

SPECIFICATIONS

**SEAWALL REPLACEMENT
COMMUNITY OF VICTORIA**

Consultant

**Coles Associates Ltd.
Project No. 171174**

**January 17, 2018
(Review)**

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1 General

1.1 LIST OF DRAWINGS

- .1 C1 - Site Plan Existing
- .2 C2 - Site Plan New
- .3 C3 - Existing Seawall Structure
- .4 C4 - Riprap Seawall
- .5 C5 - Notes
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End of Section

1 General

1.1 APPENDICES

.1 Appendix A:

- .1 Habitat Assessment & Geotechnical Investigation Report, prepared by Fundy Engineering, dated 20 Sept. 2017, Project No. 17-12374, titled "Community of Victoria , PEI, Seawall Replacement Project".

End of Section

1 General

1.1 SUMMARY OF WORK

- .1 The work of this project is comprised of the construction of a rubblemound breakwater (seawall) and boardwalk. The construction of this project will include but not limited to:
 - .1 Removal of site items as required to complete work and as indicated;
 - .2 Excavation and backfilling, sand bedding, sandstone, gravel base, etc. as specified and where indicated;
 - .3 Construction of gravelled surface walking path behind breakwater;
 - .4 Provision for storm sewer and drainage piping;
 - .5 Provision for imported armour stones (riprap) for breakwater;
 - .6 Traffic control and traffic management during construction;
 - .7 Environmental Protection;
 - .8 Reinstatement of all disturbed surfaces;
 - .9 All related sitework and other miscellaneous items associated with this project.
- .2 All in accordance with the requirements of the specifications and drawings listed on the Index of Specifications and Drawings.
- .3 The work included under this Project is subject to various permitting and approval from Authorities Having Jurisdiction including but not limited to:
 - .1 Approval from the PEI Department Communities, Land and Environment as it relates to the construction of the breakwater and associated work;
 - .2 Approval from the Department of Transportation, Infrastructure and Energy as it relates to this work.
 - .3 Community of Victoria and other agencies as it relates to funding.
- .4 All charges by utility companies shall be included in the Tender Price.

1.2 ENQUIRIES

- .1 Direct all inquiries during the tender period to:

Coles Associates Ltd.
P.O. Box 695
Founders' Hall, 2nd Floor
6 Prince Street
Charlottetown, PEI
C1A 7L3

Phone: (902) 368-2300
Email: nlawen@colesassociates.com

Attention: Nazmi Lawen, P.Eng.
- .2 All enquiries are to be directed to the Consultant a minimum of 3 days prior to tender closing in order to allow the Consultant to issue an addendum a minimum of 2 days prior to tender close.

1.3 TENDERING PROCEDURE

- .1 General Contractors:
 - .1 Submit their tender for the entire work of this Contract, including all subcontracts, directly to the Owner in accordance with the requirements of the Invitation to Tender and this specification.

1.4 SPECIFICATION EXPLANATION

- .1 Whenever the words "as shown", "as noted", "as called for", "indicated", or similar phrases are used, they shall be understood to refer to this specification and/or the accompanying drawings and addenda.
- .2 The words "provided", "install", or similar words shall mean the work described shall be completely supplied, and erected or installed by the Contractor, unless otherwise noted.
- .3 All materials are to be new unless noted otherwise.

1.5 EXAMINATION OF SITE

- .1 All bidders submitting tenders for this work shall first examine the site and all conditions thereon and/or therein, including:
 - .1 Existing site conditions visually evident at the time of tender upon which the Work of this Contract will be installed.
 - .2 Conditions attached to, abut against or in any other way affected by existing conditions.
- .2 All tenders shall take into consideration all such conditions as may affect the work under this Contract.
- .3 No extra payment will be made to the Contractor, above the Contract Price, for costs resultant from failure to determine the conditions that affect the Work.

1.6 EXISTING CONDITIONS

- .1 If in the performance of the contract, subsurface or latent conditions at the site are found to be materially different from those indicated by the drawings and specifications, or unknown conditions not usually inherent in work of the character shown and specified, the attention of the Consultant shall be called immediately in writing to such conditions before they are disturbed. Upon such notice or resulting from his own observation of such conditions the Consultant shall promptly make such changes in the drawings and specifications as he finds necessary to conform to the different conditions and any increase or decrease in the cost shall be adjusted as provided under Changes in the Work.
- .2 A Habitat Assessment & Geotechnical Investigation Report was prepared by Fundy Engineering, dated 20 Sept. 2017, Project No. 17-12374, titled "Community of Victoria , PEI, Seawall Replacement Project", attached to this Specifications as Appendix A.

1.7 DOCUMENT INTERPRETATION

- .1 The Consultant's interpretation of Contract Documents shall be final.
- .2 Should the Bidder find discrepancies in, or omissions from the drawings, specifications or other tender documents, or be in doubt as to their meaning or interpretation, the Bidder should at once notify the Consultant in writing for clarification.
- .3 Any instructions or clarifications to Bidders issued during the period of bidding will be in the form of Addenda and are to be included in the tender. Addenda will form part of the Contract Documents.
- .4 The Owner, User Groups or Consultant will not be responsible for verbal instructions.
- .5 Addenda will be distributed by fax and/or email.
- .6 Every effort will be made to issue addenda not less than two (2) days prior to the time for the closing of tenders, at the Consultant's discretion.

1.8 PREPARATION AND SUBMISSION OF BIDS

- .1 Contractors shall submit their bids on the Tender Form provided, which will be received at the time and place indicated on the Invitation to Tender. Late tenders will not be accepted and will be returned unopened to the bidder.
- .2 Bidders shall fill in all information requested on the Tender Form.
 - .1 This form must be completely filled out in ink, or be typewritten with the signature

- in longhand. The completed forms shall be without interlineation, alteration or erasure.
- .2 Failure to fill in the Tender Form, as provided, in its entirety may result in the rejection of the bid; however, bidders are not obligated to provide alternative prices to products listed on the Appendix provided for that specific purpose, as part of the tender form.
 - .3 Tender amount shall be stated both in writing and in figures.
 - .4 Signatures shall be without alteration or erasure.
 - .5 Receipt of addenda for the project shall be acknowledged by filling in the addendum number and date of issue for each addendum on the appropriate line on the Tender Form. These lines shall be initialed by the person signing the tender after they have been filled in.
- .3 Each tender submitted will be accepted on the understanding that it covers all the Work called for in the specifications and on the drawings, regardless of any notations by Bidder that certain parts of the required Work are omitted from their proposal.
 - .4 Each bid must:
 - .1 Give the full business address of the Bidder and be signed by him with his usual signature.
 - .2 Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name of one of the members of the partnership or by some authorized representative, followed by the signature and designation of the person signing.
 - .3 Bids by corporations must be signed with the legal name of the corporation, followed by the name of the Province of incorporation, and by the signature designation of the president, secretary, or other person authorized to bind it in the matter. The name of each person signed shall also be typed or printed below the signature.
 - .4 A bid by a person who affixes to his signature the word "president," "secretary," or "agent," or other designation, without disclosing his principal, may be held to be the bid of the individual signing on behalf of the corporation.
 - .5 A bid of any individual or any group of individuals operating as co-partners or the bid of any corporation which may be submitted shall be executed and authorized so that it shall be and it will constitute a legal binding act of the persons, co-partners, or corporate entity making the bid.
 - .5 Bidders shall include with their tender, in the space designated in Section 00 41 13, Appendix A, the name of each Subcontractor and/or Supplier, as designated, whose price has been included in their tender and who will perform the trade work. Substitution for another Subcontractor in the event that the listed Subcontractor is unable to do the work shall be subject to the approval of the Owner and contingent on evidence satisfactory to the Owner that the original Subcontractor's price was legitimately carried in the Tender, and that the original Subcontractor is now incapable of carrying out the work required under the subcontract, or that he refuses to carry out the work and provides documented reasons for such incapacity or refusal.
 - .6 The term "Own Forces," as a subcontractor, may be used by a Bidder where the Bidder is equipped to and in fact normally carries out the trade work using employees in the direct employment of the Contractor or a wholly owned subsidiary company. Other designations such as "Own Estimate" are unacceptable and may be cause for rejection of the tender by the Owner.
 - .7 When a Bidder indicates "Own Forces" as a subcontractor, the Bidder may be required to demonstrate to the Owner that he has the resources, experience and employees necessary, available and qualified to perform the trade work in a manner and quality satisfactory to fulfill the obligations of the Contract Documents and that the trade work is a normal and continual part of his business operation.

- .8 A Bidder, whose tender is accepted, that included "Own Forces" for a subcontract will if requested, provide the Owner with payroll records verifying that the employees carrying out the "Own Forces" subcontract work are direct employees of the Contractor or of a wholly owned subsidiary company of the Contractor.
- .9 Each bidder shall be prepared, if so requested by the Owner, prior to the award of the Contract to present evidence of his experience, qualifications and financial ability to carry out the terms of the Contract.
- .10 The Owner will evaluate Tenders submitted for this project. The criteria to be considered by the Owner in awarding the Contract will include a combination of:
 - .1 Bid price;
 - .2 Scheduling;
 - .3 Compliance;
 - .4 Expertise;
 - .5 Qualifications of the Contractor and named Subcontractors / Suppliers and
 - .6 Any other such conditions as may be determined by the Owner to be in the best interests of the Owner. A decision on the acceptance of a Tender will be made by the Owner based on the results of the Owner's evaluation.
- .11 Bidders may, at their own discretion, submit Alternatives to items identified as "Acceptable Material".
 - .1 All proposed Alternatives shall be listed in Appendix "B", ALTERNATIVE PRICES and be identified by name and model number where applicable and each Alternative shall have an associated tender price change "INCREASED BY" \$_____ or "DECREASED BY" \$_____ or "N/A," as compared with the "Acceptable Material" item carried in the tender amount.
 - .2 Alternate prices will include ALL related costs associated with charges from Accepted Material. No additional costs will be accepted for failure of the Contractor to identify the full impact of using alternate systems.
 - .3 Alternate prices will NOT be used in determining the tender price or as the basis for awarding the tender.
- .12 Bidders are to complete any other appendices forming part of the Tender Form as directed under Section 00 41 13 - Bid Form.
- .13 Tender Forms and accompanying documents shall be enclosed in a sealed envelope marked "TENDER" and bearing the following identification.
 - .1 Name of project.
 - .2 Name of Contractor submitting tender.
- .14 Envelope to be addressed to the recipient of tenders indicated in the Invitation to Tender and delivered by hand, registered mail or courier.
- .15 Submit one (1) only signed copy of Tender Form.
- .16 Accompanying the Tender Form shall be:
 - .1 One (1) copy of Bid Guarantee, together with Surety's Letter of Consent, as specified.
 - .2 One (1) copy of a preliminary schedule demonstrating the full scope of work to be completed within the identified time for the completion of the contract work.
 - .3 One (1) copy of a letter from Bidder's insurance provider identifying a list of any claims made against the Bidder within the last five (5) years.
- .17 Tender forms and securities must bear original signatures.
- .18 Where the bid amount is shown in both written words and number and the two are in conflict, written words will take precedence.

1.9 BID GUARANTEES

- .1 Each tender submitted shall be accompanied by the following Security:
 - .1 For a General Contract Tender less than One Million Dollars (\$1,000,000.00),

- including Civil, Mechanical, Sprinkler and Electrical Subcontract values:
- .1 A Security Deposit in the form of a Certified Cheque or Bank Draft, in an amount not less than ten per cent (10%) of the Bid Amount;
OR
 - .2 A Bid Bond as identified below.
- .2 For a General Contract Tender One Million Dollars (\$1,000,000.00) or more, including Civil, Mechanical, Sprinkler and Electrical Subcontract values:
- .1 A Bid Bond only issued by a recognized bonding company, in an amount not less than ten per cent (10%) of the Bid Amount.
- .3 The Certified Cheque, Bank Draft or Bid Bond shall be made payable to the Owner.
- .4 The Certified Cheque, Bank Draft or Bid Bond will guarantee that:
- .1 The Bidder will not withdraw the bid for the period indicated on the Tender Form, following the schedule closing time of the receipt of bids, and
 - .2 The Bidder will enter into a formal agreement with the Owner in accordance with the agreement included as part of the Contract Documents, and
 - .3 The required Certified Cheque, Bank Draft or Bid Bond as Contract Security will be provided to the Owner, and
 - .4 In the event of withdrawal of said bid within said period, or the failure to enter into said Agreement and give said contract security within ten (10) days after notice of the acceptance of the bid, the Bidder shall be liable to the Owner for the full amount of the bid guarantee as representing the liquidating damages to the Owner on account of the default of the Bidder in any particular hereof and shall not be construed as a penalty.
- .5 Bid Bonds or Security Deposits will be returned to all except the three (3) lowest Bidders within three (3) days after the opening of tenders. The remaining non-successful Bid Bonds or Security Deposits will be mailed to Bidders within forty-eight (48) hours after the Owner and the successful Contractor have executed the Contract and the duly executed Bonds or Certified Cheque representing the Contract Security have been received and accepted by the Owner from the successful Contractor.
- .6 Bonds and Letters of Surety, provided by General Contractors to the Owner shall be from a recognized Surety Company.
- .7 Only Bid Bonds issued by insurers, licensed in Canada and authorized to do business in the Province of Prince Edward Island, will be accepted.
- .8 Security Deposits provided by General Contractors:
- .1 Must be in the form of a Certified Cheque or Canadian Bank Draft drawn on a bank to which the Bank Act applies or a Credit Union, payable to the Owner, OR
 - .2 Bonds of the Government of Canada, unconditionally guaranteed, as to the principal and interest by the Government of Canada if such Bonds are:
 - .1 Payable to the Bearer, or
 - .2 Accompanied by a duly executed Instrument of Transfer to the Owner in the form prescribed by the Domestic Bonds of Canada Regulations, or
 - .3 Negotiated as to principal or as to principal and interest in the name of the Owner, pursuant to the Domestic Bonds of Canada Regulations.
 - .3 Security Deposits submitted by Subcontractors to General Contractors, shall be in a form satisfactory to the General Contractor.
 - .4 No interest will be paid to either the successful or unsuccessful bidders for any form of Bid Guarantee.

1.10 CONTRACT SECURITY

- .1 Upon award of a Contract, the Contractor shall provide the following Contract Security:
 - .1 For a General Contract Tender less than One Million Dollars (\$1,000,000.00), including Civil, Mechanical, Sprinkler, and Electrical Subcontract values:

- .1 A Performance Bond and a Labour and Materials Bond, each in the amount of fifty per cent (50%) of the total Contract Amount, or
- .2 A Security Deposit in the form of a Certified Cheque or Bank Draft, in an amount not less than ten per cent (10%) of the total Contract Amount.
- .2 For a General Contract Tender One Million Dollars (\$1,000,000.00) or more, including Civil, Mechanical, Sprinkler and Electrical Subcontract values:
 - .1 A Performance Bond and a Labour and Materials Bond, each in the amount of fifty per cent (50%) of the total Contract Amount.
- .2 All Bonds provided by General Contractors, are to be made payable to the Owner.
- .3 Bonds shall be from a recognized Surety Company, licensed in Canada and authorized to do business in the Province of Prince Edward Island.
- .4 If a Performance Bond is utilized, it shall be maintained in force for a period of not less than twelve (12) months after the issuance of the Total Performance Certificate.
- .5 Security Deposits, provided by the General Contractor:
 - .1 Must be in the form of a Certified Cheque or Bank Draft drawn on a bank to which the Canadian Bank Act applies, or a Credit Union, payable to the Owner, OR
 - .2 Bonds of the Government of Canada, unconditionally guaranteed, as to the principle and interest by the Government of Canada if such Bonds are:
 - .1 Payable to the Bearer, or
 - .2 Accompanied by a duly executed Instrument of Transfer to the Owner, in the form prescribed by the Domestic Bonds of Canada Regulations, or
 - .3 Negotiated as to principle or as to principle and interest in the name of the Owner pursuant to the Domestic Bonds of Canada Regulations.
- .6 Contract Security shall be provided at the expense of the General Contractor. Cheques or Bank Drafts shall be drawn on an account with recognized Financial Institutions.
- .7 Contract Security submitted by Subcontractors to General Contractors, shall be in a form acceptable to the General Contractor.
- .8 No interest will be paid to the successful Contractor on any form of Contract Security.
- .9 If in accordance with the Contract Security requirements the successful Contractor has used a Certified Cheque or Bank Draft as Contract Security, the Certified Cheque or Bank Draft will be deposited in a safety deposit box in a bank until the date of Substantial Performance for the Contract as defined under Definition 19 of CCDC2-2008. Subject to the Work being acceptable to the Owner and Consultant it will be returned to the Contractor, without interest. The Certified Cheque or Bank Draft used as contract Security used through the construction period will be replaced with a Certified Cheque or Bank Draft in the amount of 20% of the original Contract Security during the Warranty Period. Subject to Warranty issues being addressed during the 1-year Warranty Period to the satisfaction of the Owner and Consultant it will be returned to the Contractor, without interest.

1.11 RECEIPT AND OPENING OF BIDS

- .1 Bids will be opened publicly at the time and place stated in the Invitation to Tender. The officer whose duty it is to open them will decide when the specified time has arrived. No responsibility will attach to any officer for the premature opening of a bid not properly addressed and identified.
- .2 Telegraphed, telephoned or facsimile transmitted bids will not be considered.
- .3 Any firm which has submitted a tender has the privilege of being present at the bid opening.

1.12 ADJUSTMENT AND WITHDRAWAL OF BIDS

- .1 Bids may be withdrawn or adjusted in writing by mail, delivered in person or telegram or facsimile transmission delivered to the party to whom the bids were submitted, provided

such withdrawal or adjustment is prior to the time fixed for the opening of the bids. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal or adjustment of the bid after the expiration of the time within which bids may be submitted.

- .1 All withdrawals or adjustments to previously submitted tenders must be faxed prior to the time fixed for the opening of bids.
- .2 Neither the Owner nor Coles Associates Ltd. accepts responsibility for the Contractors inability to submit faxed modifications within the allotted time for such circumstances, including but not limited to power and equipment failures, transmission failures, paper outages, busy fax line, etc.
- .3 Adjustments must be signed by the same person who signed the original bid.

1.13 AWARD OF CONTRACT

- .1 The Contract, if awarded, will be awarded as promptly after the opening of bids as is possible, and at the discretion of the Owner. The award date will not extend beyond the period indicated on the Tender Form following the scheduled time of tender closing, without first obtaining permission of the three (3) low bidders, or low bidder only, at the discretion of the Owner.
- .2 The Form of Agreement, (Contract) which the successful Bidder will be required to enter into with the Owner, may be seen on application to the Consultant. The drawings, specifications and any addenda issued during the tender period, will be suitably marked for identification at the time the Form of Agreement is signed by both parties, shall be considered as being included in the Contract, together with the completed Tender form and are hereinafter referred to as the "Contract Documents." All of these documents shall be read together and construed as one document. Following execution of the Contract, the Contractor shall receive from the Owner one (1) complete signed set of Contract Documents.
- .3 Final award of Contract shall be subject to approval of all agencies having direct interest in the project.
- .4 Where identical bids are received, the low bidder will be selected on the basis of a coin toss by the Owner in the presence of the identical bidders.

1.14 REJECTION OF BIDS

- .1 The Owner reserves the right to reject any and all bids.
- .2 The lowest of any bid will not necessarily be accepted.
- .3 Bids submitted which indicate "own forces" for subcontract work, that in the opinion of the Owner cannot be successfully completed by the Contractor's employees will not be accepted.
- .4 Bids not submitted on the required form will be rejected.
- .5 Bids which are incomplete or qualified will be rejected.
- .6 All Bidders acknowledge that they shall have no claim against, or entitlement to damages from the Owner or Consultant by reason of the Owner's rejection of their individual bids or all bids.

1.15 SUBCONTRACT WORK

- .1 Contractor is to ensure that all Subcontractors understand the full extent of their responsibilities in order to complete the entire work of the project. Subcontract work may appear in various Sections of Specifications and on various Drawings.
- .2 Contractors and their Subcontractors are advised to become familiar with all specifications and drawings.

1.16 CONDITIONS OF WORK AND EMPLOYMENT IN PEI

- .1 All Construction Companies and Contractors and subcontractors submitting tenders for

this work, or a portion thereof, are advised, in their own interest, to contact the Construction Association of Prince Edward Island, the accredited association for commercial and industrial sectors of the construction industry, to inquire and determine the terms and conditions of work and employment in the Province of Prince Edward Island.

1.17 LABOUR

- .1 No prospective employee in the Province of Prince Edward Island shall, with relation to his employment or eligibility for employment, be discriminated against or favored by reason of sex, racial origin, religious views, or political affiliations.
- .2 Contractors, to the extent possible, are encouraged to maximize the employment of the local labour force for the Work of this Contract.

1.18 HARMONIZED SALES TAX REQUIREMENTS

- .1 The Owner for this project must account for the Harmonized Sales Tax (HST).
- .2 All tenders submitted for the work of this Contract shall be calculated on the basis that the Owner is not exempt from HST. The bid will exclude HST but will show it as a separate line item.

1.19 ACCEPTABLE PRODUCTS

- .1 The Bidder shall carry in his tender the base bid product(s) identified in the specifications as "Acceptable Materials", or approved equals as they are identified throughout the tender period.
- .2 The Bidder is also encouraged to carry the products of other manufacturers, that are not considered equals, as "Alternatives Prices," listing them by name on the Appendix provided for that specific purpose, as part of the Tender Form, together with the price difference compared to the specified products, when such Appendix is identified under Section 00 41 13 - Bid Form.

1.20 APPROVED EQUALS

- .1 Submission for an Approved Equal is to contain literature and descriptive information with full specification data. Where the requested item is contained on a printed document with other items, it is to be clearly identified.
- .2 The Consultant will not search catalogs, e-mails or websites or contact suppliers to obtain the necessary information for proper evaluation.
- .3 Submission by Bidders for evaluation of products requested to be considered as equal must be submitted to Consultant no less than 5 working days prior to closing of tenders. No consideration will be given to approving equals after the close of tenders, except when the specified product is found to have been discontinued by the manufacturer.
- .4 The consideration of a product(s) for Approved Equal status and the acceptance of individual products as approved equals is entirely at the discretion of the Consultant.
- .5 When products are given Approved Equal status these products may, at the discretion of bidders, be carried in their tender price, provided that ALL costs related to changes to the contract work required to incorporate the Approved Equal product are included in the tender price.
- .6 The acceptance of a product by the Consultant as an "Approved Equal," even where not specifically indicated on the Approved Equals listing in the Addendum, is to be understood as being contingent upon the provision of the particular series, model and/or type, complete with all options to meet the specified requirements of the Acceptable Material product.
- .7 Products given approved status that are found, during construction period, to not have all specified options available, or to have discontinued production of same, or to have made other design changes since the time of approval, will not be accepted for use on this project, except when financial compensation has been mutually agreed upon

between the Contractor and the Owner and deemed acceptable by the Consultant. Compensation will not be paid to the Contractor for products acknowledged by the Consultant to be superior to the specified products.

1.21 ALTERNATIVES

- .1 Alternative products, when requested under Section 00 41 13 - Bid Form, must be listed in Appendix "B" provided as part of the Tender Form, and are to be understood as being offered only for the Owner's consideration as substitutes for the specified Acceptable Material products, at the amount of increase or decrease in the tender amount indicated in the Appendix. These products and related prices are not to be included in the tender amount.
- .2 Alternative products and their related increase or decrease in the base bid amount are not used as the basis for awarding tenders.
- .3 When alternative products are listed in Appendix "B", ALL costs related to changes to the contract work required to incorporate the alternative product into the work are to be included in the amount stated in Appendix "B".
- .4 Alternative products may or may not be accepted at the discretion of the Owner at the price difference quoted, without any other monetary consideration. If requested, bidders shall promptly supply full details of any or all Alternatives listed. Specific written direction from the Consultant must be given to the Contractor to substitute an alternative product.
- .5 Alternative prices shall include all fees, taxes and markups.

1.22 UNIT PRICES

- .1 Unit Prices, when requested under Section 00 41 13 - Bid Form, must be listed in Appendix "C", as part of the Tender Form and are to be understood as being offered only for the Owner's consideration; to be accepted or not accepted, at the Owner's discretion in a timely manner during the Work of the Contract, ONLY as a method of adjustment to the Contract Work for changes in the Work, should the Owner opt for the Unit Price Method.
- .2 Unit prices shall include all fees, taxes and markups.

1.23 SEPARATE PRICES

- .1 Separate Prices, when requested under Section 00 41 13 - Bid Form, must be listed in Appendix "D", as part of the Tender Form and are to be understood as being offered only for the Owner's consideration; to be accepted or, not accepted, in whole or in part, at the Owner's discretion. If used the Separate Prices may be incorporated into the Contract Work either at the time of Award of Contract or in a timely manner during the Work of the Contract, at the Owner's discretion.
- .2 Separate Prices shall include all fees, taxes (excluding HST) and markups.

1.24 GUARANTEES

- .1 The Contractor will be required to guarantee the work of this Contract in accordance with the requirements of GC12.3 of the Agreement.
- .2 Notwithstanding the above, the bidder's attention is directed to the fact that certain individual items on this project may be required to be guaranteed by the manufacturer for periods in excess of twelve months. These specific requirements are to be found in various Sections of the specifications for this project.

1.25 PAYMENT OF WORKERS

- .1 The Contractor shall, in addition to any fringe benefits, pay the workers employed by the Contractor on the work at wage rates, not less than those established by the Minimum Wage Order, issued under authority of the Labour Act, which is in effect. The Contractor shall pay workers employed on the work at intervals of not less than twice per month.
- .2 The Contractor shall require each Subcontractor, or person doing any part of the work, to

covenant with the Owner that workers are employed at the wage rates and in the manner required by this provision.

- .3 Where any person employed by the Contractor or any Subcontractor, or other person engaged on the Work of this Contract, is paid less than the amount required to be paid under the provisions of this Contract, the Owner may deduct from any monies payable to the Contractor, under this or any other Contract, and pay to such person, a sum sufficient to bring the person's wages up to the amount required to be paid under this Contract.
- .4 No claim for extra payment from the Contractor will be considered by the Owner concerning any change in the Minimum Wage Order which may occur during prosecution of the Contract.

1.26 TIMING REQUIREMENTS

- .1 This project will require the achievement of the following project milestones.
 - .1 Project Milestones:
 - .1 Tender Call _____ 2018
 - .2 Pre-tender Site Meeting _____ 2018
 - .3 Tender Close _____ 2018
 - .4 Tender Award _____ 2018
 - .5 Construction Start _____ 2018
 - .6 Construction Completed _____ 2018
 - .7 Substantial Completion _____ 2018

End of Section

1 General

1.1 TENDER

.1 SUBMITTED BY:

_____ (Name)

_____ (Address)

_____ (Contact)

DATE: _____

FOR: PROJECT NAME: Seawall Replacement
LOCATION: Victoria, PE

TO: PROJECT OWNER: Community of Victoria
LOCATION: Victoria, PE

Having examined ALL the drawings and specifications for this project, as well as any addenda issued, as prepared by Coles Associates Ltd. and/or their consultants; WE HEREBY OFFER to furnish all materials, plant and labour necessary for the full and proper completion of the Contract work for:

PROJECT NAME: Seawall Replacement
LOCATION: Victoria, PE

INCLUDING all prime cost allowances and Government sales or other taxes in force at this date, EXCLUDING Harmonized Sales Tax (HST) but not any other additional or deductible allowances or taxes which may be applicable subsequent to this date, and which shall be payable by or to the Owner, in accordance with the above mentioned Documents, for the bid amount of:

_____ (Dollars)
(\$ _____)

in lawful money of Canada.

In submitting this Tender we recognize the necessity to complete the information requested by any appendices, as well as, the right of the Owner to reject all Tenders or to accept any Tender at the price submitted, on the condition that revised Tenders will not be called for if minor changes are made.

In the event of this Tender being accepted within thirty (30) days of the time stated for the closing of Tenders, and our failing or declining to enter into a Contract, then our Bid Guarantee, submitted with our Tender shall be forfeited to the Owner in lieu of any damages which the Owner may suffer by reason of our failure or refusal to enter into such Contract.

In the event of our Tender not being accepted with thirty (30) days of the time stated for the closing of Tenders, our Bid Guarantee, submitted with our Tender will be returned to us forthwith, unless a satisfactory arrangement is made with us covering its retention for a further stated period.

If we are notified of the acceptance of this Tender within the above specified time, we will:

- .1 Enter into a formal Contract Agreement with the Owner.
- .2 Furnish the Performance Bond and Labour and Materials Payment Bonds, or other form of Contract Security, when specifically permitted, as Contract Security in accordance with the requirements of the specifications.
- .3 Furnish a cost breakdown of the Contract sum, the total aggregating the amount of our Tender, in accordance with the requirements of the specifications.
- .4 Furnish a certified copy of all insurance policies.
- .5 Furnish a certified copy of all insurance policies carried by the named subtrades.
- .6 Complete the entire work on or before the dates stated.
- .7 Provide and update as required a Construction Schedule which clearly shows the state of progress required to complete the work on the date specified.
- .8 Enter into subcontract agreements where applicable.

1.2 ACKNOWLEDGEMENT OF RECEIPT OF ADDENDA

- .1 Addendum No. _____ Issued: _____ _____ initial
- Addendum No. _____ Issued: _____ _____ initial
- Addendum No. _____ Issued: _____ _____ initial
- Addendum No. _____ Issued: _____ _____ initial
- Addendum No. _____ Issued: _____ _____ initial

1.3 FORM OF TENDER APPENDICES

- .1 Appendix 'A' must be completed by bidders.
- .2 Appendix 'B' (only the items indicated) may be completed by bidders, any other items are at the bidder's discretion.
- .3 Appendix 'C' must be completed by bidders.
- .4 Appendix 'D' must be completed by bidders.

1.4 DOCUMENTS ACCOMPANYING BID FORM

- .1 As per Section 00 21 13, Par 1.8.16
- .1 One (1) copy of Bid Guarantee, together with Surety's letter of consent. _____ initial
 - .2 One (1) copy of preliminary schedule. _____ initial
 - .3 One (1) copy of letter from Bidders Insurance Provider identifying list of claims made against Bidder within last five (5) years. _____ initial

1.5 CONTRACTOR EXPERIENCE ON SIMILAR PROJECTS

.1	Name of Project	Year Completed	Total Cost (\$)
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

1.6 SUPERINTENDENT

- .1 Name of Superintendent _____.
- .2 Years of Experience with Contractor _____.

1.7 CONTRACTOR'S SIGNATURE

- .1 Signed sealed and submitted for and on behalf of:

(Company Name)

(Address)

(Authorized Signature)

(Witness)

(Name and Title)

(Name and Title)

(Date)

1.8 APPENDIX 'A'

.1 Herewith are identified the Subcontractors we propose to use on this project:

Site & Excavation Work: _____

Riprap: _____

Boardwalk: _____

Storm Sewer: _____

Misc.: _____

COMPANY: _____

AUTHORIZED SIGNATURE: _____

1.9 APPENDIX 'B'

.1 ALTERNATIVE PRICES

We herewith submit for consideration by the Owner the following systems or products as Alternatives to the Base Bid items indicated below and identify the increase or decrease, as applicable, in our tender price, for each item should it be selected by the Owner for installation in lieu of the Base Bid item. The change in tender price includes for all necessary modifications to the base bid systems.

Alternative prices shall include all fees, taxes and markups.

SECTION ITEM BASE BID ALTERNATIVE:	TENDER PRICE INCREASED BY:	TENDER PRICE DECREASED BY:
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____
_____	\$ _____	\$ _____

COMPANY: _____

AUTHORIZED SIGNATURE: _____

1.10 APPENDIX 'C'

.1 UNIT PRICE COMPONENT

We submit herewith our Unit Prices for the additions or deletions to the work listed below. The Unit Prices listed apply to performing the Units of Work, in accordance with the requirements of the appropriate specifications herein, only during the time scheduled for such work in the project work schedule.

Unit prices shall include all fees, taxes and markups.

	UNIT OF WORK	UNIT	ONE (1) UNIT PRICE ONLY FOR EITHER ADDITION OR DELETION
.1	Riprap	TONNES	\$ _____
.2	Select Borrow	TONNES	\$ _____
.3	_____		\$ _____
.4	_____		\$ _____

COMPANY: _____

AUTHORIZED SIGNATURE: _____

1.11 APPENDIX 'D'

.1 SEPARATE PRICES

We submit herewith our Separate Price for the addition of the work listed below and amounts are NOT included in our Stipulated Price. In accordance with the requirements of the appropriate specifications herein, only during the time scheduled for such work in the project work schedule.

Separate prices shall include all fees, taxes and markups.

	UNIT OF WORK	ONE (1) UNIT PRICE ONLY FOR EITHER ADDITION OR DELETION
.1	_____	\$ _____
.2	_____	\$ _____
.3	_____	\$ _____
.4	_____	\$ _____

COMPANY: _____

AUTHORIZED SIGNATURE: _____

End of Section

1 General

1.1 GENERAL

- .1 The Definitions and General Conditions governing the Work shall be those specified in the following amendments and supplements to those provisions, and shall apply to all Sections of this Specification.
- .2 Where any Article or portion of Article conflicts with the Laws of the Province concerned, such Article or portion of the Article is hereby stricken.
- .3 The following amendments shall apply to the Definitions of CCDC2 Stipulated Price Contract 2008.

1.2 DEFINITIONS

- .1 Paragraph 4 Consultant, add the following:
 - .1 The Consultant shall be the Owner's Prime Consultant, Coles Associates Ltd., 6 Prince Street, Charlottetown, PEI.
- .2 Paragraph 12 Owner, add the following:
 - .1 The Owner shall be the Community of Victoria.
- .3 Paragraph 19 Subcontractor, add the following:
 - .1 All dealings with the Subcontractor shall be through the medium of the Contractor, who will be responsible for the proper coordination and execution of the Sub-contractor's work.
- .4 New Paragraph 27 Engineer:
 - .1 This shall mean the designated engineering representative(s) of the Consultant.

1.3 ARTICLE GC1.1 CONTRACT DOCUMENTS

- .1 Paragraph 1.1.8 - Delete as written and substitute:

1.1.8 The Contractor shall receive up to 5 sets of drawings and specifications at no cost from the Owner. Additional sets of drawings will be supplied at cost of reproduction. The above covers the requirements for all trades
- .2 Paragraph 1.1.11 - Add new Paragraph as follows:

1.1.11 The Contract Documents are prepared solely for use by the party with whom the Consultant has entered into a Contract and there are no representations of any kind made by the Consultant to any party with whom the Consultant has not entered into a Contract.
- .3 Paragraph 1.1.12 - Add new Paragraph as follows:

1.1.12 Electronic documents are and shall remain the Consultant's property. Copies of electronic documents may be made available for the preparations of shop drawings at the Consultant's sole discretion and for a fee.

1.4 ARTICLE GC3.1 CONTROL OF THE WORK

- .1 Paragraph 3.1.1 - add new Sub-Clause 3.1.1.1 as follows:
 - .1 The Contractor shall co-ordinate his own work and the work of all Subcontractors so as to facilitate and expedite the progress of the work.
- .2 Paragraph 3.1.1 Add new Sub-Clause 3.1.1.2 as follows:
 - .1 It is the responsibility of the Contractor to immediately notify the Consultant of any signs of distress or any other indications of actual or potential damage to the contract work, without regard to his awareness of any errors, inconsistencies or omissions in the Contract Documents.
- .3 Add new Paragraph 3.1.3 as follows:
 - .1 Before ordering any materials or doing any Work, Contractor shall verify all compensation has been allowed on account of differences between actual site dimensions and the measurements indicated on the drawings. Any difference,

which may be found, shall be submitted to the Consultant for consideration before proceeding with the work.

- .4 Add new Paragraph 3.1.4 as follows:
 - .1 The Contractor will be responsible for effecting the removal from the site of any trade, firm, group or person who is delaying the Work, or whose Work is unsatisfactory. The Contractor will arrange for other competent trades people to complete the Work at no expense to the Owner.

1.5 ARTICLE GC3.6 SUPERVISOR

- .1 Add new Paragraph 3.6.3 as follows:
 - .1 The Consultant may require the Contractor to inform him, in writing, of the name and experience of the supervisory personnel he intends to use on the project.

1.6 ARTICLE GC3.8 LABOUR AND PRODUCTS

- .1 Add new Paragraph 3.8.4 as follows:
 - .1 All manufactured articles, materials and equipment shall be installed, applied, connected, erected, used, cleaned, conditioned and commissioned as directed by the manufacturer unless specified to the contrary.

1.7 ARTICLE GC3.9 DOCUMENTS AT THE SITE

- .1 Add new Paragraph 3.9.2 as follows:
 - .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 Notice of Change.
 - .6 Change Orders.
 - .7 Other Modifications to Contract.
 - .8 Approved Work Schedule.
 - .9 Health and Safety Plan and Other Safety Related Documents.
 - .10 Other documents as specified.

1.8 ARTICLE GC4.1 CASH ALLOWANCES

- .1 Article GC4.1 - Delete this article.

1.9 ARTICLE GC4.2 CONTINGENCY ALLOWANCE

- .1 Article GC4.2 - Delete this article.

1.10 ARTICLE GC5.2 APPLICATIONS FOR PROGRESS PAYMENT

- .1 Paragraph 5.2.2 - add two new Sentences as follows:
 - .1 Payment shall be less any holdback release, which may have been made in accordance with the specific terms of this Agreement as dictated by GC 5.6. Any such holdback release by the Owner to the Contractor shall be a payment to the Contractor in trust for the specific Subcontractor in respect of whose work the release is made.
 - .2 Payments shall be less 15% Mechanics' Lien Holdback amount claimed against each progress claim.
- .2 Add new paragraph 5.2.6 as follows:
 - .1 Authorized Change Orders shall be listed on the application for payment indicating the amount claimed against each to date of claim.
- .3 Paragraph 5.2.7 - Add new sentences as follows:

.1 Payment for materials will be considered only if such materials are properly stored on site in a secure enclosure acceptable to the Consultant. Security of materials so stored is the responsibility of the Contractor.

.4 Add new Paragraph 5.2.8 as follows:

.1 With the second and all subsequent applications for payment the Contractor shall include a statutory declaration form CCDC 9B, or other similar form acceptable to the Consultant, declaring that all labour and materials entering into the work, including Subcontractors, covered by the previous application, have been paid. With application for release of lien holdback, the Contractor shall include a statutory declaration form CCDC 9A, or other similar form acceptable to the Consultant.

1.11 **ARTICLE GC5.3 PROGRESS PAYMENT**

.1 Paragraph 5.3.1 - Add new Sentence as follows:

.1 When any claim for payment during the course of construction includes for completed or partially completed Work, which in the opinion of the Consultant is defective or otherwise unacceptable, a sum of monies determined by the Consultant to be ten (10) times the value of the defective or unacceptable Work, or ten (10) times the value of the Work required to correct the defect or an amount solely at the Consultants discretion, will be withheld from the claim.

.2 Paragraph 5.3.1 - Add 3 new Sentences as follows:

- .1 Deficiency monies may be held back at any time during the course of the project for Work deemed incomplete or unacceptable.
- .2 It remains the Contractor's responsibility to undertake his own deficiency reviews and ensure the entire Work conforms to the Contract including quality, completeness and commissioning.
- .3 Two final deficiency reviews will be conducted by the Consultant. The first review with the Owner and Contractor will identify any minor items which may remain outstanding, and the second review will confirm that these items have been completed. All other deficiency reviews where deficiencies are incomplete or not ready for requested inspections, will be charged at cost to the Contractor. The invoice for the additional reviews will be submitted to the Owner with a corresponding amount deducted from the Contractor's progress payment.

1.12 **ARTICLE GC5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK**

.1 Paragraph 5.5.1, Add new Sub-Clauses .3 and .4 as follows:

- .1 5.5.1.3 Submit with application for payment letter of clearance from The Workers Compensation Board to the Owner stating that the Contractor is in good standing with the Board.
- .2 5.5.1.4 Submit with application for payment a Letter of Clearance from the Department of Provincial Treasury to the Owner that all Revenue Tax Remittances payable to the Department for the Work of this Contract are in order.

1.13 **ARTICLE GC5.7 FINAL PAYMENT**

.1 Paragraph 5.7.2 - Add new Sentence as follows:

.1 Any delay in delivering the required Project Record Drawings (As-Builts) as described in Section 01 78 00 - Closeout Submittals will have the effect of delaying the final payment to the Contractor until the Consultant has received them complete and in good condition.

1.14 **ARTICLE GC6.2 CHANGE ORDER**

.1 Delete Paragraph 6.2.1 and replace with a new paragraph as follows:

- .1 6.2.1 When a change in Work is proposed or required, the Consultant will provide the Contractor with a written description of the proposed change in the Work. The Contractor shall promptly present, in forms acceptable to the Consultant, a detailed breakdown of the costs associated with the change, if any; and the adjustment in the Contract Time, if any. The breakdown shall include:
 - .1 Actual (not list) costs of material, as well as Subtrade and Supplier costs.
 - .2 Labour costs, including fringe benefits and wage levies.
 - .3 Equipment rental (excluding hand and small power tool).
- .2 Change Orders calling for normal changes or additions to the Work will be priced in detail giving actual material trade prices (not list prices) and actual labour costs and wage levies (including Employment Insurance, Worker's Compensation, Holiday Pay) and actual equipment rental.
- .3 Each Change Order will be considered as a whole to complete the work, inclusive of all Sub-Contract and/or General Contract work.
- .4 To these prices, the Contractor will add:
 - .1 For Work less than \$2,500, involving the General Contractor only, the General Contractor adds 20% to his costs.
 - .2 For Work over \$2,500, involving the General Contractor only, the General Contractor adds 15% to his costs.
 - .3 For Work less than \$2,500, involving a Subcontractor only, the Subcontractor adds 20% to his costs, submits this price to the General Contractor who adds 10%.
 - .4 For Work over \$2,500, involving a Subcontractor only, the Subcontractor adds 15% to his costs, submits this price to the General Contractor who adds 5%.
 - .5 For Work less than \$2,500, involving the General Contractor and a Subcontractor, the Subcontractor adds 20% to his costs, submits his price to the General Contractor who adds 10%; to this amount the General Contractor adds the cost of his own Work plus 20% of the cost of his own Work only. The General Contractor does NOT add a further 10% to the cost of his own Work.
 - .6 For Work over \$2,500, involving the General Contractor and a Subcontractor, the Subcontractor adds 15% to his cost, submits this price to the General Contractor who adds 5%; to this amount the General Contractor adds the cost of his own Work plus 15% of the cost of his own Work only. The General Contractor does NOT add a further 5% to the cost of his own Work.
 - .7 Deletions to Contract: A mark-up by either Sub-Contractor or General Contractor shall not be charged or credited on credit Change Orders.
 - .8 Supervision related to Change Orders shall be considered as included in the allowable mark-up, and shall not be added as additional charges for a Change order.
- .5 Note: Costs related to management, supervision, estimating, scheduling, bonding, insurance, as built drawings, copying, courier, safety, cleaning, site overhead, site vehicle, hand and small power tools etc. are covered by the mark up indicated in Paragraph 6.2.1.4 and shall not be included on Change Orders.

1.15 ARTICLE GC6.3 CHANGE DIRECTIVE

- .1 Delete Paragraphs 6.3.6.1, 6.3.6.2 and 6.3.6.3 and replace with the following.
- .2 The Owner or the Consultant, without invalidating the contract, may make changes by altering, adding to, or deducting from the work, the contract sum being adjusted accordingly. All such work shall be executed under the conditions of the Contract.
- .3 Where work is required to proceed immediately, work may proceed under a Change Directive. The Contractor will be instructed to proceed on a time and materials basis and maintain accurate accounting records for the cost of the change.
- .4 Change Directives calling for changes to the Work will be priced in detail giving actual

material trade prices (not list prices) and actual labour costs and wage levies (including Employment Insurance, Worker's Compensation, Holiday Pay) and actual equipment rental.

- .5 Each Change Directive will be considered as a whole to complete the work, inclusive of all Sub-Contract and/or General Contract work.
- .6 To these prices, the Contractor will add:
 - .1 For Work involving the General Contractor and a Subcontractor, the Subcontractor adds 15% to his cost, submits this price to the General Contractor who adds 5%; to this amount the General Contractor adds the cost of his own Work plus 15% of the cost of his own Work only. The General Contractor does NOT add a further 5% to the cost of his own Work.
 - .2 Deletions to Contract: A mark-up by either Sub-Contractor or General Contractor shall not be charged or credited on credit Change Orders
 - .3 Supervision related to Change Orders shall be considered as included in the allowable mark-up, and shall not be included in the labour changes for a Change order.

1.16 **ARTICLE GC9.1 PROTECTION OF WORK AND PROPERTY**

- .1 Add new Paragraph 9.1.5 as follows:
 - .1 The Contractor shall be responsible for implementing all necessary security measures required to protect the areas of Work under his control and shall be responsible for damage which may arise from the failure of, or the failure to implement such security measures.

1.17 **ARTICLE GC10.1 TAXES AND DUTIES**

- .1 Paragraph G.C. 10.1.1 - Revise as follows:
 - .1 Delete the words ..."at the time of closing except for Value Added Taxes"...and replace with the words ..."at the time of closing including Value Added Taxes"...

1.18 **ARTICLE GC10.2 LAWS, NOTICES, PERMITS, AND FEES**

- .1 Paragraph G.C. 10.2.2 - Delete "the building permit" and add the new sub-clause 10.2.2.1 as follows:
 - .1 The Contractor shall apply for, obtain and pay for the building permit.

1.19 **ARTICLE GC11.1 INSURANCE**

- .1 Paragraph 11.1.1.4: Delete and replace with following:
 - .4 Builders Risk, in the names of the Contractor, the Owner, the Sub- Contractors and the Consultant. As applicable. The policy shall commence from the date of the commencement of Work until the earliest of:
 - (1) 10 calendar days after the date of substantial Performance of the Work;
 - (2) On the commencement of use or occupancy of any part or section of the Work unless the use or occupancy is for construction purposes, or for the installation, testing and commissioning of equipment forming a part of the Work;
 - (3) When left unattended for more than 30 consecutive calendar days or when construction activity has ceased for more than 30 consecutive calendar days.
 - (4) The Contractor shall provide evidence of Course of Construction Property Insurance, that is all risk, replacement cost blanket limit, with an agreed amount endorsement and includes boiler and machinery coverage as noted in 11.1.1.5 and 11.1.1.6. Said coverage will include completed operations coverage for 24 months after completion to the full value of the building or

structure as required by the Owner. Coverage for "X,C, U exposures shall be included along with loss of use.

- .2 Paragraph 11.1.2:
 - .1 Delete "if required" on the second line. (A certified true copy as described, MUST be promptly provided within 3 days of contract award). Add the following at the end of the sentence. "All insurance is primary and will not require the sharing of any loss with any Owner Insurance Program."
- .3 Add new Paragraph 11.1.9 Indemnity/Hold Harmless:
 - .1 The Contractor shall be liable for all injuries to persons and for damage to property caused by his operations, and those of his sub-contractors, and his and their employees, engaged on all operations in connection with the contract both on and off the site, and he shall indemnify and save harmless the Owner from all suits, claims, expenses, costs, demands, losses and damages to which the Owner may be put to reason of injury including death, to persons, and damages to property of the Owner and others, resulting from negligence, carelessness and any other cause whatsoever in the performance of the work.
 - .2 The Contractor shall, until the date of issue of the final Certificate of Approval of the work by the Consultant, indemnify and save harmless the Owner, and protect his own interests against:
 - .1 Theft, burglary or robbery of, and loss or damage to, all materials and equipment brought to the site for use in the work, whether or not such material and equipment are incorporated in the work at the time that any such theft, burglary, robbery, loss or damage occurs.
 - .2 Theft or burglary of, and loss or damage to, any of his own plant and equipment being used on the project and/or stored on the site.
- .4 Add new Paragraph 11.1.10:
 - .1 The Contractor shall, without limiting its obligations or liabilities herein and at its own expense, provide and maintain the following insurances with Insurers and in forms and amounts acceptable to Government, Commercial General Liability Insurance in an amount not less than five million dollars (\$5,000,000) inclusive per occurrence against bodily injury including death, and property damages. The Owner is to be added as an insured under this policy. Such insurance shall include but not limited to:
 - .1 Products and Completed Operations Liability;
 - .2 Owners and Contractors Protective Liability;
 - .3 Cross Blanket Written Contractual Liability;
 - .4 Personal Injury Liability;
 - .5 Cross Liability;
 - .6 Broad Form Property Damage;
 - .7 Employees as Additional Insured's;
 - .8 Operations and Premises Liability.
 - .9 The Contractor shall not commence work under this contract until he has obtained all of the liability insurance specified and such insurance has been approved by the Owner, nor shall the Contractor allow any sub-contractor to commence work on his sub-contract until all similar insurance required of the sub-contractors has been obtained. Approval of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder nor shall such approval imply the contractor has fulfilled all the terms and conditions of this Contract. Upon expiration of any policies during the period of this Contract, new Certificates of Insurance showing renewal shall be forwarded. In the event, that the Contractor carried a blanket-type policy, an endorsement by the insurance company is required confirming coverage of this specified

project and indicating the extent of coverage.

- .5 Add new Paragraph 11.1.11: In all insurance policies required under this agreement:
 - .1 There shall be an endorsement stating that the insurer will provide 30 days' notice to the Province's Risk Manager (or the acting or assistant) of cancellation or material change in coverage;
 - .2 The insurer shall acknowledge that the policy is primary and any other insurance policies that may be in effect or any other sources of recovery the including the Government of Prince Edward Island's Self Insurance and Risk Management Fund shall not contribute in any way to any judgments, awards, payments, or costs or expenses of any kind whatsoever made as a result of actual or alleged claims. The Ultimate Recipient shall provide the Province with current certificates of insurance, in a form and content reasonably acceptable to the Province, evidencing the required insurance policies hereunder within ten (10) days of the Effective Date and on each renewal of the insurance policies thereafter.
Umbrella insurance may be used to achieve the required insured limits above.

1.20 ARTICLE GC12.3 WARRANTY

- .1 Add new Paragraph 12.3.7 as follows:
 - .1 When a part of the work is occupied by the Owner, directly or for the use intended prior to Substantial Performance, the warranty for the Work directly related to the construction and normal operation of that part of the Work, shall start on the date of occupancy.
- .2 Add new paragraph 12.3.8 as follows:
 - .1 The Contractor shall ensure that his subcontractors are bound to the requirements of GC12.3 insofar as their work is concerned.

End of Section

1 General

1.1 SCOPE OF WORK

- .1 The Contractor is to provide each item, and properly execute all work as specified herein, indicated by drawings, addenda, or change orders issued with respect to this project.
- .2 The Contractor shall coordinate, administer, and supervise all work, material acquisition and labour.
- .3 Contractor shall coordinate with Owner and facilitate installation of Owner provided equipment.

1.2 WORK BY OTHERS

- .1 Co-operate and coordinate with other Contractors in carrying out the respective works and carry out instructions from Consultant.
- .2 Schedule the Work of this Contract in consultation and cooperation with the Work of other Contractors and/or Owners own forces to produce a coordinated construction schedule.

1.3 COORDINATION

- .1 All Trades on site are responsible to co-operate and co-ordinate with each other.
- .2 Coordination prior to installation of all building components is mandatory.
- .3 Where work must be modified or reinstalled to be properly coordinated, the cost to do so will be paid by the Trades involved. The Owner will not pay for uncoordinated work nor will the Owner pay to resolve uncoordinated work.
- .4 If resolution cannot be achieved among the involved Trades, the Construction Manager and Consultant will assess Trade involvement and assign costs accordingly.

1.4 DAMAGE

- .1 Where damage is done to work in progress or existing areas of the site and adjacent structures, the cost to repair the damage will be assessed by the Construction Manager and Consultant and assigned on a pro-rated tender cost basis to all Trades on site at the time the damage occurred.
- .2 The Owner will not participate in paying for such damage.

1.5 DEDUCTIONS FOR UNCORRECTED WORK

- .1 If, in the opinion of the Consultant, it is not expedient to correct defective work or work not done in accordance with the Contract documents, the Owner may deduct from the Contract price the difference in value between the work as done and that called for by the Contract, the amount of which shall be determined in the final instance by the Consultant.

1.6 CORRECTION AFTER COMPLETION

- .1 Subject to any special provisions in the Contract documents, the Contractor shall remedy any defects due to faulty materials or workmanship appearing within a period of one (1) year from the date of substantial completion of the work and shall pay for any damage to other work resulting there from which appears within such period and neither the final certificate nor payment there under shall relieve the Contractor from responsibility hereunder. The Owner shall give notice of observed defects promptly. Questions arising under this Article may be decided as provided in Article 43.

1.7 EMERGENCIES

- .1 The Consultant has authority in an emergency to stop the progress of the work whenever in his or her opinion, such stoppage may be necessary to ensure the safety of

life, or of the structure, or neighbouring property. This includes authority to make such changes and to order, access and award the cost of such work extra to the Contract or otherwise as may in his or her opinion be necessary.

1.8 DOCUMENTS

- .1 The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all.
- .2 Descriptions of materials or work which have well known technical or trade meanings shall be held to refer to such recognized standards.
- .3 Should the specifications conflict with the drawings, the specifications shall govern.
- .4 In the case of discrepancies between drawings, those of larger scale, or if the scale are the same, those of later date shall govern.
- .5 All drawings and specifications shall be interpreted in conformity with the agreement.

1.9 PROTECTION OF WORK AND PROPERTY

- .1 The Contractor shall maintain continuously adequate protection of all his or her work from damage and shall take reasonable precautions to protect the Owner's property from all injury arising in connection with this Contract. He or she shall make good any damage or injury to his or her work and shall make good any damage or injury to the property of the Owner resulting from the lack of reasonable protective precautions. He or she shall not be responsible, however, for any damage or injury to his or her work and to the property of the Owner which may be directly due to errors in the Contract documents or caused by the Owner, his or her agents, or employees, or from any work or risk which the Owner has agreed to insure, provided the Contractor has taken reasonable protective precautions. He or she shall adequately protect adjacent property as required by law and the Contract documents.

1.10 COMMUNICATION

- .1 All submissions and inquiries shall be directed to the Consultant for review.
- .2 All direction will be transmitted to the Contractor by the Consultant.

1.11 CODES AND REGULATIONS

- .1 Perform work in accordance with National Building Code of Canada (NBC) 2015 and all other codes of provincial or local application, provided that in any case of conflict or discrepancy the more stringent requirements shall apply.
- .2 Meet or exceed requirements of contract documents and specified standards.
- .3 References to standards, including manufacturer's direction for installation shall be the latest edition.
- .4 All materials, components and equipment as well as construction methods shall comply with the NBC (2015) and all other applicable Provincial codes or regulations.
- .5 All equipment supplied or installed shall be CSA approved for the intended use.
- .6 The latest edition of the PEI Occupational Health and Safety Act and Regulations shall govern safe construction practices.
- .7 Provide a copy of all certificates of acceptance issued by Provincial or local authorities.

1.12 WORK SCHEDULE AND PROGRESS REPORTS

- .1 The Contractor will prepare and maintain a consolidated schedule in weekly increments showing scheduled work versus actual work. The schedule shall indicate the contract commencement and completion date for the total project.
- .2 The Contractor is to develop a detailed schedule identifying specific components of the mechanical, sprinkler, refrigeration and electrical trades. A single line items for each is not acceptable.
- .3 Provide updated schedule information from time to time as the progress of the work or

Consultant may require.

- .4 The Contractor shall furnish monthly progress reports from the date of commencement. These reports shall show the percentage of completion of the various divisions of work and contain comments on the general progress of the project.

1.13 CONTRACTOR'S USE OF SITE

- .1 Do not unreasonably encumber site with materials or equipment.
- .2 Move stored products or equipment, which interfere with operations of Consultant or other Contractors.
- .3 Obtain and pay for use of additional off site storage or work areas needed for operations.
- .4 The work related to modifying the site roadways must be carried out so that one half of the roadway is open to vehicle traffic at all times.

1.14 PROJECT MEETINGS

- .1 Refer to Section 01 32 13 1.3 Project Meetings.

1.15 SITE INSPECTOR

- .1 No work is to be covered without having received approval from the Consultant. The Consultant will have the authority to cause any part of the work to cease, should, in his or her opinion, there be cause to do so.
- .2 This work shall be examined by the Consultant and approval granted to resume when a satisfactory solution has been found out.
- .3 The Construction Manager does not have authority to authorize changes to work. He or she shall confer with the Consultant who, if necessary will authorize any change.
- .4 The fact that the Construction Manager or Consultant does not reject any work shall not remove the responsibility for completing all work as specified from the Contractor.

1.16 SETTING OUT OF WORK

- .1 Assume full responsibility for and execute complete layout of work to locations, lines and elevations.
- .2 Provide all equipment, materials and devices needed to lay out and construct work.
- .3 Supply such devices as straight edges and templates required to facilitate Consultant's inspection of work.

1.17 CONCEALMENT

- .1 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.18 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Consultant of impending installation and obtain his approval for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.

1.19 CUTTING, FITTING AND PATCHING

- .1 Execute cutting, core drilling, fitting and patching, required to install and make new work under this contract fit properly.
 - .1 Includes all cutting and patching in building for connection of new mechanical and electrical services to service lines.

- .2 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.

1.20 BLOCKING AND BACKING

- .1 Provide all blocking, backing, hangers, etc. used for support of all built-in work.

1.21 EXISTING SERVICES

- .1 Before commencing work, establish the location and extent of service lines and notify Consultant of findings if in conflict with information or intent shown.
- .2 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- .3 Contractor shall pay for any or all repairs to existing services that have been damaged due to the Contractor's negligence in the course of his work.
- .4 Notify Consultant and utilities of intended interruption of services and obtain permission.
- .5 Where Work involves breaking into or connecting to existing services, give Consultant 24 hours notice for necessary interruption. Minimize duration of interruptions. Carry out Work at times as directed by governing authorities or Owner with minimum disturbance.
- .6 Provide temporary services when directed by Consultant to maintain critical building and tenant systems.
- .7 Provide alternative routes for personnel and vehicular traffic.
- .8 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by Authorities Having Jurisdiction.
- .10 Record locations of maintained, re-routed and abandoned service lines.
- .11 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.22 ACCESS AND SECURITY

- .1 Access and security on the entire job site will be the responsibility of the Contractor.

1.23 ADDITIONAL DRAWINGS

- .1 The Consultant may furnish as necessary for the execution of the work, additional instructions, by means of drawings or otherwise. All such additional instructions shall be consistent with the contract documents. In giving such additional instructions the Consultant shall have authority to make minor changes in the work, consistent with the Contract.

1.24 RELICS AND ANTIQUITIES

- .1 Relics and antiquities and items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during the work, shall remain property of the Owner. Protect such articles and request directives from Consultant.
- .2 Give immediate notice to Consultant if evidence of archaeological finds are encountered during construction, and await Consultant's written instructions before proceeding with work in this area.

End of Section

1 General

1.1 REFERENCES

- .1 Owner/Contractor Agreement.
- .2 Canadian Construction Documents Committee (CCDC).
 - .1 CCDC 2-2008, Stipulated Price Contract.
- .3 Section 00 73 00 - Supplementary Conditions.

1.2 APPLICATIONS FOR PROGRESS PAYMENT

- .1 Make applications for payment on account as provided in Agreement as Work progresses.
- .2 Date applications for payment last day of agreed monthly payment period and ensure amount claimed is for value, proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.
- .3 Submit to Consultant, at least 14 days before first application for payment, Schedule of Values for parts of Work, aggregating total amount of Contract Price, so as to facilitate evaluation of applications for payment.

1.3 SCHEDULE OF VALUES

- .1 Make schedule of values out in such form and supported by such evidence as Consultant may reasonably direct and when accepted by Consultant, be used as basis for applications for payment.
- .2 Include statement based on schedule of values with each application for payment.
- .3 Support claims for products delivered to Place of Work but not yet incorporated into Work by such evidence as Consultant may reasonably require to establish value and delivery of products.
- .4 Provide, minimum fourteen (14) days before submitting first application for payment, a Schedule of Values, aggregating the Total Contract Price. After approval by the Consultant the Schedule of Values will be used as a basis for the application for progress payments.
- .5 Contractor shall submit with the Schedule of Values, an itemized list of all trades and applicable labour rates for each, which will be used as a basis for labour rates in changes to contract Work.

1.4 PREPARING SCHEDULE OF UNIT PRICE TABLE ITEMS

- .1 Submit separate Schedule of Unit Price items of Work requested in Bid form.
- .2 Make form of submittal parallel to Schedule of Values, with each line item identified same as line item in Schedule of Values. Include in unit prices only:
 - .1 Cost of material.
 - .2 Delivery and unloading at site.
 - .3 Sales taxes.
 - .4 Installation, overhead and profit.
- .3 Ensure unit prices multiplied by quantities given equal material cost of that item in Schedule of Values.

1.5 PROGRESS PAYMENT

- .1 Consultant will issue to Owner, no later than 10 days after receipt of an application for payment, certificate for payment in amount applied for or in such other amount as Consultant determines to be properly due. If Consultant amends application, Consultant will give notification in writing giving reasons for amendment.

1.6 SUBSTANTIAL PERFORMANCE OF WORK

- .1 Refer to Section 00 73 00 - Supplementary Conditions.
- .2 Prepare and submit to Consultant comprehensive list of items to be completed or corrected and apply for a review by Consultant to establish Substantial Performance of Work or substantial performance of designated portion of Work when Work is substantially performed if permitted by lien legislation applicable to Place of Work designated portion thereof which Owner agrees to accept separately is substantially performed. Failure to include an item on list does not alter responsibility to complete Contract.
- .3 No later than 10 days after receipt of list and application, Consultant will review Work to verify validity of application, and no later than 7 days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.
- .4 Consultant shall state date of Substantial Performance of Work or designated portion of Work in certificate.
- .5 Immediately following issuance of certificate of Substantial Performance of Work, in consultation with Consultant, establish reasonable date for finishing Work.

1.7 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF WORK

- .1 After issuance of certificate of Substantial Performance of Work:
 - .1 Submit an application for payment of holdback amount.
 - .2 Submit sworn statement that all accounts for labour, subcontracts, products, construction machinery and equipment, and other indebtedness which may have been incurred in Substantial Performance of Work and for which Owner might in any way be held responsible have been paid in full, except for amounts properly retained as holdback or as identified amount in dispute.
- .2 After receipt of application for payment and sworn statement, Consultant will issue certificate for payment of holdback amount.
- .3 Where holdback amount has not been placed in a separate holdback account, Owner shall, 10 days prior to expiry of holdback period stipulated in lien legislation applicable to Place of Work, place holdback amount in bank account in joint names of Owner and Contractor.
- .4 Amount authorized by certificate for payment of holdback amount is due and payable on day following expiration of holdback period stipulated in lien legislation applicable to Place of Work. Owner may retain out of holdback amount any sums required by law to satisfy any liens against Work or, if permitted by lien legislation applicable to Place of Work, other third party monetary claims against Contractor which are enforceable against Owner.

1.8 PROGRESSIVE RELEASE OF HOLDBACK [IF CONTRACT IS SETUP TO DO SO]

- .1 Where legislation permits, if Consultant has certified that Work of subcontractor or supplier has been performed prior to Substantial Performance of Work, Owner shall pay holdback amount retained for such subcontract Work, or products supplied by such supplier, on day following expiration of holdback period for such Work stipulated in lien legislation applicable to Place of Work.
- .2 Notwithstanding provisions of preceding paragraph, and notwithstanding wording of such certificates, ensure that such subcontract Work or products is protected pending issuance of final certificate for payment and be responsible for correction of defects or Work not performed regardless of whether or not such was apparent when such certificates were issued.

1.9 FINAL PAYMENT

- .1 Submit an application for final payment when Work is completed.
- .2 Consultant will, no later than 10 days after receipt of an application for final payment,

review Work to verify validity of application. Consultant will give notification that application is valid or give reasons why it is not valid, no later than 7 days after reviewing Work.

- .3 Consultant will issue final certificate for payment when application for final payment is found valid.

End of Section

1 General

1.1 APPOINTMENT AND PAYMENT

- .1 The Contractor will arrange and pay for the services of an independent Consultant to carry out the following tests:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by Contractor under the supervision of Consultant.
 - .6 Additional tests specified in Article 1.3.7 below.
 - .7 Where tests or inspections reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests or inspections as Consultant may require to verify acceptability of corrected work.

1.2 CONTRACTOR'S RESPONSIBILITIES

- .1 Provide labour, equipment and facilities to:
 - .1 Provide access to Work for inspection and testing.
 - .2 Facilitate inspections and tests.
 - .3 Make good Work disturbed by inspection and test.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2 Notify Consultant sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
- .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4 Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by Consultant.
- .5 Provide Consultant with two (2) sets of fully documented test reports, submitted immediately following the testing operations.

1.3 CONTRACTOR'S RESPONSIBILITIES - INSPECTION & TESTING REQUIREMENTS

- .1 Arrange and pay for the services by a certified material testing firm to carry out all testing of soil material including gravel, riprap, types at source, including collection of sample material by testing firm, to verify compliance with material specifications.
- .2 Follow up testing of all soil material types delivered to site.
- .3 Monitoring placement and verifying compaction densities.
- .4 Monitoring of upgrading work.
- .5 Verifying the new compaction densities.
- .6 Concrete:
 - .1 Slump tests.
 - .2 Compressive strength tests.
- .7 The work may occur under various Sections of the Specification.

End of Section

1 General

1.1 TIME AND ORDER OF COMPLETION

- .1 The Consultant may direct the Contractor in writing as to the time, precedence or order in which any work to be done under the contract shall be performed.

1.2 TIME OF COMMENCEMENT

- .1 The Contractor shall commence work within three (3) days after the execution of the Contract, unless specifically indicated or directed otherwise by the Consultant, and shall proceed continuously, diligently and with all reasonable dispatch consistent with the Construction Schedule, and the proper execution of the work, until final completion. The rate of progress made with the work shall be such as to ensure its final completion within the specified time.

1.3 TIME OF COMPLETION

- .1 The whole of the work to be done under this contract shall be finally completed in full accordance with all the terms and conditions of this contract on or before the day specified for such completion in the tender which forms part of this contract.
- .2 The Contractor will be responsible for all costs incurred for failure to complete the project within the project schedule, plus 20 working days.
- .3 Costs for Insurance and bonding extensions, Consultant fees for extended services and Construction Management services and expenses for extended services will all be totaled and charged against the Contractors. Costs will be deducted from Progress Claims.

1.4 EXTENSION OF TIME

- .1 An extension of time may be granted in writing by the Consultant in the event of the work being delayed beyond the prescribed time for completion as a result of causes beyond the Contractor's control. Such extensions shall be for such time as the Consultant may prescribe, and the Consultant shall fix the terms on which the said extension may be granted. An application by the Contractor for an extension of time shall be made to the Owner in writing as least fifteen calendar days prior to the date of completion fixed by the contract. Where applicable, all bonds or other surety including Liability Insurance furnished to the Owner by the Contractor shall be amended where necessary at the expense of the Contractor to provide coverage beyond the date of any extension of time granted, and the Contractor shall furnish the Owner with evidence of such amendment of the bonds or other surety and Liability Insurance.
- .2 Any extension of time that may be granted to the Contractor shall be so granted and accepted without prejudice to any rights of the Owner whatsoever under the Contract, and all of such rights shall continue in full force and effect after the time limited in the Contract for the completion of the work and whenever in the Contract, power and authority is given to the Consultant or any person to take any action consequent upon the act, default, breach, neglect, delay, non-observance or non-performance by the Contractor in respect of the work or Contract, or any portion thereof, such powers or authorities may be exercised from time to time and not only in the event of the happening of such contingencies before the time limited in the Contract for the completion of the work but also in the event of the same happening after the time so limited in the case of the Contractor being permitted to proceed with the execution of the work under an extension of time granted by the Consultant.

1.5 SUSPENSION OF WORK

- .1 The Contractor shall, upon written notice from the Consultant, discontinue or delay any or all of the work when, in the opinion of the Consultant, it is unwise to proceed for any reason whatsoever, and the work shall not be resumed until the Consultant shall in

writing so direct.

1.6 LABOUR DISPUTE

- .1 Except to the extent that relief is granted under of the Contract, the Contractor shall bear the risk and responsibility of any loss, damage or expense to the work or to himself or any nature and kind whatsoever arising from strikes or labour disputes other than such loss, damage or expense caused by the failure of the Owner to meet its obligations under the Contract.

1.7 CHARACTER AND EMPLOYMENT OF WORKERS

- .1 The Contractor shall employ only orderly, competent and skillful workers to do the work and shall give preference to available residents in the area of the Contract. Whenever the Consultant shall inform the Contractor in writing that any person or persons on the work are, in the opinion of the Consultant, incompetent, unfaithful or disorderly, such person or persons shall be discharged from the work and shall not again be employed on the work without the consent in writing of the Consultant.

1.8 LIMITATIONS OF OPERATIONS

- .1 The Consultant may, in writing, require the Contractor to cease or limit operations under the Contract, on any day or days if the operations are of such nature that the Consultant deems it necessary or expedient to do so.
- .2 The Contractor shall cooperate with other contractors, utility companies and the Owner and they shall be allowed free access to their work at all times. The Consultant reserves the right to alter the method of operations on this Contract to avoid interference with other work.
- .3 The Contractor shall have access to their work to allow the incorporation of a double shift if the Contractor deems it necessary to meet the obligations under the contract.

End of Section

1 General

1.1 SUBMITTALS

- .1 10 working days after award of contract and prior to commencement of Work, submit to Consultant the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Shop Drawing Submittal Schedule specified in Section 01 33 00 - Submittal Procedures.
 - .3 Health and Safety Plan specified in Section 01 35 29 - Health, Safety, and Emergency Response Procedures.
 - .4 Environmental Plan specified in Section 01 35 43 - Environmental Procedures.
 - .5 Dust Control Plan specified in Section 01 56 00 - Temporary Barriers and Enclosures.

1.2 WORK SCHEDULE

- .1 Upon notification of tender acceptance submit:
 - .1 Work schedule submitted within 7 calendar days of contract award.
- .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted tender.
- .3 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of Work on time and permit effective monitoring of Work progress in relation to established milestones.
- .4 Work schedule content to include as a minimum the following:
 - .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with;
 - .2 Written narrative on key elements of work illustrated in bar chart, providing sufficient details to demonstrate a reasonable implementation plan for completion of project within designated time.
 - .3 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .5 Work schedule must take into consideration and reflect the required sequence of Work, special conditions and operational restrictions as specified below.
- .6 Schedule Work in cooperation with the Consultant. Consultant's decision is final in regards to time and order of Work. Incorporate within Work Schedule, items identified by Consultant during review of preliminary schedule.
- .7 Completed schedule shall be to the Consultant's approval. When schedule has been approved by Consultant, take necessary measures to complete work within scheduled time. Do not change schedule without Consultant's approval.
- .8 It is the Contractor's responsibility to ensure all subtrades and subcontractors are made aware of the work restraints and operational restriction specified.
- .9 Schedule Updates:
 - .1 Submit when requested by Consultant.
 - .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
 - .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .10 Consultant will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Consultant. Address and take corrective measures on items of work as identified by reviews and as directed by

Consultant. Update schedule accordingly.

- .11 In every instance, change or deviation from work scheduling, no matter how minimal the risk or impact on safety or inconvenience to tenant or public might appear, will be subject to prior review and approval by the Consultant.

1.3 PROJECT MEETINGS

- .1 Schedule and administer project meetings, held on a minimum bi-weekly basis, for entire duration of work and more often when directed by Consultant as deemed necessary due to progress of work of particular situation.
- .2 Prepare agenda for meetings.
- .3 Notify participants in writing 4 days in advance of meeting date.
 - .1 Ensure attendance of all subcontractors.
 - .2 Consultant will provide list of other attendees to be notified.
- .4 Hold meetings at project site or where approved by Consultant.
- .5 Preside at meetings and record minutes.
 - .1 Indicate significant proceedings and decisions. Identify action items by parties.
 - .2 Distribute to participants by mail or by facsimile within 3 calendar days after each meeting.
 - .3 Make revisions as directed by Consultant.
 - .4 Consultant will advise whether submission of minutes by email is acceptable. Decision will be based on compatibility of software among participants.

1.4 WORK COORDINATION

- .1 The General Contractor is responsible for coordinating the work of the various trades and predetermining where the work of such trades interfaces with each other.
 - .1 Designate one person from own employ having overall responsibility to review contract documents and shop drawings, plan and manage such coordination.
- .2 The General Contractor shall convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required.
 - .1 Provide each trade with the plans, specifications, approved shop drawings and other documents of the interfacing trade as required to assist them in properly planning and carrying out their respective work.
 - .2 Develop coordination drawings when deemed required illustrating potential interference between work of various trades and distribute to all affected parties including structural trade.
 - .1 Pay particularly close attention to overhead work above ceilings and within or near to building structural elements.
 - .2 Coordination drawings to identify all building elements, service lines, rough-in points and indicate from where various services are coming.
 - .3 Review coordination drawings at purposely called meetings. Have subcontractors sign-off on drawings and publish minutes of each meeting.
 - .4 Plan and coordinate work in such a way to minimize quantity of service line offsets.
 - .5 Submit copy of coordination drawings and meeting minutes to Consultant for information purposes.
- .3 Submission of shop drawings and ordering of prefabricated equipment or prebuilt components shall only occur once coordination meeting for such items has taken place between trades and all conditions affecting the work of the interfacing trades has been made known and accounted for.
- .4 Work Cooperation:
 - .1 Ensure cooperation between trades in order to facilitate the general progress of

- the work and avoid situations of spatial interference.
- .2 Ensure that each trade provides all other trades reasonable opportunity for the completion of the work and in such a way as to prevent unnecessary delays, cutting, patching and the need to remove and replace completed work.
 - .5 Owner will not be responsible for or held accountable for any extra costs incurred as a result of the failure to carry out coordination work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor and shall be resolved by him at no extra cost to the Contract.

2 Products

2.1 NOT USED

- .1 Not Used.

3 Execution

3.1 NOT USED

- .1 Not Used.

End of Section

1 General

1.1 GENERAL

- .1 All submittals are to be delivered within 30 days of award of Contract.
- .2 Make specified submittals to the Consultant at commencement of Contract, before beginning work on site (and no later than 10 days after award). Include:
 - .1 Contract Security
 - .2 Proof of Insurance
 - .3 Workers' Compensation clearance letter
 - .4 Cost Breakdown
 - .5 Permits as required
 - .6 Shop drawing schedule
- .3 During Construction provide:
 - .1 Updated trade construction schedule
 - .2 Shop drawings as required
 - .3 Inspection and test reports
 - .4 Request for Information
 - .5 Submission required for payment purposes
- .4 At completion of Work provide
 - .1 Submission at completion of work as specified in Project Close Out, Commissioning, and Operations and Maintenance Data Sections.

1.2 ADMINISTRATIVE

- .1 Refer to GC 3.10 Shop Drawings
- .2 Submit to Consultant submittals listed for review. Submit 10 working days after award of contract in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with Work affected by submittal until review is complete.
- .4 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units converted values are acceptable.
- .6 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .7 Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .8 Verify field measurements and affected adjacent Work are co-ordinated.
- .9 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.
- .10 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.
- .11 Keep one reviewed copy of each submission on site.

1.3 SUBMITTAL SCHEDULES:

- .1 Within 10 days following award of contract, prepare and submit a summary of all submittals required by the Trade Package.
- .2 Submittal schedule shall be formatted as follows:

- | SECTION NUMBER | ITEM/EQUIP | SHOP DWG DEL DATE | ORDER DATE | ITEM DEL DATE |
|----------------|------------|-------------------|------------|---------------|
|----------------|------------|-------------------|------------|---------------|
- .3 The initial submission shall include completion of the first 3 columns of the above table example. Once approved shop drawings are received by the Contractor, the balance of the summary shall be updated and submitted accordingly.

1.4 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .3 Allow 10 days for Consultant's review of each submission.
- .4 Adjustments made on shop drawings by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
- .5 Make changes in shop drawings as Consultant may require, consistent with Contract Documents. When resubmitting, notify Consultant in writing of revisions other than those requested.
- .6 Submissions include:
- .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .7 After Consultant's review, distribute copies.
- .8 Submit digital copy of all shop drawings, product data sheets, reports, MSDS sheets and other traditional paper submissions.
- .9 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.

- .10 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Consultant.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 3 years of date of contract award for project.
- .11 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Consultant.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .12 Submit electronic copies of manufacturers instructions for requirements requested in specification Sections and as requested by Consultant.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .13 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Consultant.
 - .1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .14 Submit 3 copies of Operation and Maintenance Data for requirements requested in specification Sections, plus one (1) electronic copy and as requested by Consultant.
- .15 Delete information not applicable to project.
- .16 Supplement standard information to provide details applicable to project.
- .17 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, transparency will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.5 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Consultant's business address.
- .3 Notify Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where color, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
- .6 Make changes in samples which Consultant may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.6 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

End of Section

1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 41 00 - Regulatory Requirements
- .3 Section 02 61 00 - Hazardous Facility Remediation.

1.2 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Prince Edward Island
 - .1 Occupational Health and Safety Act, R.S.P.E.I. 1988.
- .4 CSA C22.1-2002 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
- .5 CSA C22.3 No. 1-M87 (R2001) - Overhead Systems.
- .6 CSA C22.3 No. 7-94 (R2000) - Underground Systems.
- .7 COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- .8 Fire Protection Standards issued by Fire Protection Services of Human Resources Development Canada as follows:
 - .1 FCC No. 301 - June 1982 Standard for Construction Operations.
 - .2 FCC No. 302 - June 1982 Standard for Welding and Cutting.
 - .3 FCC standards, may be viewed at the Regional Fire Protection Services' office (previously known as the Fire Commissioner of Canada) located at 99 Wyse Road, 8th Floor, Dartmouth, NS, Tel: (902) 426-6053.

1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Part 1:
List of individual health risks and safety hazards identified by hazard assessments.
 - .2 Part 2:
List specific measures to control or mitigate each hazard and risk identified in part one of Plan. State engineering controls, personal protective equipment and safe work practices to be used for work having identified hazard(s) or risk(s).
 - .3 Part 3:
Emergency and Communications Measures as follows:
 - .1 Emergency Procedures: standard operating procedures, evacuation measures and emergency response implemented on site during an accident or incident. State step by step procedures, applicable to each identified hazard.
 - .2 Emergency Communications: list names and telephone numbers of officials, to be contacted if incident, accident or emergency situation occurs, including:
 - .1 General Contractor and all Subcontractors.
 - .2 Provincial Departments and resources from local emergency organizations, based on type of hazard, incident or accident which might occur and as stipulated in applicable laws and

regulations.

- .3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Consultant.
- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 01 33 00 - Submittal Procedures.
- .6 Consultant will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Consultant within 2 days after receipt of comments from Consultant.
- .7 Consultant's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
- .9 Maintain Worker's Compensation Coverage for duration of contract. Submit Letter of Good Standing to Consultant.

1.4 DEFINITIONS

- .1 Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
- .2 Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated.
- .3 De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
- .4 Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.
- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

1.5 SITE CONTROL AND ACCESS

- .1 Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop non-authorized persons from circulating within construction areas and remove from site.
- .2 Prior to gaining access to the site, all contractors, subcontractors and suppliers shall file with the General Contractor their proof of Workers Compensation coverage, proof of required Insurance and proof of contract. Upon request, proof of these documents will be provided to the Owner and Consultant.
- .3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required. See Section 01 50 00 - Facilities and Controls for minimum type of barriers acceptable.
- .4 Erect signage at entry points and at other strategic locations around site, clearly identifying construction area(s) as being "off limits" to non-authorized persons. Signage must be professionally made.

1.6 PROTECTION

- .1 Provide temporary facilities for public pedestrian and vehicular traffic around and adjacent to work site.
- .2 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.
- .3 Use personal protection equipment as required by Occupational Health and Safety Act and as required by this site.
- .4 Training of workers in the proper use, fitting, inspection and storage of personal protective equipment shall be done prior to use of the equipment.

1.7 PERMITS

- .1 Obtain building permit related to project prior to commencement of Work.
- .2 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.
- .3 Post all permits on site. Submit copies to Consultant.

1.8 FILING OF NOTICE

- .1 File Notice of Project and other Notices with Provincial authorities prior to commencement of Work.

1.9 MEETINGS

- .1 Prior to commencement of work, hold Health and Safety meeting. Have Contractor's Site Superintendent in attendance.
- .2 Provide site safety orientation session to all workers and all workers new to the site and other authorized persons prior to granting them access to work site. Brief persons on site conditions and on the minimum site safety rules in force at site
- .3 Conduct site specific occupational health and safety meetings during the entire work as follows:
 - .1 Formal meetings on a minimum monthly basis.
 - .2 Informal tool box meetings on a regular basis from a predetermined schedule.
- .4 Keep workers informed of anticipated hazards, on safety practices and procedures to be followed and of other pertinent safety information related to:
 - .1 Progress of Work;
 - .2 New sub-trades arriving on site and;
 - .3 Changes in site and project conditions.
- .5 Record and post minutes of meetings. Make copies available to Consultant upon request.

1.10 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act, Occupational Health and Safety Act Regulations, PEI.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.
- .3 Provide Consultant with Material Safety Data Sheets (MSDS).
- .4 Observe and enforce construction safety measures required by National Building code, 2010 Part 8, Provincial Government, Worker's Compensation Board and municipal statutes and authorities.
- .5 Perform lockouts in compliance with:
 - .1 Canadian Electrical Code
 - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in Section 01 35 29 - Health, Safety, and Emergency Response Procedures.

- .3 Regulations and code of practice as applicable to mechanical equipment or other machinery being de-energized.
- .4 Procedures specified herein.
- .6 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Consultant will advise on the course of action to be followed.

1.11 WHMIS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada and Health and Welfare Canada and Provincial Department of Labour.
- .2 Submit WHMIS data sheets to Consultant in accordance with Section 01 33 00 - Submittal Procedures.
- .3 Maintain WHMIS information station and ensure designated personnel are trained in its use.
- .4 Submit copies of all Tool Box or Safety Meeting notes.
- .5 Submit copies of all Worksite Safety Inspections.

1.12 UNFORESEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Consultant verbally and in writing.

1.13 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-coordinator. Health and Safety Co-coordinator must:
 - .1 Have minimum 2 years site-related working experience specific to activities associated with Construction.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

1.14 CONSTRUCTION SAFETY MEASURES

- .1 Observe and enforce construction safety measures required by National Building Code, 2010 Part 8, Provincial Government, Worker's Compensation Board and municipal statutes and authorities.
- .2 In event of conflict between any provisions of above authorities the most stringent provision governs.
- .3 PEI Occupational Health and Safety Act and regulations, guidelines and code practice, stipulate standard equipment applicable to construction sites such as protective clothing, safety hats and boots, gloves, eye protection.
- .4 Provide and maintain first aid equipment, supplied and medications appropriate to the work and its location in accordance with the First Aid Regulations. Obtain and implement recommendations from Occupational Health and Safety Division specific to the project work site.

1.15 OVERLOADING

- .1 Ensure no part of work is subjected to a load that will endanger its safety or cause

permanent deformation.

1.16 SCAFFOLDING

- .1 Design and construct scaffolding in accordance with CSA S269.2-M87 and maintain in a secure and safe manner.

1.17 TESTING AND MONITORING

- .1 Test and monitor for hazardous conditions, as required to demonstrate compliance with provincial regulations.
- .2 If multiple locations are being worked simultaneously, provide monitoring at all locations where work is being carried out, including providing additional monitoring instruments.

1.18 RECORD KEEPING

- .1 ALL activities associated with Health and Safety shall be recorded daily in a bound notebook. Include as a minimum; activity date, time, location of occurrence, mitigation action taken and results. Records shall be assessed by the Consultant.

1.19 ISOLATION OF EXISTING SERVICES

- .1 Obtain Consultant's written authorization prior to conducting work on an existing active, energized service or facility required as part of the work and before proceeding with lockout of such services or facility.
- .2 To obtain authorization, submit to Consultant following documentation:
 - .1 Written Request for Isolation of the service or facility and;
 - .2 Copy of Contractor's Lockout Procedures.
 - .3 Make a Request for Isolation for each event, unless directed otherwise by Consultant, and as follows:
 - .1 Fill-out standard forms in current use at the Facility when so directed by Consultant or;
 - .2 Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including it's location;
 - .2 Time duration, indicating Start time & date and Completion time & date when isolation will be in effect.
 - .3 Voltage of service feed to system or equipment being isolated.
 - .4 Name of person making the request.
 - .3 Document to be in typewritten format.
 - .4 Do not proceed until receipt of written notification from Consultant granting the Isolation Request and authorization to proceed with the isolation of designated equipment or facility. Consultant may designate other individual at the Facility as the person authorized to grant the Isolation Request.
 - .5 Conduct safe, orderly shut down of equipment or facilities, de-energize and isolate power and other sources of energy and lockout items in accordance with requirement of clause 1.8 below.
 - .6 Plan and schedule shut down of existing services in consultation with the Consultant and the Facility Manager. Minimize impact and downtime of facility operations.
 - .7 Determine in advance, as much as possible, in cooperation with the Consultant, the type and frequency of situations which will require a Request for Isolation. Follow Consultant's directives in this regard.
 - .8 Conduct hazard assessment as part of the planning process of isolating existing equipment and facilities. Hazard Assessments to conform with requirements of Health and Safety Section 01 35 29 - Health, Safety and Emergency Response Procedures.

1.20 LOCKOUTS

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting work on such items.
- .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.
- .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
- .4 Use industry standard lockout tags
- .5 Provide appropriate safety grounding and guards as required.
- .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
- .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
 - .1 Controlling issuance of permits or tags to workers.
 - .2 Determining permit duration.
 - .3 Maintaining record of permits and tags issued.
 - .4 Submitting a Request for Isolation to Consultant when required by Contractors and / or Owners safety plan.
 - .5 Designating a Safety Watcher, when one is required based on type of work.
 - .6 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
 - .7 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
- .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
 - .1 Workers.
 - .2 Designated person controlling issuance of lockout tags/permits.
 - .3 Safety Watcher.
 - .4 Subcontractors and General Contractor.
- .9 Procedures shall meet the requirements of Provincial and Federal Codes and Regulations.
- .10 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the procedures applicable to this contract.
 - .1 Incorporate site specific rules and procedures established by Facility Manager and in force at site. Obtain such procedures through Consultant.
- .11 Procedures to be in typewritten format.
- .12 Submit copy of Lockout Procedures to Consultant, in accordance with submittal requirements, prior to commencement of work.

1.21 CONFORMANCE

- .1 Ensure that lockout procedures, as established for project on site, are stringently followed. Enforce use and compliance by all workers.
- .2 Brief all persons working on electrical facilities, mechanical and other equipment fed by an energy source on requirements of this section.
- .3 Failure to perform lockouts in accordance with regulatory requirements or follow procedures specified herein may result in the issuance of a Non-Compliance Notification at Consultant's discretion with possible disciplinary measures imposed as specified in Section 01 35 29 - Health, Safety, and Emergency Response Procedures.

1.22 FIRE SAFETY REQUIREMENTS

- .1 Comply with requirements of latest standard for Building Construction Operations issued by the Fire Commissioner of Canada and Fire Safety Regulations of Local Authority.
- .2 Implement and follow fire safety measures during Work. Comply with following:
 - .1 National Fire Code, 2010.
 - .2 Fire Protection Standards FCC 301 and FCC 302.
 - .3 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in Section 01 35 29 - Health, Safety, and Emergency Response Procedures.
- .3 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Consultant will advise on the course of action.

1.23 WELDING AND CUTTING

- .1 Use noncombustible shields for electric and gas welding or cutting executed within two (2) metres of combustible material or in occupied space.
- .2 Place tanks supplying gases as close to work as possible. Fix in upright position, free from exposure to sun or high temperatures.
- .3 Locate fire extinguishing equipment near all welding and cutting operations.

1.24 OPEN FLAMES, SPARKS, EXPLOSION PROTECTION

- .1 Keep open flames and sparks to minimum. When flame or sparks are required, follow proper procedures to prevent fire or explosion.

1.25 HOT WORK AUTHORIZATION

- .1 Obtain Consultant's written "Authorization to Proceed" before conducting any form of Hot work on site.
- .2 To obtain authorization submit to Consultant:
 - .1 Contractor's typewritten Hot Work Procedures to be followed on site as specified below.
 - .2 Description of the type and frequency of Hot Work required.
 - .3 Sample Hot Work Permit to be used.
- .3 Upon review and confirmation that effective fire safety measures will be implemented during performance of hot work, Consultant will provide authorization to proceed as follows:
 - .1 Issue one written "Authorization to Proceed" covering the entire project for duration of work or;
 - .2 Separate work, or segregate certain parts of work, into individual entities. Each entity requiring a separately written "Authorization to Proceed" from Consultant. Follow Consultant's directives in this regard.
- .4 Requirement for individual authorization based on:
 - .1 Nature or phasing of work;
 - .2 Risk to Facility operations;
 - .3 Quantity of various trades needing to perform hot work on project or;
 - .4 Other situation deemed necessary by Consultant to ensure fire safety on premises.
- .5 Do not perform any Hot Work until receipt of Consultant's written "Authorization to Proceed" for that portion of work.
- .6 In tenant occupied Facility, coordinate performance of Hot Work with Facility Manager through the Consultant. When directed, perform Hot Work only during non-operative hours of Facility. Follow Consultant's directives in this regard.

1.26 HOT WORK PROCEDURES

- .1 Develop and implement safety procedures and work practices to be followed during the performance of Hot Work.
- .2 Procedures to include:
 - .1 Requirement to perform hazard assessment of site and immediate hot work area for each hot work event in accordance with Hazard Assessment and Safety Plan requirements of Section 01 35 29 - Health, Safety, and Emergency Response Procedures.
 - .2 Use of a Hot Work Permit system for each hot work event.
 - .3 The step by step process of how to prepare and issue permit.
 - .4 Permit shall be issued by Contractor's site Superintendent, or other authorized person designated by Contractor, granting permission to worker or subcontractor to proceed with hot work.
 - .5 Maintain a fire extinguisher in the immediate area where hot work is being undertaken.
 - .6 Provision of a designated person to carryout a Fire Safety Watch for a minimum of 2 hours immediately upon completion of the hot work.
 - .7 Compliance with fire safety codes and standards specified herein and Occupational Health and Safety regulations specified in Section 01 35 29 - Health, Safety, and Emergency Response Procedures.
- .3 Generic procedures, if used, must be edited and supplemented with pertinent information tailored to reflect specific project conditions. Clearly label as being the Hot Work Procedures applicable to this contract.
- .4 Hot Work Procedures shall clearly establish worker instructions and allocate responsibilities of:
 - .1 Worker(s),
 - .2 Authorized person issuing the Hot Work Permit,
 - .3 Fire Safety Watcher,
 - .4 Subcontractors and Contractor.
- .5 Brief all workers and Subcontractors on Hot Work Procedures and Permit system established for project. Stringently enforce compliance.
 - .1 Failure to comply with the established procedures may result in the issuance of a Non-Compliance Notification at Consultant's discretion with possible disciplinary measures imposed as specified in Section 01 35 29 - Health, Safety, and Emergency Response Procedures.

1.27 HOT WORK PERMIT

- .1 Hot Work Permit to include, as a minimum, the following data:
 - .1 Project name and project number;
 - .2 Building name, address and specific room or area where hot work will be performed;
 - .3 Date when permit issued
 - .4 Description of hot work type to be performed;
 - .5 Special precautions required, including type of fire extinguisher needed;
 - .6 Name and signature of person authorized to issue the permit.
 - .7 Name of worker (clearly printed) to which the permit is being issued.
 - .8 Time Duration that permit is valid (not to exceed 8 hours). Indicate start time & date and completion time & date.
 - .9 Worker signature with date and time upon hot work termination.
 - .10 Specified time period requiring safety watch.
 - .11 Name and signature of designated Fire Safety Watcher, complete with time &

date when safety watch terminated, certifying that surrounding area was under his continual surveillance and inspection during the full watch time period specified in Permit and commenced immediately upon completion of Hot Work.

- .2 Permit to be typewritten form. Industry Standard forms shall only be used if all data specified above is included on form.
- .3 Each Hot Work Permit to be completed in full and signed as follows:
 - .1 Authorized person issuing Permit before hot work commences;
 - .2 Worker upon completion of Hot Work;
 - .3 Fire Safety Watcher upon termination of safety watch;
 - .4 Returned to Contractor's Site Superintendent for safe keeping.

1.28 FIRE PROTECTION AND ALARM SYSTEMS

- .1 Fire protection and alarm systems shall not be:
 - .1 Obstructed.
 - .2 Shut-off, unless approved by Consultant.
 - .3 Left inactive at the end of a working day or shift.
- .2 Do not use fire hydrants, standpipes and hose systems for purposes other than fire fighting.
- .3 Costs incurred, from the fire department, Facility owner and tenants, resulting from negligently setting off false alarms will be charged to the Contractor in the form of financial progress payment reductions and holdback assessments against the Contract.

1.29 FIRE SAFETY

- .1 The Sub-Contractors are to participate on the Fire Safety Committee under the Joint Health and Safety Committee. The Fire Safety Committee under the direction of the Contractor is responsible for implementation and maintenance of the Construction Fire Safety Plan.
- .2 Construction Fire Safety Plan:
 - .1 The Construction Fire Safety Plan will include the following:
 - .1 Introduction of plan and purpose
 - .2 Fire Safety Committee
 - .3 Terms of reference.
 - .2 Committee composition.
 - .3 Emergency Procedures.
 - .4 Fire protection equipment.
 - .5 Building description.
 - .6 Provisions for fire fighting.
 - .7 Portable extinguishers.
 - .8 Exits.
 - .9 Emergency Lighting.
 - .10 Reduced drawings.
 - .11 Fire safety maintenance schedule.
 - .1 General.
 - .2 Maintenance levels.
 - .3 Skill categories.
 - .4 Frequency.
 - .5 Checklists.
 - .12 Other information:
 - .1 Instruction on use of fire extinguishers.
 - .2 Emergency Fire Drill procedures.

- .3 Portable Fire Extinguishers:
 - .1 During construction, Contractor is to provide and maintain on the site at all times, ULC listed 25 lb ABC dry chemical type portable fire extinguishers.
- .4 Blockage of Roadways:
 - .1 The Fire Department shall be advised of any work that would impede fire apparatus response. This includes violation of minimum overhead clearance, as prescribed by the Fire Department, erecting of barricades and the digging of trenches.
- .5 Rubbish and Waste Materials:
 - .1 Rubbish and waste materials are to be kept to a minimum.
 - .2 The burning of rubbish is prohibited.
 - .3 Removal:
 - .1 All rubbish shall be removed from the work site at the end of the workday or shift or as directed by Consultant.
 - .4 Storage:
 - .1 Extreme care is required where it is necessary to store oily waste in work areas to ensure maximum possible cleanliness and safety.
 - .2 Greasy or oily rags or materials subject to spontaneous ignition shall be deposited and kept in an approved receptacle and removed as required in 1.7.3.1.
- .6 Flammable Liquids:
 - .1 The handling, storage and use of flammable liquids are to be governed by the current National Fire Code of Canada.
 - .2 Flammable liquids such as gasoline, kerosene and naphtha may be kept for ready use in quantities not exceeding 45 liters provided they are stored in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval. Storage of quantities of flammable liquids exceeding 45 liters for work purposes, requires the permission of the Fire Department.
 - .3 Transfer of flammable liquids having a flash point below 38°C is prohibited within buildings.
 - .4 Transfer of flammable liquids shall not be carried out in the vicinity of open flames or any type of heat-producing devices.
 - .5 Flammable liquids having a flash point below 38°C, such as naphtha or gasoline, shall not be used as solvents or cleaning agents.
 - .6 Flammable waste liquids, for disposal, shall be stored in approved containers located in a safe ventilated area. Quantities are to be kept to minimum and the Fire Department is to be notified when disposal is required.
- .7 Fire Inspection:
 - .1 The Fire Department shall be allowed unrestricted access to the work site.
 - .2 The Contractor shall cooperate with the Fire Department during routine inspections of the work site.
 - .3 The Contractor shall immediately remedy all unsafe fire situations observed by the Fire Department.

1.30 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Consultant.

1.31 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Consultant.

- .2 Provide Consultant with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

1.32 BLASTING

- .1 Blasting or other use of explosives is not permitted without prior receipt of written instruction by Consultant .

1.33 POWER ACTUATED DEVICES

- .1 Use power actuated devices only after receipt of written permission from Consultant.

1.34 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

1.35 HANDLING AND TRANSPORTATION OF DANGEROUS GOODS

- .1 Observe and enforce all measures required by the regulatory agencies including but not limited to Environment Canada, Prince Edward Island Department of Environment, and Transport Canada.
- .2 Most current regulatory guidelines and Acts will apply to the work.
- .3 In case of any conflict, the more stringent requirements will apply.

1.36 OPEN EXCAVATIONS

- .1 If open foundations or demolition areas are to be left at the end of a work day, protective fencing must be placed around the entire perimeter to limit access by others. Fencing to be self-supporting, approved by the Department of Labour and the Construction Safety and Industrial Safety Regulations.

1.37 POTENTIAL HAZARDS

- .1 Hazards include, but are not limited to, toxic, flammable and explosion hazards associated with cleaning solvents.
- .2 The Contractor shall become familiar with all potential hazards associated with the work, and shall take necessary measures to avoid injury or damage of any kind.

1.38 HEALTH AND SAFETY PLAN

- .1 Prior to commencement of the work, submit to the Consultant a detailed Health and Safety Plan for review. The Health and Safety Plan shall comply with the provisions of this section, and shall illustrate the Contractor's knowledge and understanding of health and safety aspects of the work, the Contractor's intention to maintain a high level of safety on-site, and shall include, but not be limited to:
 - .1 Description of Work
 - .2 Description of Site-specific Hazards:
 - .1 Physical
 - .2 Chemical
 - .3 Environmental
 - .3 Protective Equipment:
 - .1 Respiratory
 - .2 Contact
 - .4 Decontamination Procedures:
 - .1 Personal protective equipment (PPE)
 - .2 Equipment
 - .3 Infection Control personal protective equipment required by CSA

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- .5 Medical - Monitoring:
 - .1 Workers medical profile and suitability to work at the site.
- .6 Air - Monitoring Procedures:
 - .1 Action levels
 - .2 Site monitoring
 - .3 Perimeter monitoring
- .7 Emergency Procedures:
 - .1 Emergency Equipment
 - .2 Contingency Plans:
 - .1 Spill control
 - .2 Fire
 - .3 Ventilation
 - .4 Medical Emergency
- .8 General Safety:
 - .1 Designation of site-safety officer
 - .1 Safety log
 - .2 Trenching, digging, excavations
 - .3 Storage of flammables, compressed gases
 - .4 Safety inspections
- .9 Site Training:
 - .1 Initial hazard
 - .2 Daily safety
- .2 All workers shall be trained and be familiar with the Health and Safety Plan and the use of personal protective equipment.

1.39 SITE SAFETY OFFICER

- .1 Each Trade Contractor shall appoint a responsible member of the work force as Site Safety Office (SSO). The selection of the SSO will be subject to the approval of the Consultant, and changes shall be made as requested by the Consultant. The SSO shall be responsible for ensuring that all provisions of the Health and Safety Plan and relevant legislation are implemented. The SSO shall ensure that all monitoring and testing, as specified and at the direction of the Consultant, are conducted. The SSO shall maintain records of all readings that are taken by the Contractor report and any abnormal or dangerous situation to the Consultant and the Municipality, after having implemented emergency measures, as required, work shall not continue or proceed until the situation has been rectified.
- .2 The SSO shall be authorized to act on behalf of the Contractor on all matters related to Health and Safety.

1.40 SANITATION / DECONTAMINATION PRACTICES

- .1 After each use, all disposable protective equipment shall be collected in a dedicated container for disposal.
- .2 All respiratory equipment shall be decontaminated daily after use.
- .3 All tools, pumps and equipment used during cleanup should be dedicated to the handling of contaminants and labeled as such and thoroughly decontaminated at the completion of the project.
- .4 Contaminated work clothing shall not be worn outside of regulated areas.
- .5 Workers shall wash their hands and exposed skin before eating, drinking, smoking or using toilet facilities during work shift, and at the completion of a work shift.
- .6 Food, drink and tobacco products shall not be permitted in regulated areas.

1.41 WORK PRACTICES AND ENGINEERING CONTROLS

- .1 Access to work areas shall be regulated and limited to authorized persons. A daily roster shall be kept of persons entering such areas.
- .2 Handling Contaminants and General Work Practices.
 - .1 Transportation and handling of contaminants to meet applicable local, provincial and federal regulations.
 - .2 Emergency respiratory equipment shall be located in readily accessible locations which will remain minimally contaminated with contaminants in an emergency.
 - .3 Containers and systems shall be handled and opened with care. Approved protective clothing shall be worn by all employees engaged in regulated areas.
 - .4 All wastes and residues containing contaminants shall be collected in appropriate containers.
- .3 Confined or Enclosed Spaces
 - .1 Entry into confined or enclosed spaces, where there is limited egress, shall be controlled by a permit system. Permits shall be signed by an authorized representative of the employer and shall certify that appropriate measures have been taken to prevent adverse effects on the worker's health as a result of his or her entry into such space.
 - .2 Confined or enclosed spaces which have contained contaminants shall be thoroughly ventilated to assure an adequate supply of oxygen, tested for contaminants, and inspected for compliance with these requirements prior to each entry. Adequate ventilation shall be maintained while workers are in such spaces. Each individual entering such confined or enclosed space shall be furnished with appropriate personal protective equipment and clothing and be connected by a lifeline harness to standby worker stations outside of the space. The standby worker shall also be equipped for entry with approved personal protective equipment and clothing and have contact with a third person. The standby person shall maintain communication (visual, voice, signal line, telephone, radio, or other suitable means) with the employee inside the confined or enclosed space.
 - .3 Workers entering confined spaces and standby workers shall be trained at a recognized confined space training program.

1.42 RECORD KEEPING

- .1 ALL activities associated with Health and Safety shall be recorded daily in a bound notebook. Include as a minimum: activity date, time, location of occurrence, mitigation action taken and results. Records shall be assessed by the Consultant.

1.43 SUSPENSION OF ACTIVITIES

- .1 Exposure to contaminants shall be controlled so that no worker is exposed to contaminants at a concentration greater than the Time Weighted Average (TWA) concentration for the contaminant, for up to a 10 hour workday, 40 hour work week.
- .2 The Contractor will halt activities immediately during unsafe conditions. All costs relating to suspension of work for Contractor's failure to maintain Health and Safety procedures shall be borne by the Contractor.

End of Section

1 General

1.1 FIRES

- .1 Fires and burning of rubbish on site not not permitted.

1.2 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 DRAINAGE

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties.
- .2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m.
- .3 Protect roots of designated trees to drip line during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .4 Minimize stripping of topsoil and vegetation.
- .5 Restrict tree removal to areas indicated or designated by Consultant.

1.5 WORK ADJACENT TO WATERWAYS

- .1 Do not operate construction equipment in waterways.
- .2 Do not use waterway beds for borrow material.
- .3 Do not dump excavated fill, waste material or debris in waterways.
- .4 Design and construct temporary crossings to minimize erosion to waterways.

1.6 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.7 SMOKING RESTRICTIONS

- .1 Smoking is not permitted inside the building at any time or at any stage of construction.

1.8 ENVIRONMENTAL PERMIT APPROVAL

- .1 Comply with requirements contained in all provincial and federal environmental permits for this project.
- .2 Provide and maintain all environmental devices and controls to minimize impact of siltation on waterways.

End of Section

1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 78 00 - Closeout Submittals.

1.2 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2008, Stipulated Price Contract.

1.3 INSPECTION

- .1 Allow Consultant access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Consultant may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Owner shall pay cost of examination and replacement.

1.4 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies are to be engaged by Contractor for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Contractor.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of Inspection/Testing Agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency may request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Consultant at no cost to Owner. Pay costs for re-testing and re-inspection.

1.5 PROCEDURES

- .1 Notify appropriate agency and Consultant in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.6 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Consultant it is not expedient to correct defective Work or Work not

performed in accordance with Contract Documents, Owner may deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which shall be determined by Consultant.

1.7 REPORTS

- .1 Submit three (3) copies of inspection and test reports to Consultant.
- .2 Provide copies to Subcontractor of work being inspected or tested.

1.8 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as may be requested.
- .2 The cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work shall be appraised by Consultant and may be authorized as recoverable.

1.9 MOCK-UPS

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.
- .2 Construct in all locations acceptable to Consultant.
- .3 Prepare mock-ups for Consultant's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, Consultant will assist in preparing a schedule fixing dates for preparation.
- .6 Remove mock-up at conclusion of Work or when acceptable to Consultant.
- .7 Mock-ups may remain as part of Work as directed by Consultant.
- .8 Specifically mock up one resident washroom, resident room headwall, tub room and soiled utility room. Indicate height and location of various mechanical and electrical components and blocking.

1.10 MILL TESTS

- .1 Submit mill test certificates as requested.

1.11 EQUIPMENT AND SYSTEMS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

End of Section

1 General

1.1 SITE ACCESS AND PARKING

- .1 The Consultant will designate Contractor's access to project site.
- .2 The Contractor will maintain public roads and sidewalks free from mud and debris tracked from construction site, on a daily basis, at no cost to Owner.
- .3 The Contractor will provide snow removal within the site fence during period of work as required to maintain access to building, at no cost to the Owner.
- .4 The Contractor will provide and maintain signs, barricades and other devices required to indicate construction activities or other temporary and unusual conditions resulting from project work, at no cost.

1.2 SITE SAFETY FENCING

- .1 Contractor to provide site safety fencing around entire construction site to separate construction zone from public.
- .2 Size of compound to be determined by Contractor, but must contain all construction and construction related activities within the compound, except parking for workers.
- .3 Contractor to provide silt fence driven into the ground at locations approved by Owner.
- .4 Contractor to post notices for both construction zone and personal protective equipment requirements.

1.3 PARKING

- .1 Parking space for workers' vehicles will be available on site under the Contractor's control.
- .2 Parking for delivery and service vehicles for the supply and removal of construction materials and debris will be restricted to within the limit of contract and security fencing.

1.4 SNOW REMOVAL

- .1 General snow removal to the building site inside Limit of Contract by the Contractor.
- .2 All snow removal to access Contractor's construction trailers and storage, and to perform own work by the Contractor.

1.5 CONTRACTOR'S SITE OFFICE

- .1 Be responsible for and provide own site office, including electricity, heat, lights and communications as listed below. Locate site office as directed by Consultant.
- .2 The Contractor will provide, at no cost to the Owner, an office heated to 22 C, lighted 750 Lx and ventilated, one space of sufficient size to accommodate site meetings for contractor, trades, consultant and owner. Site office to be furnished with meeting table and chairs, drawing laydown table, desk and storage space to accommodate documents required to be maintained on site. The use of the existing building is not acceptable.
- .3 The Contractor will provide telephone and fax machine on separate line independent of telephone for use by Contractor, subcontractors and other persons in the Contractor's employ.
- .4 If the site office is not permanently staffed by clerical workers during business hours 8:00 am to 5:00 pm, the phone line is to have an answering machine.
- .5 The Contractor will equip the office with a computer with Internet access, active e-mail account and printer.
- .6 The Contractor will employ a clerical worker trained in computer use, e-mail and will have an appropriate level of understanding of the contractual workings of a construction project. E-mail is to be checked and responded to no less than 3 times per working day to facilitate continuous and timely communications and the flow of documents.
- .7 The Contractor will provide a cellular phone line for the site supervisor.

- .8 Contractor's site office must be located within the limits of the contract. This area will also be the location for the site offices for all subcontractors.

1.6 STORAGE SHEDS

- .1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.
- .2 Provide heat when materials being stored are subject to frost damage.
- .3 Under no circumstances will Consultant accept materials damaged due to exposure to weather elements, for incorporation into construction. Consultant will determine what constitutes damaged material.
- .4 All storage sheds or trailers must be located within the limits of the contract and/or temporary construction fence.

1.7 MATERIAL STORAGE

- .1 Locate site storage trailers where directed by Consultant. Place in location of least interference with existing facility operations.
- .2 Material storage space on site is limited. Coordinate delivery to minimize storage period on site before being needed for incorporation into work.
- .3 Make arrangements elsewhere in the City as deemed required and pay all costs for storage of materials not ready for incorporation into work.

1.8 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Consultant.

1.9 WASTE REMOVAL

- .1 The Contractor will provide bins as required. Contractor responsible for placement and sorting of waste in the collection bins and removal of waste from site.

End of Section

1 General

1.1 RELATED SECTIONS

- .1 Section 01 50 00 - Facilities and Controls.
- .2 Section 01 52 00 - Construction Facilities.
- .3 Section 01 56 00 - Temporary Barriers and Enclosures.

1.2 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.3 DEWATERING

- .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.
- .2 Filter water containing silt through geofabric prior to discharge into municipal storm water system or water course.

1.4 WATER SUPPLY

- .1 Arrange for connection with water utility company and pay all costs for installation, maintenance and removal.
- .2 Contractor will pay for utility charges at prevailing rates.
- .3 Water supply will be provided by the Owner for construction usage at no cost. Make arrangements and pay costs for the use and transportation of such services to work area.
- .4 Water supply is available on site and will be provided for construction usage at no cost. Make arrangements for the use and transportation of such services to work area through the Consultant.

1.5 SANITARY FACILITIES

- .1 The Contractor will provide, at no cost to the Owner, sanitary facilities for work force in accordance with governing regulations and ordinances for entire duration of project. Facilities within the existing building are not available to the Contractor's work force.
- .2 The Contractor will post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 Sanitary facilities must be located within the limits of the temporary construction fence, provided under the work of this Contract.
- .4 Sanitary facilities are available at the site and may be used by Contractor's work force. Make arrangements for the use of such facilities through the Consultant.

1.6 POWER

- .1 Power supply is available and will be provided for construction usage at no cost.
 - .1 Make arrangements for the use of such services through the Consultant.
 - .2 Consultant will designate and approve each location of existing power source to which connections can be made to obtain temporary power service.
 - .3 Connect to existing power supply in accordance with Canadian Electrical Code.
- .2 Provide and pay all costs to supply and install temporary cabling, panel boards, switching devices and other equipment as required to connect into power source, provide adequate ground fault protection and extend power supply from existing source to work areas. Perform work and make all connections in accordance with the Canadian Electrical Code, in compliance with the federal and provincial Occupational Health and Safety Regulations and to lockout requirements specified in Section 01 35 29 - Health, Safety and Emergency Response Procedures.

- .3 Electrical power and lighting systems installed under this Contract can be used for construction requirements provided that guarantees are not affected thereby. Make good damage.

1.7 TEMPORARY POWER AND LIGHT

- .1 Contractor will pay for temporary power during construction for temporary lighting and operating of power tools, to a maximum supply of 230 volts 100 amps.
- .2 Arrange for connection with appropriate utility company. Pay all costs for installation, maintenance and removal.
- .3 Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Contractor.
- .4 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floors and stairs is not less than 160 lx.
- .5 Connect to existing power supply in accordance with Canadian Electrical Code and provide meters and switching.
- .6 Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of Consultant provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract. Replace lamps which have been used for more than 3 months.

1.8 TEMPORARY HEATING AND VENTILATION

- .1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.
- .2 Construction heaters used inside building must be vented to outside or be flameless type. Solid fuel salamanders are not permitted.
- .3 Provide temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of Work.
 - .2 Protect Work and products against dampness and cold.
 - .3 Prevent moisture condensation on surfaces.
 - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .4 Maintain temperatures of minimum 10 degrees C in areas where construction is in progress.
- .5 Ventilating:
 - .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
 - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .6 Permanent heating system of building, may be used when available. Be responsible for damage to heating system if use is permitted. Use of permanent system will not affect warranty.
- .7 On completion of Work for which permanent heating system is used, replace filters.
- .8 Ensure Date of Substantial Performance and Warranties for heating system do not commence until entire system is in as near original condition as possible and is certified

- by Consultant.
- .9 Pay costs for maintaining temporary heat, when using permanent heating system.
- .10 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform with applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- .11 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.9 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies, authorities having jurisdiction, governing codes, regulations and bylaws.

End of Section

1 General

1.1 RELATED SECTIONS

- .1 Section 01 50 00 - Facilities and Controls.
- .2 Section 01 51 00 - Temporary Utilities.
- .3 Section 01 56 00 - Temporary Barriers and Enclosures.

1.2 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2008, Stipulated Price Contract.
- .2 Canadian General Standards Board (CGSB)
 - .1 CGSB 1-GP-189M-84, Primer, Alkyd, Wood, Exterior.
 - .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .3 Canadian Standards Association (CSA International)
 - .1 CAN3-A23.1-/A23.2-94, Concrete Materials and Methods for Concrete Construction/Method of Test for Concrete.
 - .2 CSA-0121-M1978, Douglas Fir Plywood.
 - .3 CAN/CSA-Z321-96, Signs and Symbols for the Occupational Environment.

1.3 INSTALLATION AND REMOVAL

- .1 Provide construction facilities in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.4 SITE STORAGE/LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.5 SECURITY

- .1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

1.6 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.
- .3 Provide adequate weather tight, heat and ventilation appropriate for the use and storage of equipment, tools and materials.

1.7 CONSTRUCTION SIGNAGE

- .1 Provide and erect, within three weeks of signing Contract, a project sign in a location designated by Consultant.
- .2 No other signs or advertisements, other than warning signs, are permitted on site.
- .3 Provide project identification site sign comprising foundation, framing, and one 2.4m x 2.4m signboard as detailed and as described below.
 - .1 Foundations: 15 MPa concrete to CAN/CSA-A23.1 minimum 200 mm x 900 mm deep.
 - .2 Framework and battens: SPF, pressure treated minimum 89 x 89 mm.
 - .3 Signboard: 19 mm Medium Density Overlaid Douglas Fir Plywood to CSA O121.
 - .4 Paint: alkyd enamel to CAN/CGSB-1.59 over exterior alkyd primer to CGSB 1-

- GP-189.
- .5 Fasteners: hot-dip galvanized steel nails and carriage bolts.
 - .6 Vinyl sign face: printed project identification, self adhesive, vinyl film overlay.
 - .4 Locate project identification sign where directed and construct as follows:
 - .1 Build concrete foundation, erect framework, and attach signboard to framing.
 - .2 Paint all surfaces of signboard and framing with one coat primer and two coats enamel. Color white on all signboard faces.
 - .3 Apply vinyl sign face overlay to painted signboard face in accordance with installation instruction supplied.
 - .5 Signage:

Image of Front Elevation

(Consultant to provide digital image to sign company - allow for 300 letters).

OWNER:

"Logo and Name" _____. (Allow for full company name)

CONSULTANT:

"Logo and Name "COLES ASSOCIATES LTD". (Allow for full company name)

GENERAL CONTRACTOR:

"Logo and Name" _____. (Allow for full company name)

- .6 Signs and notices for safety and instruction shall be in English; Graphic symbols shall conform to CAN3-Z321.
- .7 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Consultant.

End of Section

1 General

1.1 REFERENCES

- .1 Manual of Uniform Traffic Control Devices for Streets and Highways - latest edition.
- .2 General provisions and contract specifications for highway construction, PEI TIE.

1.2 PROTECTION OF PUBLIC TRAFFIC

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 Review with Provincial Traffic Authority and Community Official all precautions to be taken and safety measures to be put in place and obtain acceptance before proceeding with work.
- .3 Provide and maintain, as a minimum, two way traffic (one lane of traffic in each direction) on all roads, adjacent streets, and access to businesses at all times during the construction period.
- .4 When working on traveled way:
 - .1 Place equipment in position to present minimum of interference and hazard to traveling public.
 - .2 Keep equipment units as close together as working conditions permit and preferably on same side of traveled way.
 - .3 Do not leave equipment on traveled way overnight.
- .5 Do not close any lanes of road without approval of Provincial Traffic Authority and Community Official. Before re-routing traffic erect suitable signs and devices in accordance with instructions contained in Part D of UTCD.
- .6 Keep traveled way graded, free of pot holes and of sufficient width for required number of lanes of traffic.
 - .1 Provide minimum 7 m wide temporary roadway for traffic in two-way sections through Work and on detours.
 - .2 Provide minimum 5 m wide temporary roadway for traffic in one-way sections through Work and on detours.
 - .3 Maintain two way traffic at all times.
- .7 As indicated, provide graveled detours or temporary roads to facilitate passage of traffic around restricted construction area.
- .8 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, unless other means of road access exist that meet approval of Consultant.
- .9 As part of their submission, the bidders shall submit a detailed Traffic Management Plan. The Plan is to be provided to the Community and Consultant for review prior to any commencement of work. The Traffic Plan shall be approved by the Community and/or their representatives.
 - .1 The scope of the Plan includes the provision for the safe movement of vehicular and pedestrian traffic, the protection of workers from passing traffic, the provision for access to properties located within the limits of the Project, the design, construction, maintenance and removal of any necessary temporary roadways and detours, the provision of traffic devices and controllers, the installation of temporary signs, road markings, lighting and safety barriers.
 - .2 It shall also cover maintenance of the existing road corridor, including the existing road, road shoulder, sidewalks, landscaping, etc. that may be used for the temporary diversion of traffic, over the duration of construction.
 - .3 Community's objectives with respect to the Traffic Management Plan are to:
 - .1 Ensure the safety of the general public, pedestrians, cyclists,

- Community's employees, contractors, and traffic.
- .2 Keep traffic delays to a minimum.
- .3 Maintain satisfactory property access.
- .4 Minimize disruption to businesses.
- .5 For works near traffic lights:
 - .1 Protect the equipment and loops.
 - .2 Coordinate with Community operation of the traffic lights.
 - .3 When work impacted or interrupt the operation of traffic signals, make suitable arrangements, notify and obtain approval from Community.
- .6 Provide environmental protection and minimize disturbance to the environment.
- .7 Design temporary roadways in accordance with approved Plan.
- .8 Meet with Consultant and Community on a regular basis to review and update the Plan during the course of construction.
- .9 Community and Consultant will review the Plan to ensure it is appropriate and is being implemented effectively. Changes may arise from a change of scope or from opportunities for improvement. The Plan will then be updated to reflect any changes which have occurred.
- .4 As part of the Traffic Management requirement, the Contractor will have for the duration of this project a properly trained supervisor on-site at all times, whose sole responsibility is traffic management.

1.3 INFORMATIONAL AND WARNING DEVICES

- .1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Work which requires road user response.
- .2 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in Part D, Temporary Conditions Signs and Devices, of UTCD manual and PEI TIE manual.
- .3 Place signs and other devices in locations recommended in UTCD manual.
- .4 Meet with Consultant prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list to approval of Consultant.
- .5 Continually maintain traffic control devices in use by:
 - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Removing or covering signs which do not apply to conditions existing from day to day.

1.4 CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag persons, trained in accordance with, and properly equipped as specified in, UTCD manual in the following situations:
 - .1 When public traffic is required to pass working vehicles or equipment that block all or part of traveled roadway.
 - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
 - .3 When workmen or equipment are employed on traveled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are

- being erected or taken down.
- .5 Provide full time flag person during daylight hours to control both construction activities and public traffic and to permit pedestrians safe passage.
- .6 For emergency protection when other traffic control devices are not readily available.
- .7 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
- .8 Delays to public traffic due to contractor's operators: maximum ten (10) minutes.
- .9 Flag person to have two-way radio communications at all times.

End of Section

1 General

1.1 RELATED SECTIONS

- .1 Section 01 10 00 - Summary
- .2 Section 01 33 00 - Submittal Procedures.
- .3 Individual product Sections: cutting and patching incidental to work of section. Advance notification to other sections required.

1.2 SUBMITTALS

- .1 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of any element of Project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of any operational element.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .2 Include in request:
 - .1 Identification of Project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Owner or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.

1.3 MATERIALS

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

1.4 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.

1.5 EXECUTION

- .1 Execute cutting, fitting, and patching including excavation and fill, to complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Remove samples of installed Work for testing.
- .6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .7 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not

- allowed on masonry work without prior approval.
- .9 Restore work with new products in accordance with requirements of Contract Documents.
- .10 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .11 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.
- .12 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.
- .13 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

End of Section

1 General

1.1 RELATED SECTIONS

- .1 Section 00 73 00 - Supplementary Conditions.
- .2 Section 01 78 00 - Closeout Submittals.
- .3 Section 01 91 13 - General Commissioning Requirements.

1.2 INSPECTION AND DECLARATION

- .1 Contractor's Inspection:
 - .1 Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Consultant in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Consultant's Inspection.
- .2 Consultant's Inspection:
 - .1 Consultant, Owner and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .3 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Equipment and systems have been tested, adjusted and are fully operational.
 - .4 Certificates required by Boiler Inspection Branch have been submitted.
 - .5 Systems have been commissioned.
 - .6 Operation of systems have been demonstrated to Owner's personnel.
 - .7 Work is complete and ready for Final Inspection.
- .4 Final Inspection:
 - .1 When items noted above are completed, request final inspection of Work by Owner and Consultant. If Work is deemed incomplete by Consultant complete outstanding items and request re inspection.
- .5 Declaration of Substantial Performance:
 - .1 When Consultant consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for Certificate of Substantial Performance. Refer to CCDC 2, General Conditions Article for specifics to application.
- .6 Commencement of Lien and Warranty Periods:
 - .1 Date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .7 Final Payment:
 - .1 When Consultant consider final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. Refer to CCDC 2. If Work is deemed incomplete by Owner, complete outstanding items and request re inspection. Cost of re inspection will be deducted from final payment.
- .8 Payment of Holdback:
 - .1 After issuance of Certificate of Substantial Performance of Work, submit an application of payment of holdback amount in accordance with CCDC2.

1.3 CERTIFICATE OF SUBSTANTIAL PERFORMANCE

- .1 Upon approval, a Certificate of Substantial Performance will be issued to the Owner by the Consultant with a copy delivered to the Contractor. This Certificate will take the form shown in Section 01 77 00 - Closeout Procedures.
- .2 The Certificate of Substantial Performance will establish the date of the Consultant's inspection as the date of Substantial Performance of the Contract, and will commence the required 60-day period before release of the lien holdback amount.
- .3 During the 60-day period, Contractor shall continue to complete the work.
- .4 The Contractor shall immediately deliver to the Consultant specified submissions upon receipt of the Certificate of Substantial Performance.

1.4 ESTABLISHMENT OF WARRANTIES

- .1 Warranties shall commence at date of Substantial Performance of the Work.

1.5 CERTIFICATE FOR PAYMENT OF LIEN HOLDBACK AMOUNT

- .1 The Contractor shall submit statement and supporting documents for application of Release of Lien Holdback amount. These documents include those listed in Paragraph 2.2.2 and 2.2.3 and the Statutory Declaration Form CCDC 9A.
- .2 Within five working days of receipt of application for Release of Lien Holdback amount and if approved, the Consultant will prepare a Certificate for Payment of the Lien Holdback amount. This Certificate dated on the day following termination of the 60 day period will be issued to the Owner with a copy delivered to the Contractor.
- .3 The Owner will before the date of this Certificate ensure that no liens related to the Contract are registered and that no notice of liens has been received at the end of the 60-day period.
- .4 Should no liens exist, the Lien Holdback will be due and payable one day after termination of the 60-day period in the amount indicated on the approved application for Certificate of Substantial Performance.
- .5 The Owner will review jointly with the Contractor's Insurance related to the Contract before the 60-day period is terminated to ensure that all parties are adequately covered.

1.6 TOTAL PERFORMANCE

- .1 The Contractor shall inspect the work to establish its completion in accordance with the Contract Documents and when satisfied of this completion request of the Consultant a final inspection.
- .2 The Consultant will compile a final deficiency list at this inspection and issue it to the Contractor and Owner.
- .3 The Contractor shall correct final deficiencies before a date agreed upon by the Contractor and Consultant.
- .4 When the Contractor has satisfied himself that these corrections have been completed in a satisfactory manner by his inspection, he shall schedule a re-inspection by the Consultant, and the Owner's representatives if required, within five working days of the Contractor's request.
- .5 When the Consultant is satisfied that all deficiencies have been rectified and the work is complete, the Contractor shall submit an application for the final progress payment.
- .6 When "seasonal deficiencies", as determined by the Owner and/or Consultant exist, a sum of money will be withheld in accordance with the requirements of CCDC2-GC5.8.

1.7 WARRANTY PERIOD

- .1 The Owner will advise the Consultant of defects observed during Warranty periods.
- .2 The Consultant will notify the Contractor of these defects and request him to remedy the defects in accordance with the Contract Documents.
- .3 Thirty days before expiration of Warranties the Owner's representatives, the Consultant

and the Contractor will review the work as arranged by the Contractor noting defects of products and workmanship.

- .4 The Contractor shall immediately remedy such noted defects.

1.8 CERTIFICATE

.1 CONTRACTOR: _____

PROJECT: _____

DATE OF SUBSTANTIAL PERFORMANCE: _____

- .1 Substantial Performance Inspection for above described work was carried out _____ (date) by:

- .1 For Owner _____
.2 For Consultant _____
.3 For Contractor _____

- .2 The items which are not in accordance with the Plans and Specifications and require correction under the Conditions of the Contract Agreement are listed as an attachment to this Document.

CONTRACTOR'S CERTIFICATION

I hereby Certify that the work has been executed in accordance with the Plans and Specifications with the exception of deficiencies listed herewith. The undersigned hereby agrees that notwithstanding the generality of the foregoing, the acceptance of the works shall not prejudice any rights of the Owner or affect any liabilities of the undersigned Contractor pursuant to the provisions of the Contract.

Contractor

Date

OWNER'S ACCEPTANCE

I hereby accept the work on behalf of the Owner providing that the deficiencies listed herewith are completed. This acceptance is not to be construed as relieving the Contractor from the responsibility to correct other defects in the work, whether latent or patent, as may become apparent within the guarantee/warranty period. This acceptance is made without prejudice to the rights of the Owner or to the liabilities of the Contractor which may arise and/or continue after acceptance of the work.

Owner

Date

CONSULTANT'S DECLARATION

Based on periodic visits to the job site and general familiarity with the progress of the work, I declare that, to the best of my knowledge, information and belief, construction is proceeding in accordance with the intent of the design and in general compliance with the plans and specifications, with the exception of the deficiencies listed herewith.

Consultant

Date

1.9 DEFICIENCIES

.1 The following is a list of deficiencies to be corrected. This acceptance is not to be construed as relieving the Contractor from the responsibility of correcting other defects in the work as may become apparent during the Guarantee/Warranty Period.

- .1 _____
- .2 _____
- .3 _____

End of Section

1 General

1.1 SECTION INCLUDES

- .1 Project Record Documents as follows:
 - .1 As-Built drawings;
 - .2 As-Built specifications;
 - .3 Reviewed shop drawings.
- .2 Operations and Maintenance data as follows:
 - .1 Operations and Maintenance Manual;
 - .2 Maintenance Materials;
 - .3 Spare Parts;
 - .4 Special Tools.

1.2 RELATED SECTIONS

- .1 Section 01 45 00 - Quality Control.
- .2 Section 01 77 00 - Closeout Procedures.
- .3 Section 01 91 13 - General Commissioning Requirements.

1.3 PROJECT RECORD DOCUMENTS

- .1 Consultant will provide two white print sets of contract drawings and two copies of Specifications Manual specifically for "as-built" purposes.
- .2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
- .3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Consultant at any time during construction.
- .4 As-Built Drawings:
 - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of project and prior to interim inspection, neatly transfer notations to second set (also by use of red ink). Submit both sets to Consultant. All drawings of both sets shall be stamped "As-Built Drawings" and be signed and dated by Contractor.
 - .2 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
 - .3 Record following information:
 - .1 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure;
 - .2 Field changes of dimension and detail;
 - .3 Location of all capped or terminated services and utilities.
 - .4 Chases for mechanical, electrical and other services;
 - .5 Ceiling and floor elevations;
 - .6 Reflected ceiling plan condition showing finished layout of all ceiling-mounted services and devices;
 - .7 Plumbing, heating, air conditioning and ventilation, sprinkler and electrical service installation locations; all to be dimensioned and referenced to building columns or load bearing walls;
 - .8 All design elevations, sections, floor plans and details dimensioned and marked-up to consistently report finished installation conditions;
 - .9 Any details produced in the course of the contract by the Consultant to supplement or to change existing design drawings must also be marked-up and dimensioned to reflect final as-built conditions and appended to the as-built drawing document;

- .10 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.
- .5 As-built Specifications: legibly mark in red each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.
 - .2 Changes made by Addenda and Change Orders.
 - .3 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.
- .6 Maintain As-built documents current as the contract progresses. Consultant will conduct reviews and inspections of the documents on a regular basis. Frequency of reviews will be subject to Consultant's discretion. Failure to maintain as-builts current and complete to satisfaction of the Consultant shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.4 REVIEWED SHOP DRAWINGS

- .1 Compile full set of shop drawings and product data reviewed on project and incorporate into Operations and Maintenance Manual. Supply number of shop drawing sets equal to the required number of final Operations and Maintenance manuals.
- .2 Submit shop drawing sets at same time and as part of the contents of the Operation and Maintenance manuals specified in this section.

1.5 OPERATIONS AND MAINTENANCE MANUALS

- .1 Definition: an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections of the specifications.
- .2 Manual Language: final manuals to be in English language.
- .3 Number of copies required:
 - .1 Submit 2 draft copies of the manual for review and inspection by Consultant. Make revisions and additions as directed and resubmit.
 - .2 Upon review and acceptance by Consultant, submit 3 final copies. Initial copies are not to be considered as part of the final copies unless they have been fully revised and are identical to the final approved version.
- .4 Submission Date: submit complete operation and maintenance manual to Consultant 3 weeks prior to application for Interim Certificate of Completion of project.
- .5 Binding:
 - .1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
 - .2 Use vinyl, hard covered, 3 "D" ring binders, loose leaf, sized for 215 x 280 mm paper, with spine pocket.
 - .3 Where multiple binders are needed, correlate data into related consistent groupings.
 - .4 Identify contents of each binder on spine.
 - .5 Organize and divide data into sections same as 16 division numerical order of contract specifications and thereafter subdivided into various equipment or building systems.
 - .6 Material: separate each section by use of cardboard dividers and labels. Provide tabbed fly leaf for each separate product or system within each section and with typed description of product and major component parts of equipment.

- .7 Type lists and notes. Do not hand write.
- .8 Drawings, diagrams and manufacturers' literature must be legible, determined solely by the Consultant. Provide with reinforced, punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .6 Manual Contents:
 - .1 Cover sheet containing:
 - .1 Date submitted.
 - .2 Project title, location and project number.
 - .3 Names and addresses of Contractor, and all Sub-contractors.
 - .2 Table of Contents: provide full table of contents in each binder(s), clearly indicate which contents are in each binder.
 - .3 List of maintenance materials.
 - .4 List of spare parts.
 - .5 List of special tools.
 - .6 Original or certified copy of Warranties and Guarantees.
 - .7 Copies of approvals, and certificates issued by Inspection Authorities.
 - .8 Copies of reports and results from tests designated as Contractor's responsibilities.
 - .9 Product Information Data on all materials, equipment and systems as specified in individual sections of the specifications to include:
 - .1 List of equipment including manufacturer's name, supplier, local source of supplies and service depot(s). Provide full addresses and telephone numbers.
 - .2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
 - .3 Parts list.
 - .4 Installation details.
 - .5 Operating instructions.
 - .6 Maintenance instructions for equipment.
 - .7 Maintenance instructions for finishes.
- .7 Shop drawings:
 - .1 Bind one complete set of reviewed shop drawings into each copy of operations and maintenance manual.
 - .2 Bind the shop drawings in a manner such that they correspond with the specification section they relate to.
 - .3 Where large quantity of data is supplied due to size of project, fold and bind professionally into separate correctly sized binder.
- .8 Equipment and Systems Data: the following list indicates the type of data and extent of information required to be included for each item of equipment and for each system:
 - .1 Description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
 - .2 Panel board circuit directories: provide electrical service characteristics, controls, and communications.
 - .3 Include installed color coded wiring diagrams.
 - .4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include seasonal and any special operating instructions.
 - .5 Maintenance Requirements: include routine procedures and guide for trouble-

- shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- .6 Servicing and lubrication schedule, and list of lubricants required.
- .7 Manufacturer's printed operation and maintenance instructions.
- .8 Sequence of operation by controls manufacturer.
- .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- .10 Provide installed control diagrams by controls manufacturer.
- .11 Provide Contractor's coordination drawings, with installed color coded piping diagrams.
- .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- .14 Include test and balancing reports.
- .15 Additional requirements as specified in individual specification sections.
- .9 **Materials and Finishes Maintenance Data:**
 - .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and color and texture designations.
 - .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
 - .3 Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
 - .4 Additional Requirements: as specified in individual specifications sections.

1.6 SPARE PARTS, TOOLS AND MAINTENANCE MATERIALS

- .1 Provide spare parts, special tools and extra materials for maintenance purposes in quantities specified in individual specification sections.
- .2 Tag all items with associated function or equipment.
- .3 Provide items of same manufacture and quality as items in Work.
- .4 Deliver to site in well packaged condition. Store in location as directed by Consultant.
- .5 Clearly mark as to contents indicating:
 - .1 Part number.
 - .2 Identification of equipment or system for which parts are applicable.
 - .3 Installation instructions or intended use as applicable.
 - .4 Name, address and telephone number of nearest supplier.
- .6 Prepare and submit complete inventory list of items supplied. Include list within Maintenance Manual.
- .7 Turnover to Facility Manager and obtain signature. Include receipt with Maintenance Manual.

1.7 SPECIAL TOOLS

- .1 Provide special tools, in quantities specified in individual specification section.
- .2 Provide items with tags identifying their associated function and equipment.
- .3 Deliver to site; place and store.
- .4 Receive and catalog all items. Submit inventory listing to Consultant. Include approved listings in Maintenance Manual.

1.8 SUBMISSION

- .1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.
- .2 Copy will be returned after final inspection, with Consultant's comments.
- .3 Revise content of documents as required prior to final submittal.
- .4 Two weeks prior to Substantial Performance of the Work, submit to the Consultant, three final copies of operating and maintenance manuals in English.
- .5 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.
- .6 If requested, furnish evidence as to type, source and quality of products provided.
- .7 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.
- .8 Pay costs of transportation.
- .9 Failure to deliver maintenance materials, spare parts, special tools and as-builts will delay progress payments.

1.9 FORMAT

- .1 Organize data in the form of an instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: Manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.10 CONTENTS - EACH VOLUME

- .1 Table of Contents: provide title of project;
 - .1 date of submission; names,
 - .2 addresses, and telephone numbers of Consultant and Contractor with name of responsible parties;
 - .3 schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control and Section 01 77 00 - Closeout Procedures.
- .6 Training: Refer to Section 01 91 13 - General Commissioning Requirements.

1.11 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on 2 sets of white print, opaque drawings, and in copy of Project Manual.
- .2 Provide felt tip marking pens, maintaining separate colors for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on original Contract Drawings.
 - .7 References to related shop drawings and modifications.
- .5 Specifications: legibly mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, required by individual specifications sections.

1.12 STORAGE, HANDLING AND PROTECTION

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and to satisfaction of Consultant.

1.13 WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by Subcontractors, suppliers, and manufacturers where specifically requested by individual specification sections, within ten days after completion of the applicable item of work.
- .4 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

End of Section

1 General

1.1 RELATED WORK

- .1 Submittal Procedures: Section 01 33 00.
- .2 Health and Safety Requirements: Section 01 35 29.
- .3 Environmental Procedures: Section 01 35 43.

1.2 DESCRIPTION OF WORK

- .1 The work of this Section comprises the furnishing of all labour, materials and equipment necessary for all excavation, trenching, backfilling, and compaction as required to complete the work of this Contract, as specified in this Section and as shown on the Drawings.
- .2 The requirements of the following Prince Edward Island, Department of Transportation, Infrastructure & Energy (TIE) Specifications are to be followed for all work relating to the material specifications for fill materials and bedding sand.

1.3 REFERENCES

- .1 ASTM C117-13, Standard Test Method for Material Finer Than: 0.075mm Sieve in Mineral Aggregates by Washing.
- .2 ASTM C136M-14, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- .3 ASTM D698-12e2, Test Method for Laboratory Compaction Characteristics of Soil using Standard Effort.
- .4 ASTM D1557-12, Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.
- .5 CAN/ULC -S701-11, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- .6 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
- .7 CAN/CGSB-71-GP-24M Adhesive, Flexible for Bonding Cellular Polystyrene Insulation.

1.4 DEFINITIONS

- .1 Rock excavation: excavation of material from solid masses of igneous, sedimentary or metamorphic rock which, prior to its removal, was integral with its parent mass and was unable to be removed by a Caterpillar 235 Excavator, or equivalent, machine.
- .2 Common excavation: excavation of materials of whatever nature, which are not included under the definition of rock excavation, including dense tills, hardpan, frozen materials and partially cemented materials which can be ripped and excavated with heavy construction equipment.
- .3 Top Soil: Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
- .4 Cohesionless soil: For compaction purposes, cohesionless soil is:
 - .1 Materials having less than 20% passing 75 micrometres sieve, regardless of plasticity of fines.
- .5 Cohesive soil: For compaction purposes, cohesive soil is soil not having properties to be classified as cohesionless.

1.5 PROTECTION OF EXISTING FEATURES

- .1 Existing buried utilities and structures:
 - .1 Size, depth and location of existing utilities and structures as indicated are for guidance only; completeness and accuracy are not guaranteed.
 - .2 Prior to commencing any excavation work, notify applicable Departmental Representative or authorities, establish location and state of use of buried

utilities and structures. Clearly mark such locations to prevent disturbance during work.

- .3 Confirm locations of buried utilities by careful test excavation.
- .4 Maintain and protect from damage, water, sewer, gas, electric or other utilities encountered. Obtain direction of Departmental Representative before moving or otherwise disturbing utilities or structures.
- .5 Where indicated re-route existing lines in area of excavation. Pay costs for such work.
- .6 Remove abandoned utility lines to distance of 1.5m from foundations. Cap or otherwise seal lines at cut-off points.
- .7 Record in accordance with requirements of Section 01 78 00 - Closeout Submittals, locations of maintained, re-routed and abandoned underground lines.
- .8 Make good and pay for damage to any lines resulting from work.
- .2 Existing surface features:
 - .1 Protect existing surface features which may be affected by work from damage while work is in progress and repair damage resulting from work.
 - .2 Where excavation necessitates root or branch cutting do so only under direct control of Departmental Representative.
 - .3 Provide adequate protection around bench markers, layout markers, survey markers, geodetic monuments and signage.

1.6 SHORING, BRACING AND UNDERPINNING

- .1 Comply with Section 01 35 29 - Health and Safety Requirements and applicable local regulations and to protect existing features.
- .2 Whenever shoring, sheeting, timbering and bracing of excavations or underpinning is required engage services of a Professional Engineer registered in Canada, to design and assume responsibility for adequacy of shoring, bracing and underpinning.
- .3 Design and supporting data submitted to bear the stamp and signature of qualified Professional Engineer registered in Canada.

1.7 COMPACTION DENSITIES

- .1 Compaction densities indicated are Standard Proctor Maximum Dry Densities.

1.8 SITE CONDITIONS

- .1 The Contractor is responsible to visit the site, assess the setting and become familiar with the existing site conditions.
- .2 No extra payment will be made to the Contractor, above the Contract Price, for costs resultant from failure to determine the conditions that affect the work.

2 Products

2.1 MATERIALS

- .1 Type 1 Fill: Crushed rock composed of hard sound, durable uncoated, cubical fragments of consistent quality produced from non-sedimentary bedrock or non-sedimentary boulders, to comply with the PEI Dept of TI&E Specification 401 - Aggregate, for Class "A" material graded within the following limits:

ASTM Sieve Size	Percent Passing
31.5mm	100
25.0mm	95-100
12.5mm	50-83

4.75mm	30-60
1.18mm	15-40
600um	10-32
300um	5-22
75um	3-9

- .2 Type 2 Fill: Crushed rock composed of hard sound, durable uncoated, cubical fragments of consistent quality produced from non-sedimentary bedrock or non-sedimentary boulders, to comply with the PEI Dept of TIE Specification 401 - Aggregate, for Class "B" material graded within the following limits:

ASTM Sieve Size	Percent Passing
31.5mm	100
25.0mm	95-100
12.5mm	50-83
4.75mm	30-60
1.18mm	15-40
600um	10-32
300um	5-26
75um	3-7

- .3 Type 3 Fill: imported, classified as Common Fill, or material from excavation or other sources, approved by Departmental Representative for use intended, unfrozen, free from rocks larger than 75mm, cinders, ashes, sods, refuse or other deleterious materials.

- .4 Type 4 Fill: natural sand or crushed rock screening, free from clay, shale or organic matter, to comply with PEI Dept of TI&E Specification 402 - Bedding Sand, graded with the following limits.

ASTM Sieve Size	Percent Passing
9.5mm	100
4.75mm	87-98
2.36mm	55-95
1.18mm	30-90
600um	10-70
300um	0-35
150um	0-15
75um	0-8

- .5 Type 5 Fill: to requirements of PEI Dept of TIE Specification #206.02.02 - Select Borrow as follows: Borrow shall be non-plastic and composed of clean, uncoated particles free from lumps of clay or other deleterious material with a maximum particle size of 100mm, and a maximum of 30% of the material passing the 4.75 sieve shall pass the 0.075 mm sieve.

- .6 Type 6 Fill: clean, washed coarse sand free from clay, shale and organic matter and graded within the following limits:

ASTM Sieve Size	Percent Passing
12.5mm	100
4.75mm	90-100
0.85mm	40-100
0.35mm	0-75
0.25mm	0-38
0.75mm	0-8

- .7 Type 7 Fill: Crushed rock, composed of hard, sound, durable, uncoated, cubical fragments of consistent quality produced from non-sedimentary bedrock or non-sedimentary boulders, graded within the following limits, to comply with the PEI Dept of

TI&E Specification 401 - Aggregate for Class "D" Material.

ASTM Sieve Size	Percent Passing
50.0mm	100
38.0mm	60-100
31.5mm	50-100
25.0mm	35-70
19.0mm	20-50
12.5mm	10-35
9.5mm	5-25
4.75mm	0-10

.8 Geotextile filter fabric: Refer to Section 31 32 21.

3 Execution

3.1 SITE PREPARATION

- .1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.
- .2 Where applicable, strip topsoil from within limits of excavation and stockpile as directed by Departmental Representative, for re-spreading.
- .3 Sawcut pavement or concrete neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.2 STOCKPILING

- .1 Stockpile fill materials in areas designated by Consultant. Stockpile granular materials in manner to prevent segregation.
- .2 Protect fill materials from contamination and freezing.

3.3 DEWATERING OF EXCAVATIONS

- .1 Keep excavations free of water while work is in progress.
- .2 Protect open excavations, trenches and completed installations against damage due to rainwater, surface run-off, spring water, groundwater, backing up of drains, sewers, flooding from watermains and all other water. Provide pumps, equipment and enclosures required for such protection.
- .3 Dispose of water in a manner not detrimental to public and private property, or any portion of work completed or under construction, and in accordance with the requirements of the Environmental Protection Plan.
- .4 All new and existing work damaged by failure to provide protection shall be removed and replaced with new work at the expense of the Contractor.

3.4 SAW CUTTING

- .1 Existing pavement to be saw cut to produce neat, straight vertical cuts at interface between existing asphalt roadway and new pavement, where excavation meets with asphalt driveways, and at limits of Contract, or as directed by Consultant.

3.5 EXCAVATION

- .1 Excavate to lines, grades, elevations and dimensions indicated or required to construct roadways and to install site services.
- .2 Remove demolished foundations, rubble and other obstructions encountered during excavation.
- .3 Excavations must not interfere with normal 45° splay of bearing from bottom of any footing.
- .4 Do not obstruct flow of surface drainage or natural watercourses.

- .5 Earth bottoms of excavations to be dry undisturbed soil, level, free from loose or organic matter.
- .6 Notify Consultant when soil at bottom of excavation appears unsuitable and proceed as directed by Consultant.
- .7 Obtain Consultant's approval of completed excavation.
- .8 Remove unsuitable material from bottom of excavation to extent and depth directed by Consultant.
- .9 Where required due to unauthorized over-excavation, correct as follows:
 - .1 Fill under other areas with Type 2 compacted to 98% density.
- .10 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed compact foundation soil to density at least equal to undisturbed soil.
- .11 Rock excavation: For the purpose of bidding it is to be assumed that solid sandstone bedrock, as defined under Par. 1.4 above, will not be encountered during the work of this Section.

3.6 FILL TYPES AND COMPACTION

- .1 Dimensions specified in following paragraphs are minimum dimensions of fill after compaction.
- .2 Paved areas:
 - .1 Use fill types and thickness as indicated on drawings. Compact top 100 mm of sandstone sub-base directly under granular base to 100% density.
- .3 Underground services:
 - .1 Use Type 4 Fill (bedding sand) to provide bedding and cover as indicated compacted full width of trench to minimum 95% density.
 - .2 Use Type 3 Fill to underside of topsoil at landscaped areas compacted to density at least equal to adjacent undisturbed soil or minimum 95%.

3.7 BACKFILLING

- .1 Do not proceed with backfilling operations until Departmental Representative has inspected and approved installations.
- .2 Areas to be backfilled to be free from debris, snow, ice, water or frozen ground.
- .3 Do not use backfill material which is frozen or contains ice, snow, or debris.
- .4 Backfilling around site installations.
 - .1 Place bedding and surround material as specified and indicated in applicable Section for service or utility to be installed.
 - .2 Do not backfill around or over cast-in-place concrete within 24 hours after placing.
 - .3 Place layers simultaneously on both sides of installed work to equalize loading.
 - .4 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:
 - .1 Permit concrete to cure for minimum of 14 days or until it has sufficient strength to withstand earth and compaction pressure and approval has been obtained from Departmental Representative or;
 - .2 If approved by Consultant erect bracing or shoring to counteract unbalance, and leave in place until removal is approved by Consultant.
 - .5 Place material by hand under, around and over installations until 600mm of cover is provided, except where specifically permitted otherwise. Dumping material directly on installations will not be permitted.
- .5 Place backfill material in uniform layers up to grades indicated. Compact each layer before placing succeeding layer. Use methods to prevent damage to installations.

3.8 TESTING AND INSPECTION

- .1 Refer to Section 01 45 00 - Volume 'A'.

3.9 RESTORATION

- .1 Upon completion of work, remove surplus materials and debris, trim slopes and correct defects noted by Departmental Representative.
- .2 Clean and reinstate areas affected by work to satisfaction of Departmental Representative.

3.10 SURPLUS MATERIAL

- .1 Remove all surplus material from site, and pay all fees as may be charged at disposal site.
- .2 Remove all soil contaminated with oil, gasoline, calcium chloride or other toxic or dangerous materials and dispose of in manner to minimize danger at site and in a manner and to a location off site approved by Provincial Authority governing such disposal.

End of Section

1 General

1.1 RELATED WORK

- .1 Rip Rap: Section 31 37 10.

1.2 REFERENCES

- .1 CAN/CGSB-4.2-2004, Textile Test Methods.
- .2 CAN/CGSB-148.1-92, Methods of Testing Geotextiles and Geomembranes.
- .3 ASTM D4595-11, Test Method for Tensile Properties of Geotextiles by the Wide Width Strip Method.
- .4 ASTM D4751-99a, Test Method for Determining the Apparent Opening Size of a Geotextile.

1.3 DELIVERY AND STORAGE

- .1 During delivery and storage, protect geotextiles from direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.

1.4 MEASUREMENT FOR PAYMENT

- .1 Geotextile filter fabric will be measured in square metres of material incorporated in this work.
- .2 Supply and installation of accessories and other attachments will not be measured but considered incidental to work.

2 Products

2.1 MATERIALS

- .1 Geotextile: non-woven synthetic fibre fabric, supplied in rolls of minimum 3.5 meters width and in one length.
 - .1 Standard of Acceptance: Synthetic Industries 1001 or an approved equal.
- .2 Synthetic fibre to be rot proof, unaffected by action of oil or salt water and not subject to attack of insects or rodents.
- .3 Seams or joints to be constructed in accordance with manufacturer's recommendations.
- .4 Thread for sewn seams: equal or better resistance to chemical and biological degradation than geotextile.
- .5 Physical properties:
 - .1 Thickness: minimum 2.54 mm.
 - .2 Mass per unit area: minimum 600 g/m².
 - .3 Tensile strength and elongation (in any principal direction):
 - .1 Tensile strength: minimum 1000 N, wet condition.
 - .2 Elongation at break: 50%.
 - .3 Mullen burst strength: minimum 3600 kPa.
 - .4 Apparent opening size (AOS): 50 to 250 micrometres.
- .6 Securing pins and washers: to CAN/CSA-G40.21, Grade 300W, hot-dipped galvanized with minimum zinc coating of 600 g/m² to CSA G164.

3 Execution

3.1 INSTALLATION

- .1 Place geotextile material by unrolling onto graded surface and against panels in orientation, manner and locations indicated and retain in position with weights.
- .2 Place geotextile material smooth and free of tension stress, folds, wrinkles and creases.

- .3 Place geotextile material on sloping surfaces in one continuous length from toe of slope to upper extent of geotextile.
- .4 Place geotextile material behind concrete panel surfaces in one continuous length from bottom of harbour to upper extent of panels as indicated.
- .5 Overlap each successive strip of geotextile 600 mm over previously laid strip.
- .6 Protect installed geotextile material from displacement, damage or deterioration before, during and after placement of material layers.
- .7 Replace damaged or deteriorated geotextile to approval of Consultant.

3.2 **PROTECTION**

- .1 Do not permit passage of any vehicle directly on geotextile at any time.

End of Section

1 General

1.1 RELATED WORK

- .1 Geotextiles: Section 31 32 21.

1.2 DESCRIPTION OF WORK

- .1 The work of this Section comprises the furnishing of all labour, materials and equipment necessary for the supply and installation of imported riprap on slopes as indicated, as specified and to lines, grades and typical cross sections shown on drawings.
- .2 Do not remove harbour material from water during shaping and construction of riprap slope protection.

1.3 MEASUREMENT FOR PAYMENT

- .1 Riprap material will be paid for at the unit bid price in tonne and this shall be full compensation for supplying and placing rocks, hauling, shaping of underlying material, equipment, tools, labour and incidentals necessary to complete the work in acceptable manner to Consultant.
- .2 Toeing in of the stone will be incidental to the supply and placement of the Stones.

1.4 MATERIALS

- .1 To requirements of PEI Department of Transportation, Infrastructure and Energy Specification # 213 (latest edition) as it relates to imported metamorphic or igneous rock.
- .2 Stone: Imported metamorphic or igneous stones. Random rip rap shall consist of clean hard, durable quarried stone, free from seams, cracks or other structural defects having a density of not less than 2.65 tonne/m³.
- .3 The rock material is subject to Los Angeles Abrasion Test (ASTM C131), shall have a loss not greater than 35%.
- .4 When tested for soundness, five cycles of magnesium sulphate (ASTM C88), the rock material shall have a loss not greater than 15%.
- .5 Geotextile in accordance with Section 31 32 21 - Geotextiles.

1.5 PLACING

- .1 Where rip-rap is to be placed on slopes, excavate toe in slope in accordance with dimensions as indicated or as directed by Consultant.
- .2 Fine grade area to be rip-rapped to uniform, even surface. Fill depressions with suitable material and compact to provide firm bed.
- .3 Place geotextile on prepared surface. Place rip-rap on geotextile so as to avoid puncturing geotextile. Do not drive vehicles directly on geotextiles.
- .4 Place riprap in accordance with thickness and details as indicated or as directed by Consultant.
- .5 Place riprap in manner approved by Consultant to secure surface and create a stable mass. Place larger stones at bottom of slopes and face of slopes.

2 Products

2.1 NOT USED

- .1 Not used.

3 Execution

3.1 NOT USED

- .1 Not used.

End of Section

1 General

1.1 MEASUREMENT FOR PAYMENT

- .1 Dust Control will be considered incidental to the work and not measured separately for payment.

1.2 DESCRIPTION OF WORK

- .1 The work of this Section comprises the furnishing of all labour, materials and equipment necessary for the supply and application of water for prevention of dust nuisance caused by traffic, and/or weather conditions.

2 Products

2.1 MATERIALS

- .1 Water: to Consultant's approval.

2.2 SUPPLY

- .1 At least one mobile unit of at least 4.5 KL capacity for applying water shall be available on the project at all times.
- .2 The intake hose to the tank shall be equipped with a device satisfactory to the Consultant to prevent fish from being pumped into the tank.

3 Execution

3.1 APPLICATION

- .1 Apply water, when and where required, in location directed by Consultant, with distributors equipped with a spray system that will ensure uniform application and with positive means of shut-off.

End of Section