and the *Contractor* that provides detail of such failure to comply with the requirements of the *Contract* to a substantial degree.
- 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* by giving a *Notice in Writing* to the *Owner* 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 8.3.3 to 8.3.8 of GC 8.3 – NEGOTIATION, MEDIATION AND ARBITRATION, and in GC 8.4 – 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 ADJUDICATION

- 8.2.1 Nothing in this *Contract* shall be deemed to affect the rights of the parties to resolve any dispute by adjudication as may be prescribed by applicable legislation.

## GC 8.3 NEGOTIATION, MEDIATION AND ARBITRATION

- 8.3.1 In accordance with the rules for mediation as provided in CCDC 40 ‘Rules for Mediation and Arbitration of Construction Industry Disputes’ 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.
- 8.3.2 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*.
- 8.3.3 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.
- 8.3.4 After a period of 10 *Working Days* following receipt of a responding party’s *Notice in Writing* of reply under paragraph 8.3.2, 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 as provided in CCDC 40 in effect at the time of bid closing.
- 8.3.5 If the dispute has not been resolved at the mediation or within such further period as is agreed by the parties, the Project Mediator will terminate the mediated negotiations by giving *Notice in Writing* to the *Owner*, the *Contractor* and the *Consultant*.
- 8.3.6 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 8.3.5, either party may refer the dispute to be finally resolved by arbitration under the rules of arbitration 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*.
- 8.3.7 On expiration of the 10 *Working Days*, the arbitration agreement under paragraph 8.3.6 is not binding on the parties and, if a *Notice in Writing* is not given under paragraph 8.3.6 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.
- 8.3.8 If neither party, by *Notice in Writing*, given within 10 *Working Days* of the date of *Notice in Writing* requesting arbitration in paragraph 8.3.6, requires that a dispute be arbitrated immediately, all disputes referred to arbitration as provided in paragraph 8.3.6 shall be:
- .1 held in abeyance until:
    - (1) *Ready-for-Takeover*,
    - (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 8.3.6.

#### **GC 8.4 RETENTION OF RIGHTS**

- 8.4.1 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.
- 8.4.2 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 8.3.6 of GC 8.3 – 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*, 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 or omissions in the *Contract Documents*; or
  - .2 acts or omissions by the *Owner*, the *Consultant*, *Other Contractors*, or 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 the *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 substance 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 any toxic or hazardous substance which was 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 substance 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 the *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 the *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 13.1 – INDEMNIFICATION.
- 9.2.8 If the *Owner* and the *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 13.1 – 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 *Owner*, through the *Consultant*, shall 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 The *Contractor* shall be responsible for establishing, initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the *Work* in accordance with the applicable health and safety legislation.
- 9.4.2 The *Owner* and the *Contractor* shall comply with all health and safety precautions and programs established at the *Place of the Work*.
- 9.4.3 The *Owner* and the *Contractor* shall comply with the rules, regulations and practices required by the applicable health and safety legislation.
- 9.4.4 The *Owner* shall cause the *Consultant*, *Other Contractors* and the *Owner's* own forces to comply with all health and safety precautions and programs established by the *Contractor* at the *Place of the Work*.
- 9.4.5 Nothing in this *Contract* shall affect the determination of liability under the applicable health and safety legislation.

### GC 9.5 MOULD

- 9.5.1 If the *Contractor* or the *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,
  - .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 the *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 the *Contractor*.
- 9.5.2 If the *Owner* and the *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,
  - .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 9.5.1.3, and
  - .4 indemnify the *Owner* as required by GC 13.1 – INDEMNIFICATION.
- 9.5.3 If the *Owner* and the *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,
  - .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,
  - .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 13.1 – 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 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 issue 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; 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 physical model, plan or design of which was supplied to the *Contractor* as part of the *Contract*.

### GC 10.4 WORKERS' COMPENSATION

- 10.4.1 Prior to commencing the *Work*, and again with the *Contractor*'s applications for payment, the *Contractor* shall provide evidence of compliance with workers' compensation legislation at the *Place of the Work*.

## PART 11 INSURANCE

### GC 11.1 INSURANCE

- 11.1.1 Without restricting the generality of GC 13.1 – INDEMNIFICATION, the *Contractor* shall provide, maintain and pay for the following insurance coverages, the 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 *Ready-for-Takeover*. Liability coverage shall be provided for completed operations hazards from the date of *Ready-for-Takeover* on an ongoing basis for a period of 6 years following *Ready-for-Takeover*.
  - .2 Automobile Liability Insurance from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.
  - .3 Unmanned aerial vehicle aircraft, manned aircraft or watercraft Liability Insurance when owned or non-owned manned or unmanned 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 *Ready-for-Takeover*;
    - (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*; and
    - (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 *Ready-for-Takeover*.
  - .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 *Other Contractors*, the *Owner* shall, in accordance with the *Owner's* obligations under the provisions relating to construction by the *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 *Ready-for-Takeover*.
- .8 *Contractors' Pollution Liability Insurance* from the date of commencement of the *Work* until one year after the date of *Ready-for-Takeover*.

- 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 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 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.

## PART 12 OWNER TAKEOVER

### GC 12.1 READY-FOR-TAKEOVER

- 12.1.1 The prerequisites to attaining *Ready-for-Takeover* of the *Work* are limited to the following:
  - .1 The *Consultant* has certified or verified the *Substantial Performance of the Work*.
  - .2 Evidence of compliance with the requirements for occupancy or occupancy permit as prescribed by the authorities having jurisdiction.
  - .3 Final cleaning and waste removal at the time of applying for *Ready-for-Takeover*, as required by the *Contract Documents*.
  - .4 The delivery to the *Owner* of such operations and maintenance documents reasonably necessary for immediate operation and maintenance, as required by the *Contract Documents*.
  - .5 Make available a copy of the as-built drawings completed to date on site.
  - .6 Startup, testing required for immediate occupancy, as required by the *Contract Documents*.
  - .7 Ability to secure access to the *Work* has been provided to the *Owner*, if required by the *Contract Documents*.
  - .8 Demonstration and training, as required by the *Contract Documents*, is scheduled by the *Contractor* acting reasonably.
- 12.1.2 If any prerequisites set forth in paragraphs 12.1.1.3 to 12.1.1.6 must be deferred because of conditions reasonably beyond the control of the *Contractor*, or by agreement between the *Owner* and the *Contractor* to do so, *Ready-for-Takeover* shall not be delayed.
- 12.1.3 When the *Contractor* considers that the *Work* is *Ready-for-Takeover*, the *Contractor* shall deliver to the *Consultant* and to the *Owner* a comprehensive list of items to be completed or corrected, together with a written application for *Ready-for-Takeover* for review. Failure to include an item on the list does not alter the responsibility of the *Contractor* to complete the *Contract*.
- 12.1.4 The *Consultant* will review the *Work* to verify the validity of the application and will promptly, and in any event, no later than 10 calendar days after receipt of the *Contractor's* list and application:

- .1 advise the *Contractor* in writing that the *Work* is not *Ready-for-Takeover* and give reasons why, or
- .2 confirm the date of *Ready-for-Takeover* in writing to each of the *Owner* and the *Contractor*.

12.1.5 Immediately following the confirmation of the date of *Ready-for-Takeover*, the *Contractor*, in consultation with the *Consultant*, shall establish a reasonable date for finishing the *Work*.

12.1.6 The provision of GC 12.1 – READY-FOR-TAKEOVER shall be subject to GC 12.2 – EARLY OCCUPANCY BY THE OWNER.

## **GC 12.2 EARLY OCCUPANCY BY THE OWNER**

12.2.1 The *Owner* may take occupancy of a part or the entirety of the *Work* before *Ready-for-Takeover* has been attained only as agreed by the *Contractor* which agreement shall not be unreasonably withheld.

12.2.2 The *Owner* shall not occupy a part or the entirety of the *Work* without prior approval by authorities having jurisdiction.

12.2.3 If the *Owner* takes occupancy of a part of the *Work* before *Ready-for-Takeover* has been attained:

- .1 The part of the *Work* which is occupied shall be deemed to have been taken over by the *Owner* as from the date on which it is occupied.
- .2 The *Contractor* shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the *Owner*.
- .3 The warranty period specified in paragraph 12.3.1 of GC 12.3 – WARRANTY for that part of the *Work* shall start from the date on which it is occupied.

12.2.4 If the *Owner* takes occupancy of the entirety of the *Work* before all the prerequisites are met as described in paragraph 12.1.1 of GC 12.1 – READY-FOR-TAKEOVER, the *Work* shall, subject to the requirements of the applicable lien legislation, be deemed to achieve *Ready-for-Takeover*. This shall not relieve the *Contractor*'s responsibility to complete the *Work* in a timely manner.

## **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 when *Ready-for-Takeover* has been attained.

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.

## **PART 13 INDEMNIFICATION AND WAIVER**

### **GC 13.1 INDEMNIFICATION**

13.1.1 Without restricting the parties' obligation to indemnify respecting toxic and hazardous substances, patent fees and defect in title claims all as described in paragraphs 13.1.4 and 13.1.5, 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 negligent 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 *Ready-for-Takeover* date 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*.

- 13.1.2 The obligation of either party to indemnify as set forth in paragraph 13.1.1 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 minimum liability insurance limit for one occurrence, of the applicable insurance policy, 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 indemnification by a party against the other with respect to losses suffered by them, such obligation shall be restricted to direct loss and damage, and neither party shall have any liability to the other for indirect, consequential, punitive or exemplary damages.
  - .4 In respect to indemnification respecting claims by third parties, the obligation to indemnify is without limit.
- 13.1.3 The obligation of either party to indemnify the other as set forth in paragraphs 13.1.1 and 13.1.2 shall be inclusive of interest and all legal costs.
- 13.1.4 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.
- 13.1.5 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*.
- 13.1.6 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 become known; and
  - .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 13.2 WAIVER OF CLAIMS

- 13.2.1 Subject to any lien legislation applicable to 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* under the *Contract*, 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 *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* no later than 5 calendar days before the expiry of the lien period provided by the lien legislation applicable at the *Place of the Work* or 20 calendar days following the *Ready-for-Takeover* date, whichever is later;
  - .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 respecting toxic and hazardous substances, patent fees and defect in title matters for which a right of indemnity could be asserted by the *Contractor* pursuant to the provisions of paragraphs 13.1.4 or 13.1.5 of GC 13.1 – INDEMNIFICATION; and
  - .4 claims resulting from acts or omissions which occur after the *Ready-for-Takeover* date.
- 13.2.2 The *Contractor* waives and releases the *Owner* from all claims resulting from acts or omissions which occurred after the *Ready-for-Takeover* date except for:
- .1 indemnification respecting third party claims, and claims respecting toxic and hazardous substances, patent fees and defect in title matters, all as referred in paragraphs 13.2.1.2 and 13.2.1.3; and
  - .2 claims for which *Notice in Writing* of claim has been received by the *Owner* from the *Contractor* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.3 Subject to any lien legislation applicable to 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* under the *Contract*, 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 *Ready-for-Takeover* date, except as follows:
- .1 claims arising prior to or on the *Ready-for-Takeover* date for which *Notice in Writing* of claim has been received by the *Contractor* from the *Owner* no later than 20 calendar days following the *Ready-for-Takeover* date;

- .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 respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor* pursuant to the provisions of paragraph 13.1.4 of GC 13.1 – 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 *Ready-for-Takeover* date.
- 13.2.4 Respecting claims arising upon substantial defects and deficiencies in the *Work*, as referenced in paragraph 13.2.3.4, and notwithstanding paragraph 13.2.3.5, the *Owner* waives and releases the *Contractor* from all claims 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 *Ready-for-Takeover* date, provided that 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, the time within which any such claim may be brought shall be such shorter period as may be prescribed by any limitation statute of the Province or Territory of the *Place of the Work*.
- 13.2.5 The *Owner* waives and releases the *Contractor* from all claims arising from acts or omissions which occur after the *Ready-for-Takeover* date, except for:
- .1 indemnification for claims advanced against the *Owner* by third parties, as referenced in paragraph 13.2.3.2;
  - .2 claims respecting toxic and hazardous substances for which a right of indemnity could be asserted by the *Owner* against the *Contractor*, as referenced in paragraph 13.2.3.3;
  - .3 claims arising under GC 12.3 – WARRANTY; and
  - .4 claims for which *Notice in Writing* has been received by the *Contractor* from the *Owner* within 395 calendar days following the *Ready-for-Takeover* date.
- 13.2.6 "Notice in Writing of claim" as provided for in GC 13.2 – WAIVER OF CLAIMS to preserve a claim or right of action which would otherwise, by the provisions of GC 13.2 – WAIVER OF CLAIMS, be deemed to be waived, must include the following:
- .1 a clear and unequivocal statement of an 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.
- 13.2.7 A claim for lien asserted under the lien legislation prevailing at the *Place of the Work* shall qualify as notice of claim for the purposes of this *Contract*.
- 13.2.8 The party giving the *Notice in Writing* of claim as provided for in GC 13.2 – WAIVER OF CLAIMS shall submit within a reasonable time a detailed account of the amount claimed.
- 13.2.9 Where the event or series of events giving rise to a claim made under paragraphs 13.2.1 or 13.2.3 has a continuing effect, the detailed account submitted under paragraph 13.2.8 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 such claim 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.
- 13.2.10 Nothing in GC 13.2 – WAIVER OF CLAIMS shall be deemed to affect the rights of the parties under any lien legislation or limitations legislation prevailing at the *Place of the Work*.