CONTRACT DOCUMENTS
for
UPLANDS AREA UTILITY UPGRADES

Contract 2393-2019
April 2019
BIDDING REQUIREMENT
- Addenda with Questions and Answers
- Invitation to Tender
- Instructions to Tenderers
- Bid Bond
- Consent of Surety
- Tender Form
- Schedule of Quantities and Prices

CONTRACT FORM
- Contract Agreement
- Certificate of Insurance
- Performance Bond
- Labour and Material Payment Bond
- Letter of Credit
- Final Invoice Letter
- Statutory Declaration

Only Project Specific Supplemental Specifications and the Measurement and Payment clauses will be included as part of this tender document. This tender uses the current version of the City of Nanaimo Manual of Engineering Standards & Specifications (MOESS), Edition No. 11, dated November 5, 2016, with the exception of Section 2 – General Conditions which is included herein. The City of Nanaimo MoESS can be downloaded at the following location:


SECTION 1 Supplemental Specifications (included)

SECTION 2 General Conditions (included)

SECTION 3 General Requirements

SECTION 4 Trench Excavation, Bedding and Backfill

SECTION 5 Water Distribution System

SECTION 6 Sanitary Sewer System

SECTION 8 Curbs, Sidewalks and Walkways

SECTION 9 Streets

SECTION 12 Asphaltic Concrete Paving
APPENDICES

Appendix 1   Receipt Confirmation  
Appendix 2   Asbestos Cement Pipe – Safework Procedures  
Appendix 3   Emerald Drive Sanitary Sewer Replacement - Environmental Assessment  
Appendix 4   VIHA Construction Permits  
Appendix 5   Sanitary Sewer Flows for Bypass Pumping  
Appendix 6   MOTI Traffic Control Standards

TENDER DRAWINGS

UPLANDS DRIVE – VILLA ROAD TO DEPARTURE BAY ROAD WATERMAIN REPLACEMENT

<table>
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ADBY ROAD – VILLA ROAD TO 3128 ADBY ROAD

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EMERALD DRIVE UTILITY IMPROVEMENTS – RUBY CRESCENT TO UPLANDS DRIVE

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INVITATION TO TENDER

UPLANDS AREA UTILITY UPGRADES
Tender 2393-2019

Sealed tenders, clearly marked “Uplands Area Utility Upgrades T-2393-2019” will be received by the Manager of Purchasing & Stores up to 3:00 p.m. local time, 2016-MAY-7, at the Purchasing office, City of Nanaimo, 2020 Labieux Rd, Nanaimo, BC, V9T 6J9. Tenders will be opened in public, in the Purchasing Department, immediately after the closing time.

It is the sole responsibility of the person(s) submitting to deliver the tender to the Manager of Purchasing & Stores before the closing time.

The works consist of the installation of approximately 629m of watermain, 391m of sanitary sewer, 1,260m² of asphalt paving, abandonment and/or removal of existing water and sanitary AC mains, and all works incidental thereto as shown on the drawings.

This tender is subject to the Agreement on Internal Trade Annex 502.4.

Digital copies of the contract documents are available at no charge on the City of Nanaimo’s website at www.nanaimo.ca.

All inquiries concerning this tender shall be directed to Chris Lang, P.Eng., Project Manager, City of Nanaimo Engineering & Public Works Department, 411 Dunsmuir Street, Nanaimo BC, V9R 5J6, Telephone: 250-755-4495, Email: chris.lang@nanaimo.ca

The City of Nanaimo reserves the right to waive informalities in, or reject any or all tenders, or accept the tender deemed most favorable in the interest of the City.

City of Nanaimo, Purchasing & Stores Department
2020 Labieux Road, Nanaimo, BC, V9T 6J9
Fax Number: 250-756-5327.
INSTRUCTIONS TO TENDERERS

ARTICLE 1. TENDER

Sealed tenders marked “Uplands Area Utility Upgrades T-2393-2019” will be received by the Manager of Purchasing and Stores, Purchasing Department, 2020 Labieux Rd, Nanaimo, BC, V9T 6J9, up to 3:00 p.m. local time, 2019-MAY-7.

ARTICLE 2. SCOPE OF WORK

The works consist of the installation of approximately 629m of watermain, 391m of sanitary sewer, 1,260m² of asphalt paving, abandonment and/or removal of existing water and sanitary AC mains, and all works incidental thereto as shown on the drawings.

ARTICLE 3. OBTAINING CONTRACT DOCUMENTS

Tender documents are available on the City of Nanaimo’s website at www.nanaimo.ca under Bid Opportunities.

ARTICLE 4. EXAMINE

The Tenderer must carefully examine the Contract Documents and the site of the proposed works, judging for and satisfying himself as to the probable conditions to be encountered. Should a Tenderer find discrepancies in, or omissions from the drawings or other documents, or should he be in doubt as to their meaning, he should, prior to submitting his tender, notify the Engineer in writing. The Tenderer may not claim, after the submission of a tender, that there was any misunderstanding with respect to the conditions imposed by the documents.

The Tenderer's attention is drawn to any addenda which may be issued prior to the time of tender closure.

No verbal agreement or conversation made or had at any time with any officer, agency or employee of the Owner or the Engineer shall affect or modify any of the terms or obligations herein stated, nor deemed to be any representation of warranty.

ARTICLE 5. STANDARDS AND SPECIFICATIONS

Only Project Specific Supplemental Specifications and the Measurement and Payment clauses will be included as part of this tender document. This tender uses the current version of the City of Nanaimo Manual of Engineering Standards & Specifications (MOESS), Edition No. 11, dated November 5, 2016, with the exception of Section 2 – General Conditions which is included herein. The City of Nanaimo MoESS can be downloaded at the following location:


It is the Tenderers responsibility to familiarize himself with all tender documentation prior to submission of a tender. The Tenderer may not claim, after submission of a tender, that there was any misunderstanding with respect to the conditions imposed by the documents.

Section numbers referred to in the Measurement and Payment clauses are for guidance only. Tenderers are advised that descriptions of pay items may be in more than one section of the documents. It is the Tenderers responsibility to familiarize himself with these pay item descriptions.
ARTICLE 6. FORM OF SUBMISSION

A digital copy of the Tender Form is also available on the City's website www.nanaimo.ca. The tender should be submitted on a hard copy of this form and accompanied by the specified Bid Bond in a sealed envelope. E-mail or facsimile tender submissions will not be accepted.

The Schedule of Quantities and Prices in Excel format is available on the City's website to assist Tenderers with data entry. This information is provided for convenience only and the Tenderer is responsible to confirm accuracy of the digital information provided.

The City of Nanaimo is not a member of Public Construction Council of British Columbia, the British Columbia Construction Association or any other construction association.

The City of Nanaimo does not adopt or agree to be bound by "The Procedures and Guidelines Recommended for Use on Publicly Funded Construction Projects" produced by the Public Construction Council of British Columbia, September, 1989, or any other procedure/guidelines recommended, adopted or produced by any construction association in the tendering and award of the contract on this project.

ARTICLE 7. SCHEDULE OF FORCE ACCOUNT RATES

The Schedule of Force Account Rates shall be completed and a unit price shall be inserted for each item in accordance with Article 40 of Section 2 - General Conditions. The low Tenderer will be required to demonstrate that the force account rates tendered are, in fact, the direct cost of his labour. Failure to submit a correct and complete list may result in the tender being considered incomplete.

ARTICLE 8. TENDERER'S QUESTIONNAIRE

The Tenderer must furnish evidence that he has the necessary experience and is prepared to use the necessary personnel and equipment to carry out the work satisfactorily and within the time stated in the Tender Form. The Tenderer's Questionnaire shall be completed in order that his capabilities in this regard can be assessed by the Owner. Failure to complete the Questionnaire may result in the tender being considered incomplete.

ARTICLE 9. LIST OF SUBCONTRACTORS

The Tenderer must indicate, in the list of Subcontractors in the Tender Form, the name of the subcontractor he proposes to employ in each subtrade he proposes to subcontract.

A Tenderer shall submit on the List of Subcontractors of the Tender Form, only one Subcontractor for each subtrade proposed to be subcontracted. The listing of more than one Subcontractor for any subtrade on the List of Subcontractors in the Tender Form shall constitute grounds for rejection of the Tenderer’s tender.

Subcontractors shall not be changed or additional subcontractors employed without the written authorization of the Engineer. Failure to submit a complete list may result in the tender being considered incomplete.

Subcontractors should be aware of Articles 20 and 34 of the General Conditions of the Contract as they apply to permits and licences for construction of the works.
ARTICLE 10. PROPOSED ALTERNATE MATERIALS

If a Tenderer intends to use equipment or material other than that specified or shown on the drawings, he must provide the required information in the List of Proposed Alternate Materials in the Tender Form, together with the applicable price variation. Evaluation of proposed alternate materials will be made by the Owner following closing of tenders. The total Tender must be based on use of specified materials.

ARTICLE 11. TEST EXCAVATIONS

Prior to the excavation of test holes on road allowances or privately owned property, the Tenderer is expected to obtain permission from the appropriate governmental agency or owner of the property and to comply with their requirements for restoration of disturbed services and utilities. Failure to comply with ordinances restricting this practice may result in prosecution of the offending party.

ARTICLE 12. FEDERAL AND PROVINCIAL SALES TAXES

Unit and lump sum prices shall include provincial sales tax payable on all applicable materials and equipment incorporated in the work.

GST is not to be included in the unit and lump sum prices. GST shall be shown separately on the Schedule of Quantities Summary page based on the total contract value.

ARTICLE 13. TENDER PRICE

Unit and lump sum prices shall be filled in where indicated in the Schedule of Quantities and Prices of the Tender Form. The unit prices shall be extended in accordance with the quantities shown and the extensions shall be inserted in the space provided. The total tender must be an accurate extension of the unit and lump sum prices submitted and the quantities shown.

In the event of a discrepancy between the unit prices and extended totals, the unit prices will govern and the Engineer will correct the extended totals accordingly.

In the event of a discrepancy between a maximum allowable lump sum price and the submitted lump sum price, the maximum allowable price shall govern and the Engineer will correct the price and extend totals accordingly.

The prices tendered shall include the supply of all materials except those specified to be supplied by others, all supervision, labor and equipment and a provision for overhead and profit, and shall represent the entire cost to the Owner for the completed works as specified and shown on the drawings.

ARTICLE 14. REVISIONS TO TENDER

Any revision to the tender by the Tenderer must be in writing by letter, properly executed, and received by the Manager of Purchasing and Stores at the closing location before the closing time.

.1 Letter

Revisions by letter must originate on the Tenderer’s letterhead and be headed "CITY OF NANAIMO TENDER". The revision must substantially comply with the following requirements:

.a state the tender number and description;
.b state the closing time; and,
.c state the amount by which the tender is to be increased or decreased AND the increase or decrease to each unit price affected.

The revision must be signed by an Authorized Signatory. The positions or titles of the Authorized Signatory should be indicated below the signature.

Letter revisions should be enclosed in an envelope marked "Revision to City of Nanaimo Tender", showing the tender number and description.

.2 Email

Email revisions must comply with the requirements in Article 14.1.

Email revisions must be received as a new email by the Purchasing Department prior to the established closing time. The Tenderer assumes all responsibility for the timely and effective delivery of any emailed revision.

Purchasing Department Email: purchasinginfo@nanaimo.ca

.3 Amount of Bid Bond

The Tenderer must ensure that the total amount of the bid bond is not less than ten percent (10%) of the total tender price. The Tenderer should consider the effect of revisions on the tender price and the bid bond requirements.

.4 Multiple Revisions

Where a Tenderer submits multiple revisions to the original tender price, each revision should be numbered sequentially by the Tenderer. Unless the Tenderer clearly stipulates to the contrary on the face of the revision, each successive revision will nullify and replace any previous revision to the identified item or tender price.

.5 Unclear or Ambiguous Revisions

If in the opinion of the City, any revision is unclear, ambiguous as to meaning or intent, or does not comply with the requirements of Article 14, that revision will be disregarded and the original tender price, or the tender price determined by consideration of any other revisions will prevail.

The City, its employees and agents will not assume any responsibility for timely receipt of any revisions.

ARTICLE 15. TENDER SIGNING

The tender must be executed by an authorized signatory in a position to legally bind their Company to the information contained in the Tender Form.

If the Tenderer is a joint venture, each party to the joint venture shall execute the tender in the manner appropriate to such party.
ARTICLE 16. BID BOND

The tender must be accompanied by a Bid Bond using CCDC Document #220 – Bid Bond (2002), or certified cheque, in an amount not less than ten percent (10%) of the tender price. The Bid Bond must be issued by a surety company licenced to conduct business in the Province of British Columbia.

If the successful Tenderer fails for any reason to execute the Contract Agreement and to provide the insurance and surety bonds stipulated in the General Conditions within ten (10) calendar days after the Notice of Award, such time limit being extended only on the written approval of the Owner, his Bid Bond or certified cheque will be forfeited to and retained by the owner in the amount of the difference in money between the total tender and the amount for which the Owner may legally contract with another party to perform the work, if the latter amount be in excess of the former.

Certified cheques submitted by unsuccessful Tenderers will be returned to them as soon as the successful Tenderer has delivered to the Owner, the insurance and surety bonds stipulated in the General Conditions and a fully executed contract for the work, or when the period for which tenders are irrevocable has elapsed, whichever shall first happen. Bid Bonds will not be returned unless otherwise requested by the unsuccessful Tenderer.

ARTICLE 17. TENDER WITHDRAWAL

A Tenderer may, without prejudice to himself, withdraw his tender on written request received by the Manager of Purchasing and Stores any time prior to the time set for the closing of tenders.

ARTICLE 18. TENDER REJECTION

.1 The City of Nanaimo reserves the right to reject any or all tenders, or accept other than the lowest tender and to accept the tender which it deems most advantageous to the City of Nanaimo.

.2 To determine whether a Tenderer is qualified to do the work, the following criteria will be used:

   .a The Tenderer’s ability and agreement to complete the work within the Construction Schedule;
   
   .b The Tenderer’s ability to work with the owners, consultants and representatives;
   
   .c The Tenderer’s ability to effectively manage and do the work using the named superintendent and submitted contractors and subcontractors;
   
   .d The Tenderer’s history with respect to quality of the work, scheduling, changes in the work, and force account work.

   A Tenderer is requested to provide any information it determines will assist the City of Nanaimo in using these criteria.
INSTRUCTIONS TO TENDERERS

.3 The City of Nanaimo may reject a tender if:

.a After investigation and consideration, the City concludes that the Tenderer is not qualified to do the work and/or cannot do the work and perform the Contract in a manner satisfactory to the City of Nanaimo.

.b A tender contains qualifying conditions or otherwise fails to conform to these Instructions to Tenderers.

.c A tender is incomplete, is considered incomplete in the Instructions to Tenderers, is obscure or irregular, which has erasures or corrections in the Tender Form, in which prices are omitted or are unbalanced, or which has an insufficient or irregular surety. The Tenderer’s attention is drawn to the requirement in the Tenderer’s Questionnaire to name the superintendent on the project and give his or her previous experience.

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

.i any other contract for works or services; or

.ii any matter arising from the City of Nanaimo’s exercise of its powers, duties, or functions under the Local Government Act or another enactment.

within five years of the date of this Call for Tenders.

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

.e The City of Nanaimo, however, may at its sole discretion elect to retain for consideration a tender which is non-conforming because it does not contain the content or form required by these Instructions to Tenderers or because a Tenderer has not complied with the procedures set out in the Instructions to Tenderers provided that the Tenderer complies substantially with the Instructions to Tenderers.

.4 The City may reject all tenders if for any reason the City considers to be in its best interest to do so, including without limitation for any of the following reasons;

.a the lowest tender that the City considers otherwise acceptable is higher than the funds budgeted or otherwise available for the project;

.b the City decides not to proceed with the project or to defer the project;

.c if only one bid is received, then the tender will be reissued unless a financial analysis indicates that the sole bid represents a good value for the taxpayers; or

.d the City is delayed in obtaining, or is unable to obtain, all approvals or consents it considers necessary, whether required by law or otherwise.

.5 The City of Nanaimo reserves the right to consider and to reject any tender or all tenders without notice to a Tenderer or Tenderers and without permitting a Tenderer to provide additional information.

.6 In no event will the City of Nanaimo be responsible for a Tenderer’s costs of preparing or submitting a tender.
ARTICLE 19. AWARD

Awards shall be made on tenders that will give the greatest value based on quality, service and price.

The Owner will, following receipt of an acceptable tender, issue in writing a Notice of Award to the successful Tenderer. This notice will be given as soon as possible following the closing of tenders and unless otherwise agreed to by the Tenderer, not later than sixty (60) days following the closing of tenders.

ARTICLE 20. NO CLAIM FOR COMPENSATION

Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, as a result of participating in the tender, and by submitting a bid each Tenderer shall be deemed to have agreed that it has no claim.

ARTICLE 21. SOLICITATION OF COUNCIL MEMBERS

“If a member of Council, or a person who was a member of Council in the previous six months has a direct or indirect interest in the contract, then the Tenderer shall report this to Council in accordance with Section 107 of the Community Charter upon being notified of the award of the contract.

The Tenderer warrants and represents that it has not received any information or a record from any Council member or former Council member contrary to Section 108 of the Community Charter.”

The successful Tenderer will be required to direct all communications related to their contract through the appropriate staff members as set out in Article 9 and Article 21 of the General Conditions of Contract.

ARTICLE 22. CONSTRUCTION SCHEDULE

The City of Nanaimo requires that this contract be completed by 2019-SEP-30.

ARTICLE 23. CONSTRUCTION LAYOUT

Layout for construction shall be as detailed in Article 7 of the General Conditions of the Construction Contract.

The Contractor shall be required to maintain an “as-constructed” drawing set for the project, with all changes and notes marked in red ink. This set shall be available to the Engineer for review on request and, submitted to the Engineer upon completion of the project along with the “as-constructed” digital survey file.

The lump sum bid price under Item 2.1 shall not exceed 5% of the total contract price and shall be full compensation for:

.1 All construction layout of the work required to execute the contract and construct the works in accordance with the Design, Standard Specifications, and other listed specifications forming part of this contract.
.2 Development of an "as-constructed" drawing set and digital survey file for the project.

Payment shall be made by a percentage of the lump sum bid equal to the percentage of work completed for each progress payment.

ARTICLE 24. TESTING

The City of Nanaimo may employ a Materials Testing Consultant during the work to test all work and materials deemed necessary and determine whether they are in accordance with the Specifications. The Contractor shall coordinate his work with the Consultant to ensure that the testing is done efficiently and that no delays are caused. (See General Conditions Article 26).

ARTICLE 25. MATERIALS

No claim by the Contractor of unsuitability or unavailability of any material, nor his unwillingness to use, nor his inability to produce, first class work with same, will be considered unless submitted to the Engineer in writing 7 days before the tender closing date.

ARTICLE 26. WorkSafeBC

.1 The Tenderer is advised the workplace may have the following known operations and/or site conditions that could present a potential hazard to workers and other persons at the workplace. Other hazards may exist.

- Asbestos Pipe
- Confined Space
- Underground Utilities
- Excavations
- Overhead Power Lines
- Energized Equipment
- Traffic > 30 km/h
- Tree Removal
- Hazardous Materials
- Mobile Equipment

.2 As excavation and removal of asbestos cement pipe is required, the Contractor will be required to complete a risk assessment and develop the necessary safework procedures in accordance with WorkSafeBC regulations. For the Contractor’s information, the City of Nanaimo’s “Asbestos Cement Pipe Safe Work Procedures” are included in Appendix 2.

.3 The work will require excavation around and near buried electrical, communication and gas utilities. The Contractor will be required to complete a risk assessment and develop the necessary safework procedures in accordance with Worksafe BC regulations.

.4 If the successful Tenderer is designated as the Prime Contractor in the Tender Form, they shall fulfill the Prime Contractor responsibilities as defined in:

.a WorkSafeBC Occupational Health and Safety Regulation, Notice of project, Section 20.2, and Coordination of multiple employer workplaces, Section 20.3;

.b Workers Compensation Act (BC), Coordination at multiple-employer workplaces, Section 118, Subsections (1) & (2); and

.c General Requirements, Section 3.10 WorkSafe BC.

.5 The Prime Contractor will be required to coordinate the safety of all workers on the work site, including their employees, their subcontractors, City work crews and their contractors, and private utilities, (BC Hydro, Telus, Shaw and FortisBC).
Prior to commencing work, the successful Tenderer will be required to forward a copy of their current OH&S Safety Program document, WorkSafeBC Notice of Project, and WorkSafeBC Clearance Letter.

**ARTICLE 27. FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT**

All documents submitted to the City will be held in confidence by the City, subject to the provisions of the Province of British Columbia’s *Freedom of Information and Protection of Privacy Act*. 

**ARTICLE 28. ENVIRONMENTAL INFORMATION**

The Tenderer is advised that all relevant environmental information prepared for the sanitary sewer upgrade on Emerald Drive is compiled in the EDI report (December 2017), which is included in Appendix 3.

This environmental information is provided to assist the Tenderer in determining the protection requirements for work in and around the watercourse. It should be noted that the report reflects a previous design that involved crossing the watercourse, which has since been re-aligned along the creek to mitigate environmental impact of the proposed construction and future maintenance work.

**ARTICLE 29. CONSTRUCTION PERMITS – ISLAND HEALTH**

The Tenderer is advised that Water Supply System Construction Permits have been obtained for the water main upgrades as shown in the drawings, and are included in Appendix 4. All works undertaken shall be completed as per the specifications and protection requirements outlined in the permits.

**ARTICLE 30. SANITARY SEWER FLOWS FOR BYPASSING**

Bypass arrangements for the sanitary sewer upgrades are required for this project to provide for the temporary conveyance of trunk or local sanitary sewerage around the working area. Peak 5-year return event wet weather flows for the sanitary sewer system in the area are provided in Appendix 5.

The cost of any bypass piping, efforts, features, or pumping shall be included in the appropriate unit price for the pipe installation or manhole tie-in as noted in Section 6 - Measurement and Payment. There will be no additional payment for sewer bypass efforts required to complete the work.

**ARTICLE 31. TRAFFIC CONTROL AND ACCESS**

Further to the traffic control and access to properties outlined in the other sections of the documents, the Tenderer is advised that a Traffic Control Management Plan (TCMP) shall be prepared in accordance with the contractors construction schedule and the MoTI standards (see Appendix 6), and submitted for approval prior to the Preconstruction Meeting.
BID BOND

Know All Men by These Presents That

as Principal

hereinafter called the Principal, and

as corporation created and existing under

the laws of

, and duly authorized to transact the business of Suretyship in

, as Surety, hereinafter called the Surety, are held and firmly bound unto

as Obligee,

hereinafter called the Obligee, in the amount of

($                                  ) lawful money of Canada, for the payment of which sum, well and truly to be made, the
Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly
and severally, firmly by these presents

Whereas the Principal has submitted a written tender to the Obligee, dated the
day of                                             20__          , for

Now, T
herefore, the Condition of This Obligation

is such that if the aforesaid Principal shall
have the tender accepted within sixty (60) days from the closing date of tender and the said Principal will within
the time required, enter into a formal contract and give the specified security to secure the performance of the
terms and conditions of the Contract, then this obligation shall be null and void; otherwise the Principal and the
Surety will pay unto the Obligee the difference in money between the amount of the bid of the said Principal and
the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be
in excess of the former.

The Principal and the Surety shall be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of six months from the date of this Bond.

In Witness Whereof, the Principal and the Surety have Signed and Sealed this Bond this
day of                                  20__

Signed and Sealed

In the presence of

Endorsed by

The Royal Architectural Institute of Canada
The Association of Consulting Engineers of Canada
The Canadian Construction Association
The Engineering Institute of Canada
The Specification Writers Association of Canada

Approved by

Insurance Bureau of Canada

______________________________
Attorney-in-fact
CONSENT OF SURETY COMPANY

We, the undersigned Surety Company, do hereby consent and agree to become bound as guarantor in a Performance Bond and Labour and Material Payment Bond each in the amount of fifty percent (50%) of the total tender for the fulfillment of the Contract, with

as principal for the works specified in the Contract Documents entitled

LAMBERT AVENUE UTILITY UPGRADE

which Contract may be awarded within sixty (60) days from the closing date of tenders to

at the price(s) set forth in the tender. The Bonds shall be issued in the form and manner specified within the Contract Documents.

We hereby further declare that our Company is licensed to conduct business in the province or territory wherein the work is located and has a net worth greater than the amount of the required guarantee.

________________________________  
Surety Company  

________________________________  
Signature for Surety Company  

________________________________  
Title  

PLACE ____________________________  

DATE: ____________________________
TO: Manager of Purchasing and Stores  
City of Nanaimo  
2020 Labieux Rd  
Nanaimo, BC V9T 6J9

To Whom It May Concern:

The undersigned Tenderer, having carefully examined the Contract Documents and the locality of the proposed work, and having full knowledge of the work required and of the materials to be furnished and used, hereby agrees to provide all necessary materials, supervision, labour, and equipment and perform and complete all work and fulfill everything as set forth and in strict accordance with the Contract Documents and Addenda numbered *_______ for the prices stated in the Schedule of Unit Prices and Approximate Quantities of the Tender Form.

The undersigned also agrees:

1. That the Owner is in no way obligated to accept this Tender.

2. That, should the Tender Form be improperly completed or be incomplete, the Owner shall have the right to disqualify and/or reject this Tender.

3. That this Tender is made without knowledge of the Tender prices to be submitted for this work by any other company, firm or person.

4. That this Tender is made without any connection or arrangement with any company, firm, or person submitting a Tender for this work.

5. That this Tender is made without any undisclosed connection or arrangement with any other company, firm, or person having an interest in this Tender or in the proposed Contract.

6. That this Tender is irrevocable for sixty (60) days after the closing date for receipt of Tenders, and that the Owner may at any time within such period accept this Tender whether any other Tender has previously been awarded or not, and whether notice of Award of another Tender has been given or not.

Tenderer's Initials _____________  
♦ To be Completed by the Tenderer

Tenderer’s Initials ______________
7. To execute the Contract Agreement and deposit with the Owner a Performance Bond and Labour and Material Payment Bond as specified in Article 32 of the General Conditions of the Construction Contract and the insurance documents as specified in Article 52 of the General Conditions of the Contract within ten (10) days of the date of the Notice of Award of the Contract, such time limit being extended only on the written approval of the Owner.

8. To commence and proceed actively with the work within fourteen (14) days following receipt of the Notice to Proceed, and to complete all work under the Contract within the time limit set out in Article 22 of the Instructions to Tenderers and subject to the provisions of Article 41 of the General Conditions of the Construction Contract - Extension of Contract Time.

9. That should the undersigned fail to complete the work in the time specified above he shall compensate the Owner in accordance with Article 37 of the General Conditions of the Construction Contract.

10. To do all extra work not reasonably inferable from the Specifications or Drawings but called for in writing by the Engineer and to accept as full compensation therefore, payment in accordance with the provisions of Article 39 of the General Conditions of the Construction Contract.

11. That it is understood the estimate of quantities shown in the Tender Form serves only to provide a basis for comparing tenders, and that no representations have been made by either the owner or the Engineer that the actual quantities will approximately correspond therewith, and further, that the Owner has the right to increase or decrease the quantities in any or all items and to eliminate items entirely from the work.

12. That payment for the work done will be made on the basis of the quantities measured by the Engineer and at the prices shown in the Tender Form which includes the cost of all pre-selected materials and equipment and which shall be compensation in full for the work done under the terms of the Contract.

♦ To be Completed by the Tenderer

Tenderer’s Initials ____________________
ACKNOWLEDGEMENT TO RECEIPT OF ADDENDA

<table>
<thead>
<tr>
<th>ADDENDUM No.</th>
<th>DATE RECEIVED</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Bidder to acknowledge receipt of the addenda (if any)

♦ To be Completed by the Tenderer

Tenderer’s Initials _________________
TENDER FORM

The following tendered rates shall be in accordance with Article 40 of the General Conditions and will form the basis of payment for personnel force account work for this contract. List all occupations to be used on the project.

**PERSONNEL**

<table>
<thead>
<tr>
<th>LIST OF OCCUPATIONS</th>
<th>HOURLY RATE (incl. 20% markup)</th>
<th>O.T. HOURLY (incl. 20% markup)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPERINTENDENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOREMAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPERATOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIPELAYER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LABOURER</td>
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<tr>
<td>FLAGGER</td>
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</tr>
</tbody>
</table>

Tenderer’s Initials ________________
TENDER FORM

TENDERER'S QUESTIONNAIRE

We provide the following information in order that the Owner may judge our ability to fulfill the Contract requirements.

1. The size, model and make of the equipment which we will place on the project and use during the course of the work is as follows:

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>YEAR</th>
<th>SIZE</th>
<th>MODEL</th>
<th>MAKE</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

2. The average number of employees we will employ and maintain on the project is ______; of which an average number of _________ will be from the Nanaimo area.

3. The name of the superintendent that we propose to place on the project and his previous experience on this type of construction is as follows:

Name: ______________________________________________________

Qualifications: ________________________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

Tenderer’s Initials ___________
TENDER FORM

TENDERER’S QUESTIONNAIRE

Years with Company: ___________ Years of Experience: _____________

Description of projects completed by the above personnel:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. I, the Tenderer, have read and understood this agreement and safework procedures relating to this project. By signing this document, I am stating I have the necessary qualifications and accept the responsibilities as the Prime Contractor for this project as defined in the WorkSafeBC Occupational Health and Safety Regulations, Notice of projects, section 20.2, and Coordination of multiple employer workplaces, section 20.3; and in the Workers Compensation Act, Coordination at multiple-employer workplaces, sections 118, subsections (1) and (2).

I also acknowledge I understand the duties of the Owner as defined in the Workers Compensation Act, General duties of owner, section 119.

__________________________________________  ________________________________
(Name & Title)      (Signature)

5. The Contractor and all Subcontractors must have a current City of Nanaimo Business Licence. State Contractor’s Business Licence Number ________________. The Contractor’s business licence must be obtained before the contract is awarded. Subcontractors must obtain their business licence before their work commences.

Tenderer’s Initials ________________

__________________________________________  ________________________________
(Name & Title)      (Signature)
TENDER FORM

LIST OF SUBCONTRACTORS

It is our intention that the following work will, subject to the Engineer's approval, be subcontracted to the firms indicated below. All other work will be performed by our forces, except as authorized in writing by the Engineer. NOTE: In accordance with the Instructions to Tender, list only one Subcontractor for each subtrade you propose to subcontract.

<table>
<thead>
<tr>
<th>TRADE</th>
<th>NAME &amp; ADDRESS OF SUBCONTRACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY</td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>TRAFFIC CONTROL</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CONCRETE</td>
<td></td>
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<td></td>
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<tr>
<td>PAVING</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>ROAD MARKINGS</td>
<td></td>
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</tr>
</tbody>
</table>

Tenderer's Initials ______________________
TENDER FORM

PROPOSED ALTERNATE MATERIALS

We propose using the following materials as alternates to those specified and shown on the drawings. Should any of these proposed alternates be accepted, we will adjust our total Tender in accordance with the price variation shown below. These prices will represent the total cost difference to the Owner for supply and installation of the proposed alternate products in lieu of those specified.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PRODUCT BRAND NAME</th>
<th>SUPPLIER</th>
<th>PRICE VARIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Tenderer’s Initials ________________
TENDER FORM

This Tender is executed at __________________________ this ______ day of __________, 2019.

Name of firm: ________________________________

Address: ________________________________

City/Postal Code: ________________________________

Email Address: ________________________________

SIGNED AND DELIVERED BY

Full Name of Company

Authorized Signing Officer Signature __________________________ Print Name __________________________

Position/Title ________________________________

Authorized Signing Officer Signature __________________________ Print Name __________________________

Position/Title ________________________________

NOTE: If the Tender is by joint venture, add additional forms of execution for each member of the Joint venture in the appropriate form or forms as above.
## UPLANDS AREA UTILITY UPGRADES

### TENDER 2393-2019
### SCHEDULE OF QUANTITIES AND PRICES

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Est Qty</th>
<th>Units</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
</table>

### Section 2  
**General Conditions**  

2.1 Location of Works - Project Layout (Article 7) (not to exceed 5% of the total project price)  

<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Units</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lump sum</td>
<td></td>
</tr>
</tbody>
</table>

**Total Section 2**  

### Section 3  
**General Requirements**  

3.1 Existing Structures & Utility Works (Section 3.70)  

- Location of Existing Structures  
  - Storm, Sanitary, Water  
    | Est Qty | Unit |
    |-------|------|
    | 14 | ea |
  - Gas  
    | Est Qty | Unit |
    |-------|------|
    | 10 | ea |

- Support of Existing Piping  
  - 750mm dia. Concrete Stormsewer (per Dwg 23635)  
    | Est Qty | Unit |
    |-------|------|
    | 1 | lump sum |

3.2 Support Existing BC Hydro Pole/Telus  

3.3 Control of Public Traffic (Section 3.73)  

3.4 Removal of Existing Pipe (Section 3.74)  

- 100mm dia. Asbestos Cement (services)  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>248</td>
<td>m</td>
</tr>
</tbody>
</table>
- 150mm dia. Asbestos Cement  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>m</td>
</tr>
</tbody>
</table>
- 200mm dia. Asbestos Cement  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>m</td>
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</tbody>
</table>
- 300mm dia. Asbestos Cement  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>m</td>
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</tbody>
</table>
- 150mm dia. to 200mm dia. PVC  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>m</td>
</tr>
</tbody>
</table>

3.5 Removal of Existing Structures (Section 3.75)  

- Hydrants  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
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<tr>
<td>2</td>
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</tbody>
</table>
- Valves  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ea</td>
</tr>
</tbody>
</table>
- Fittings  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ea</td>
</tr>
</tbody>
</table>
- Abandon Valve  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>ea</td>
</tr>
</tbody>
</table>
- Abandon Manhole  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>ea</td>
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</tbody>
</table>
- Fencing (per Dwg 22739)  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lump sum</td>
</tr>
</tbody>
</table>
- Storm Drain (per Dwg 22737)  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ea</td>
</tr>
</tbody>
</table>

3.6 Plug/Cap Existing Pipe (Section 3.76)  

- 150mm dia.  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ea</td>
</tr>
</tbody>
</table>
- 200mm dia.  
<table>
<thead>
<tr>
<th>Est Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>ea</td>
</tr>
</tbody>
</table>

**Total Section 3**  

Page 1 of 5  
Tenderer's Initials _________
## Section 4  Trench Excavation, Bedding and Backfill

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Est. Qty</th>
<th>Units</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Imported Granular Fill (Section 4.73)</td>
<td>4,750</td>
<td>tonne</td>
<td></td>
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<tr>
<td>4.2</td>
<td>Concrete and Controlled Density Fill (Section 4.74)</td>
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</tr>
<tr>
<td></td>
<td>a) Controlled Density Fill</td>
<td>2</td>
<td>m³</td>
<td></td>
<td></td>
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<tr>
<td>4.3</td>
<td>Surface Restoration (Section 4.76)</td>
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<tr>
<td></td>
<td>UNTRAVELLED</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>a) Ditch regrading</td>
<td>25</td>
<td>m²</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>TRAVELLED</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>b) Crush (100mm thick, 25 mm minus)</td>
<td>100</td>
<td>m²</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>c) 50mm Asphalt &amp; 100mm of Base</td>
<td>875</td>
<td>m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) 75mm Asphalt &amp; 100mm of Base</td>
<td>950</td>
<td>m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e) Asphalt Curb, CS-12 (75mm)</td>
<td>215</td>
<td>m</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>f) Concrete Curb, CS-4A</td>
<td>5</td>
<td>m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>g) Concrete Curb &amp; Gutter, CS-1</td>
<td>5</td>
<td>m</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>h) Concrete Sidewalk, 100mm Thick (c/w 100mm base)</td>
<td>2</td>
<td>m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) Asphalt Sidewalk, 50mm Thick (c/w 100mm base)</td>
<td>30</td>
<td>m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>j) Concrete Driveway, 150mm Thick (c/w 100mm base) (3214 Adby Rd.)</td>
<td>5</td>
<td>m²</td>
<td></td>
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<tr>
<td></td>
<td>TEMPORARY SURFACE RESTORATION</td>
<td></td>
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<tr>
<td></td>
<td>k) Cold Mix 75mm Thick</td>
<td>900</td>
<td>m²</td>
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<tr>
<td></td>
<td>l) RAP 50mm Thick</td>
<td>895</td>
<td>m²</td>
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</tbody>
</table>

### Section 4 Total

### Section 5  Water Distribution System

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Est. Qty</th>
<th>Units</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Watermain Pipe (Section 5.70)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) 200mm dia. PVC DR18</td>
<td>627</td>
<td>m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 250mm dia. PVC DR18</td>
<td>2</td>
<td>m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Watermain Fittings (Section 5.71)</td>
<td></td>
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<tr>
<td></td>
<td>BENDS</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a) 200mm dia. (11.25 Degree)</td>
<td>3</td>
<td>ea</td>
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<tr>
<td></td>
<td>b) 200mm dia. (22.5 Degree)</td>
<td>2</td>
<td>ea</td>
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<td></td>
<td>c) 200mm dia. (45 Degree)</td>
<td>12</td>
<td>ea</td>
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<tr>
<td></td>
<td>TEES</td>
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<tr>
<td></td>
<td>d) 200mm x 200mm x 200mm</td>
<td>3</td>
<td>ea</td>
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<tr>
<td></td>
<td>REDUCERS</td>
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<td></td>
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<tr>
<td></td>
<td>e) 250mm x 200mm</td>
<td>1</td>
<td>ea</td>
<td></td>
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<tr>
<td>5.3</td>
<td>Flange Adaptors and Joint Restraints (Section 5.72)</td>
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<tr>
<td></td>
<td>JOINT RESTRAINTS</td>
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</tr>
<tr>
<td></td>
<td>a) 200mm dia.</td>
<td>45</td>
<td>ea</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 250mm dia.</td>
<td>1</td>
<td>ea</td>
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</tr>
<tr>
<td>5.4</td>
<td>Watermain Gate Valves (Section 5.73)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a) 200mm dia.</td>
<td>11</td>
<td>ea</td>
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</tbody>
</table>
### UPLANDS AREA UTILTY UPGRADES
**TENDER 2393-2019**
**SCHEDULE OF QUANTITIES AND PRICES**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Est Qty</th>
<th>Units</th>
<th>Unit Price</th>
<th>Total</th>
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<tbody>
<tr>
<td>5.5</td>
<td>Hydrant Assemblies (Section 5.75)</td>
<td>4</td>
<td>ea</td>
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<tr>
<td>5.6</td>
<td>Air Valves and Fittings (Section 5.78)</td>
<td>1</td>
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<tr>
<td></td>
<td>a) 25mm dia. (per W-4)</td>
<td></td>
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<tr>
<td>5.7</td>
<td>Connections to Existing Main Piping (Section 5.80)</td>
<td>1</td>
<td>ea</td>
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</tr>
<tr>
<td>a) Tie into existing 200mm PVC on Ruby Crescent</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b) Tie into existing 200mm AC (STA: 0+000) on Emerald Drive</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>c) Tie into existing 200mm PVC (STA: 0+127) on Emerald Drive</td>
<td></td>
<td></td>
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<tr>
<td>d) Tie into existing 200mm PVC (STA: 0+009.75) on Villa Road</td>
<td></td>
<td></td>
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<tr>
<td>e) Tie into existing 200mm PVC (STA: 0+232.24) on Mexicana Road</td>
<td></td>
<td></td>
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<tr>
<td>f) Tie into existing 200mm PVC (STA: 0+242.53) on Mexicana Road</td>
<td></td>
<td></td>
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<tr>
<td>g) Tie into existing 250mm PVC (STA: 0+473.93) on Dept. Bay Road</td>
<td></td>
<td></td>
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<tr>
<td>5.8</td>
<td>Connection to Existing Services (Section 5.80A)</td>
<td>36</td>
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<tr>
<td>a) 19mm dia.</td>
<td></td>
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<tr>
<td>5.9</td>
<td>Service Connection Pipe (Section 5.81)</td>
<td>411</td>
<td>m</td>
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<tr>
<td>a) 25mm dia. PE (c.w blue No. 14 tracer wire)</td>
<td></td>
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<tr>
<td>b) 19mm dia. Type K Copper</td>
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<tr>
<td>5.10</td>
<td>Corporation Stops &amp; Saddle (Section 5.82)</td>
<td>36</td>
<td>ea</td>
<td></td>
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<tr>
<td>a) 25mm dia. Installation</td>
<td></td>
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<tr>
<td>5.11</td>
<td>Curb Stops (Section 5.83)</td>
<td>36</td>
<td>ea</td>
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<tr>
<td>5.12</td>
<td>Meter Service Boxes, Box Extensions, and Lids (Section 5.84) (including adjustments)</td>
<td>36</td>
<td>ea</td>
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<tr>
<td>5.13</td>
<td>Touch Read Meters (Section 5.85)</td>
<td>29</td>
<td>ea</td>
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<tr>
<td>a) 25mm (Installation only)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Total Section 5</strong></td>
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### Section 6  Sanitary Sewer System

<table>
<thead>
<tr>
<th>Item</th>
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<th>Est Qty</th>
<th>Units</th>
<th>Unit Price</th>
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<tbody>
<tr>
<td>6.1</td>
<td>Piping, Fittings and Services (Section 6.70)</td>
<td>18</td>
<td>m</td>
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<tr>
<td>a) 150mm dia. PVC DR 35</td>
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<tr>
<td>b) 250mm dia. PVC DR 35</td>
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<tr>
<td>c) 300mm dia. PVC DR 35</td>
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<tr>
<td>6.2</td>
<td>Service Junctions (Section 6.71)</td>
<td>24</td>
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<tr>
<td>a) 100 mm dia.</td>
<td></td>
<td></td>
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<tr>
<td>6.3</td>
<td>Connect to Existing Piping (Section 6.72) MAINS</td>
<td>1</td>
<td>ea</td>
<td></td>
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</tr>
<tr>
<td>a) Tie into existing 150 AC (STA: 1+047.56) on Villa Road</td>
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<td></td>
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<tr>
<td>b) Tie into existing 150 AC (STA: 1+199.97) on Martinez Place</td>
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<td>c) Tie into existing 300 PVC (STA: 1+340) on Adby Road</td>
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<tr>
<td>d) Tie into existing 200 AC (STA: -0+002) on Emerald Drive easement</td>
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<tr>
<td>SERVICES</td>
<td></td>
<td></td>
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<tr>
<td>e) 100mm dia.</td>
<td>37</td>
<td>ea</td>
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<tr>
<td>MANHOLES</td>
<td></td>
<td></td>
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<tr>
<td>f) Tie into existing MH (STA: 1+007) on Villa Road and rebench</td>
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<td></td>
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<tr>
<td>g) Tie into existing MH (STA: 0+039) on Emerald Drive and rebench</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Item</td>
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<td>6.4</td>
<td>Precast Manhole Sections (Section 6.73)</td>
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<tr>
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<td>a) 1050mm dia.</td>
<td>21</td>
<td>vm</td>
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<td>6.5</td>
<td>Concrete Bases, Frames and Covers (Sections 6.74)</td>
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<tr>
<td></td>
<td>a) 1050mm dia.</td>
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<td>ea</td>
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<td>6.6</td>
<td>Drop Structures (Section 6.55)</td>
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<tr>
<td></td>
<td>a) 200mm dia. (per S-3, Type 1)</td>
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<td>vm</td>
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<td>6.7</td>
<td>Service Connection Pipe (Section 6.79)</td>
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<td>a) 100mm dia. PVC DR 28</td>
<td>306</td>
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<td>6.8</td>
<td>Service Connection Inspection Assembly (Section 6.80)</td>
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<tr>
<td></td>
<td>a) 100mm dia.</td>
<td>24</td>
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<td>6.9</td>
<td>Manhole and Cleanout Lid Markers (Section 6.82)</td>
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<td><strong>Section 8</strong></td>
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<td></td>
<td>Curbs and Sidewalks</td>
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<td>8.1</td>
<td>Curbs (Section 8.70)</td>
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<td>a) Asphalt 75mm (CS-12)</td>
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<td>m</td>
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<td><strong>Total Section 8</strong></td>
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<td></td>
<td>Streets</td>
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<tr>
<td>9.1</td>
<td>Re-instate Road Markings (Section 9.81)</td>
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<td>lump sum</td>
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<td><strong>Section 12</strong></td>
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<td>Asphaltic Concrete Paving</td>
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<td>Removal of Existing Pavement (Section 12.71)</td>
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<tr>
<td>12.1</td>
<td>a) Grinding (50mm)</td>
<td>1260</td>
<td>m²</td>
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<td>12.2</td>
<td>Adjustment of Services (Section 12.72)</td>
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<tr>
<td></td>
<td>a) Manholes</td>
<td>1</td>
<td>ea</td>
<td></td>
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<tr>
<td></td>
<td>b) Catcbasin</td>
<td>4</td>
<td>ea</td>
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<tr>
<td>12.3</td>
<td>Tack Coat (Section 12.73)</td>
<td>1,260</td>
<td>m²</td>
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<tr>
<td>12.4</td>
<td>Asphaltic Concrete (Section 12.74)</td>
<td>1260</td>
<td>m²</td>
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<tr>
<td>Item</td>
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<td>Est Qty</td>
<td>Units</td>
<td>Unit Price</td>
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</tr>
</tbody>
</table>

**SUMMARY**

- Section 2
- Section 3
- Section 4
- Section 5
- Section 6
- Section 8
- Section 9
- Section 12

Subtotal - Tender Bid Price

GST

**TOTAL CONTRACT:**

NAME OF COMPANY:

SIGNATURE OF SIGNING OFFICER:

DATE:
CONTRACT AGREEMENT

THIS AGREEMENT made this ______ day of _______________ in the year 2019 by and between the City of Nanaimo, herein called the "Owner", and _________________ herein called the "Contractor".

WITNESSETH: That the Contractor and the Owner undertake and agree as follows:

ARTICLE 1.

The Contractor shall:

(i) Provide all necessary materials, labour, supervision and equipment and perform all work, and fulfill everything as set forth and in strict accordance with the Contract Documents and Addenda numbered _____ for the project, entitled, "Uplands Area Utility Upgrade T-2393-2019"

(ii) Commence and proceed actively with the work of the Contract within a period of fourteen (14) days of receipt of the Notice to Proceed and complete all work under this Contract by 30th day of September in the year of 2019, subject to the provisions herein for the extension of Contract time, and shall guarantee all materials furnished and work performed, for a period of one (1) year from the date of acceptance contained in the Notice of Acceptance.

ARTICLE 2.

The Owner will pay to the Contractor as full compensation for the performance and fulfillment of this Contract, the sum or sums of money specified herein in the manner and at the times specified in the Contract Documents.

ARTICLE 3.

The Invitation to Tender, Instructions to Tenderers, executed Tender Form, Supplementary General Conditions, Specifications, Appendices, Drawings and all Addenda incorporated herein, are annexed hereto and form a part of this Agreement as fully to all intents and purposes as though recited in full herein, and the whole shall constitute the Contract between the parties, and it shall ensure to the benefit of and be binding upon them and their successors, executors, administrators, and assigns.

ARTICLE 4.

No implied contract of any kind whatsoever, by or on behalf of the Owner, shall arise or be implied from anything contained in this Contract or from any position or situation of the parties at any time, it being understood and agreed that the express contracts, covenants and agreements contained herein and make by the parties hereto are and shall be the only contracts, covenants and agreements on which any rights against the Owner may be founded.

ARTICLE 5.

Subject to Article 3, this Agreement shall supersede all communications, negotiations and agreements, either written or verbal, made between the parties hereto in respect of matters pertaining to this Agreement prior to the execution and delivery hereof. The terms and conditions of this Agreement shall remain in force and effect notwithstanding the completion of the work to be performed by the Contractor under the Agreement.
ARTICLE 6.

All Communications in writing between the parties or between them and the Engineer shall be deemed to have been received by the addressee if delivered to the individual, or to a member of the firm, or to any officer of the corporation for whom they are intended, or if sent by mail or hand delivery addressed as follows:

The Contractor at __________________________________________________________________________
(Address)

The Owner at Engineering & Public Works Department, 2020 Labieux Road, Nanaimo, BC, V9T 6J9
(Address)

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year above first written.

For Contractor:

Full Name of Company

________________________________________  ______________________________
Authorized Signing Officer Signature         Print Name

________________________________________
Position/Title

________________________________________
Authorized Signing Officer Signature         Print Name

________________________________________
Position/Title
CONTRACT AGREEMENT

For Owner:

CITY OF NANAIMO
Full Name of Company

Authorized Signing Officer Signature

Print Name

Manager of Purchasing and Stores
Position/Title

Authorized Signing Officer Signature

Print Name

Position/Title

NOTE: If the Tender is by a joint venture, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.
Certificate of Insurance

Certificate Holder: The City of Nanaimo
2020 Labieux Road
Nanaimo, BC V9T 6J9

Name of Insured: Full Legal Name of Contractor

RE: The City of Nanaimo
2020 Labieux Road
Nanaimo, BC V9T 6J9

This certificate is issued as a matter of information only and confers no rights upon the certificate holder other than those provided in the policy. This certificate does not amend, extend or alter the coverage afforded by the policies listed herein.

This is to certify that the policies of insurance listed below have been issued to the insured named above for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain. The insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies. Limits shown may have been reduced by paid claims/expenses.

<table>
<thead>
<tr>
<th>Type of Insurance</th>
<th>Insuring Company and Policy Number</th>
<th>Policy Dates</th>
<th>Limit of Liability/Amount of Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Liability including Non-Owned Auto Liability, Cross Liability</td>
<td>Underwriters Policy No. XXXXXXXX</td>
<td>Date To Date</td>
<td>Bodily Injury and Property Damage $5,000,000.00 Inclusive $5,000,000.00 Aggregate with respect to Products/Completed Operations</td>
</tr>
<tr>
<td>Contractors’ Equipment</td>
<td>Insurance Company Policy No. XXXXXX</td>
<td>Date To Date</td>
<td>As on file with Insurer – Limit of Liability</td>
</tr>
<tr>
<td>Builder’s Risk/ Installation Floater, Including Flood &amp; Earthquake</td>
<td>Insurance Company Policy No. XXXXXX</td>
<td>Date To Date</td>
<td>$Tender Bid Amount Site $50,000.00 Transit $50,000.00 Other Locations</td>
</tr>
</tbody>
</table>

Terms and Conditions

With reference to General Liability above, it is hereby understood and agreed that THE CERTIFICATE HOLDER is added as Additional Insured(s) but only with respect to liability arising out of the operations of the Named Insured.

With reference to the policies above, Waiver of Subrogation is granted in favour of THE CITY OF NANAIMO OR ANY OF THEIR PARENT, SUBSIDIARY, OR AFFILIATED COMPANIES OR CORPORATIONS OR ANY EMPLOYEE THEREOF, but only with respect to liability arising out of the operations of the Named Insured.

With reference to the policies above, the Insurer will endeavour to provide the Holder of this Certificate with 30 days written notice of cancellation, but failure to provide such notice to the Certificate Holder shall impose no obligation or liability of any kind upon the Insurer, its Agent or Representatives.

These statements have been made in good faith and are a summary of the insurance cover in force (which is subject to the full terms and conditions of the policy). We accept no responsibility whatsoever for any inadvertent or negligent act, error or omission on our part in preparing these statements or for any loss, damage or expense thereby occasioned to any recipient of this certificate.

Company Name

Date: Date of Issue Per: Signature
PERFORMANCE BOND

Know All Men by These Presents That

as Principal

hereinafter called the Principal, and

a corporation created and existing under the laws of

, and duly authorized to transact the business of Suretyship in

, as Surety, hereinafter called the Surety, are held and firmly bound unto

hereinafter called the Obligee, in the amount of

Dollars, ($                                  ) lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents

Whereas the Principal has submitted a written tender to the Obligee, dated the                                              day of

20__     , for

in accordance with the Specifications and Drawings submitted therefor which contract, Specifications and Drawings, are by reference made part hereof and are hereinafter referred to as the Contract.

Now, Therefore, the Condition of This Obligation is such that if the Principal shall promptly and faithfully perform the Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever the Principal shall be, and declared by the Obligee to be, in default under the Contract, the Obligee having performed the Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

(1) complete the Contract in accordance with its terms and conditions or

(2) obtain a bid or bids for submission to the Obligee for completing the Contract in accordance with its terms and conditions, and upon determination by the Obligee and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as work progresses (even though there should be a default, or a succession of defaults, under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof.  The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable by the Obligee to the Principal under the Contract, less the amount properly paid by the Obligee to the Principal.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

No right of action shall accrue on this Bond, to or for the use of, any person or cooperation other than the Obligee named herein, or the heirs, executors, administrators or successors of the Obligee.

In Witness Whereof the Principal and the Surety have Signed and Sealed this Bond this

day of                                20__

Signed and Sealed (  (SEAL)

In the presence of (  (SEAL)

Endorsed by

Insurance Bureau of Canada
The Royal Architectural Institute of Canada
The Association of Consulting Engineers of Canada
The Engineering Institute of Canada
The Specification Writers Association of Canada

Approved by

Insurance Bureau of Canada

Approved by Canadian Construction Association, 1972

Attorney-in-fact
LABOUR AND MATERIAL PAYMENT BOND
(Trustee Form)

No. $ 

NOTE: This Bond is issued simultaneously with another Bond in favour of the Obligee conditioned by the full and faithful performance of the Contract.

Know All Men by These Presents That

hereinafter called the Principal, and

as Principal

a corporation created and existing under the laws of

, and duly authorized to transact the business of Suretyship in

, as Surety, hereinafter called the Surety, are held and firmly bound unto

as Trustee,

hereinafter called the Obligee, for the use and benefit of the Claimants, their and each of their heirs, executors, administrators, successors and assigns in the amount of

($) of lawful money of Canada for the payment of which sum well and truly to be made the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas the Principal has entered into a written contract with the Obligee, dated the day of

20__ , for

which contract, Specifications & Drawings are by reference made a part hereof, and is hereinafter referred to as the Contract.

No Therefore the Condition of This Obligation is such that if the Principal shall make payment to all Claimants for all labour and material used or reasonably required for use in the performance of the Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

(1) A Claimant for the purpose of this Bond is defined as one having a direct contract with the Principal for labour, material, or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include that part of water, gas power, light, heat, oil, gasoline, telephone service or rental equipment directly applicable to the Contract provided that a person, firm or cooperation who rents equipment to the Principal to be used in the performance of the Contract under a contract which provides that all or any part of the rent is to be applied towards the purchase price thereof, shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract. The prevailing industrial rental value of equipment shall be determined, insofar as it is practical to do so, in accordance with and in the manner provided for in the latest revised edition of the publication of the Canadian Construction Association titled "Rental Rates on Contractors' Equipment" published prior to the period during which the equipment was used in the performance of the Contract.

(2) The Principal, and the Surety hereby jointly and severally agree with the Obligee, as Trustee, that every Claimant who has not been paid as provided for under the terms of his contract with the Principal, before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as a beneficiary of the trust herein provided for, sue on this Bond, prosecute the suit to final judgment for such sum or sums as may be justly due to such Claimant under the terms of his contract with the Principal and have execution thereon. Provided, that the Obligee is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants, or any of them, to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Obligee or by joining the Obligee as a party to such proceeding, then such act, action or proceeding shall be taken on the understanding and basis that the Claimants, or any of them, who take such act, action or proceeding shall indemnify and save harmless the Obligee against all costs, charges and expenses or liabilities incurred thereon and any loss or damage resulting to the Obligee by reason thereof. Provided still further that, subject to the foregoing terms and conditions, the Claimants, or any of them, may use the name of the Obligee to sue on and enforce the provisions of this Bond.
(3) No suit or action shall be commenced hereunder by any Claimant:

(a) unless such Claimant shall have given written notice within the time limits hereinafter set forth to each of the Principal, the Surety and the Obligee, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal, the Surety and the Obligee, at any place where an office is regularly maintained for the transaction of business by such person or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the Contract is located. Such notice shall be given

(1) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal, under either the terms of the Claimant's contract with the Principal, or under the Mechanics' Liens Legislation applicable to the Claimant's contract with the Principal, whichever is the greater, within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimant's contract with the Principal;

(2) in respect of any claim other than for the holdback, or portion thereof, referred to above, within one hundred and twenty (120) days after the date upon which such Claimant did, or performed, the last of the work or labour or furnished the last of the materials for which such claim is made, under the Claimant's contract with the Principal;

(b) after the expiration of one (1) year following the date on which Principal ceased work on the Contract, including work performed under the guarantee provided in the Contract;

(c) other than in a court of competent jurisdiction in the Province or District of Canada in which the subject matter of the Contract, or any part thereof, is situated and not elsewhere, and the parties hereto agree to submit to the jurisdiction of such court.

(4) The Surety agrees not to take advantage of Article 1959 of the Civil Code of the Province of Quebec in the event that, by an act or an omission of a Claimant, the Surety can no longer be subrogated in the rights, hypothecs and privileges of said Claimant.

(5) The amount of this Bond shall be reduced by, and to the extent of any payment or payments made in good faith, and in accordance with the provisions hereof, inclusive of the payment by the Surety of Mechanics' Liens which may be filed of record against the subject matter of the Contract, whether or not claim for the amount of such lien be presented under and against this Bond.

(6) The Surety shall be liable for a greater sum than the specified penalty of this Bond.

In Witness Whereof, the Principal and the Surety have Signed and Sealed this Bond this day of 20__

Signed and Sealed ____________________________________________

In the presence of ____________________________________________

Endorsed by
The Royal Architectural Institute of Canada
The Association of Consulting Engineers of Canada
The Canadian Construction Association
The Engineering Institute of Canada
The Specification Writers Association of Canada

Approved by
Insurance Bureau of Canada

Attorney-in-fact
Letter of Credit No. ...........................................

Amount $ ...........................................

Initial Expiry Date: ...........................................

City of Nanaimo
455 Wallace Street
Nanaimo, B.C.
V9R 5J6

Dear Sir:

We hereby authorize you to draw on the ...........................................

(Name of Bank)

for the account of ...........................................

(Address)

up to an aggregate amount of ...........................................

(Name of Customer)

available on demand.

Pursuant to the request of our customer, we hereby establish and give you an Irrevocable Standby Letter of Credit in your favour in the above amount which may be drawn on by you at any time and from time to time, upon written demand for payment made upon us by you, which demand we shall honor without inquiring whether you have the right as between yourself and the said customer to make such demand, and without recognizing any claim of our said customer, or objection by it to payment by us. All demands shall be delivered to: ..........................................., unless the City is notified of a change of address by ..........................................., registered mail at least 30 days prior to the present or future expiration date.

You may make partial drawings or full drawings at any time.

The Letter of Credit relates to those Municipal services and/or financial obligations set out in an Agreement between the customer and the Municipality and briefly described as:

.............................................................................................................

The amount of this Letter of Credit may be reduced from time to time as advised by notice in writing to the undersigned from time to time by the City of Nanaimo.

This Letter of Credit will continue in force for a period of 1 year, but shall be subject to the condition hereinafter set forth.

It is a condition of this Letter of Credit that it shall be deemed to be automatically extended without amendment from year to year from the present or any future expiration date hereof, unless at least 30 days prior to the present or any future expiration date, we notify you in writing by registered mail, that we elect not to consider this Letter of Credit to be renewable for any additional period.

Dated at ........................................... British Columbia, this ........................................... day of ........................................... 20 ...........................................,

...........................................

(Name of Bank)

...........................................

(Address of Bank)

Per:

...........................................

(Authorized Signature)

...........................................

(Authorized Signature)
City of Nanaimo  
Engineering & Public Works Department  
2020 Labieux Rd  
Nanaimo, B.C.  V9T 6J9

Attention:  P. Rosen, Senior Manager of Engineering

RE: UPLANDS AREA UTILITY UPGRADE

Please find attached our Final Invoice No. __________ for the sum of $ __________ as being the full and final amount accruing to the undersigned by virtue of the said contract; said amount also covering full payment for the cost of all extra work and material furnished by the undersigned in the fulfillment of said work, and all incidentals thereto; and the undersigned hereby releases the said corporation from all claims whatsoever growing out of said contract.

And these presents are to certify that all persons doing work upon or furnishing materials for said work under the foregoing contract have been paid in full.

COMPANY NAME: ____________________________________________

ADDRESS: __________________________________________________

_________________________________________________________

AUTHORIZED SIGNATORY: __________________________________

POSITION: _________________________________________________

DATED: ____________________

cc  Phil Stewart, Engineering Projects Manager
STATUTORY DECLARATION

TO BE MADE BY CONTRACTOR TO EFFECT RELEASE OF THE HOLDBACK ACCOUNT

Province of British Columbia, Canada
In the matter of contract entered into with ________________________________________________________, Owner by
_________________________________________________________________________________________, Contractor
At Project _________________________________________________________ Contract No. ______________________

TO WIT:

I, ______________________________________ of the _______________________ of __________________________ in the Province of ______________________________________________ do solemnly declare: -

1. That I am __________________________________________ of ______________________________________ (President, Vice-President, Secretary, Treasure, a Partner)

the Contractor named in the contract above mentioned and as such have personal knowledge of the facts hereunder declared:

2. That all subcontractors, labour, and accounts for materials and equipment whatsoever entering into the construction of the project built under the said contract have been duly paid except for holdbacks on subcontracts which amount in total in all subcontracts to ____________________________________________ ($ _________________________);

3. That all assessment and levies under the Unemployment Insurance Acts, the Workers’ Compensation Acts or other social or labour legislation in respect of the said contract have been duly paid:

4. That the following is a list of subcontractors who have been employed under the said contract:

AND I MAKE THIS SOLEMN DECLARATION conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

DECLARED before me at the ___________________________ of __________________________________________
in the ___________________________ of __________________________________________
this ___________________________ day of 2 ____________.

SIGNED:

____________________________________________________________
A Commissioner for Oaths, Notary Public, Justice of the Peace

Note 1. Where the Contractor is a corporation or a partnership, declarant’s position in the corporation partnership, and the corporation or partnership name should be clearly shown in No. 1. Where the Contractor is the person who makes the Declaration, strike out “of” in the first line of No. 1.

Note 2. Where the Contractor is an individual, they must make the Declaration themselves. Where the Contractor is a partnership the declaration must be made by one of the partners. Where the Contractor is an incorporated company, the declaration must be made by the President, Vice-President, Secretary, Treasurer or Director. If any other person makes this Declaration two copies of the bylaw issued under the Corporation seal, authorizing the individual to execute documents, must be submitted with the first declaration on each contract.
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1.00 SCOPE

.1 In case of inconsistency or conflict, these Supplemental Specifications supersedes the General Conditions, General Requirements, Specifications, Drawings, and all other Tender and Contract documents.

1.01 AS-BUILT SUBMISSIONS

.1 Drawings shall include all information as specified elsewhere for the construction drawings, but shall be corrected upon completion of construction to note all works removed or abandoned during construction. This information shall be retained in a digital point file.

.2 All dimensions, elevations and inverts shown shall reflect the As-Built conditions of the construction and all references to “Proposed” shall be removed. As-Built drawings shall be to scale in accordance with the As-Built dimensions shown. The Revision Table shall be completed indicating the drawings are As-Built. All changes and notes marked in “red ink” on the IFC drawings.

.3 All As-Built features shall be surveyed and survey points recorded in a digital point file with all changes marked on the IFC drawings in red ink. The As-Built drawing shall reflect the true elevation and location of all constructed features, in both the plan and profile views.

All As-Built drawings shall also include the following information:

(a) The location and elevation of all existing utilities and services encountered in the construction operation,

(b) The location and invert elevation at property line of all individual service connections, and the wye chainage, at the main for all constructed and existing works,

(c) A note on each drawing describing the type of trench material (sand, gravel, clay, hard pan, etc.) encountered during construction and the location and profile of all rock.

(d) A detail for each tie in point to existing utilities and locations where restrainers are required.
# SECTION 2 - GENERAL CONDITIONS
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ARTICLE 1. DEFINITION OF TERMS

.1 "APPROVAL" shall mean the approval granted by the City Engineer unless otherwise noted.

.2 “CHANGES” shall mean a change to the work including any addition, deletion, alteration, revision or substitution by altering, adding to, or deducting from the Work

.3 “CHANGE ORDER” shall mean a written document referenced as a “Change Order” executed by the Owner setting out a Change and the value or method of valuation of a Change and any adjustments to the Contract Price and Contract Time

.4 “CHANGE DIRECTIVE” shall mean a written instruction referenced as a “Change Directive” executed by the Owner and directing the Contractor to proceed with a Change

.5 "CITY" shall mean a duly authorized representative of the City of Nanaimo.

.6 “CITY ENGINEER” shall mean the person appointed to the office of City Engineer, by Council, acting, either directly or through authorized staff acting severally within the scope of the particular duties entrusted to them.

.7 "CONSULTANT" shall mean a Professional Engineer acting either directly or through his/her authorized agents, acting severally within the scope of the particular duties entrusted to them.

.8 “CONTEMPLATED CHANGE NOTICE” shall mean a written instruction referenced as a “Contemplated Change Notice” executed by the Owner and directing the Contractor to advise the impact on the Contract Price and Contract Time or a proposed Change to the Work.

.9 "CONTRACT DOCUMENTS" OR "CONTRACT" shall mean the complete set of documents, specifications, drawings, and addenda incorporated therein, as listed in the Table of Contents.

.10 "CONTRACTOR" shall mean the Contractor named in the Contract Agreement.

.11 “CONTRACT PRICE” shall mean the entire compensation to the Contractor for performance of the Work, which the Owner will pay to the Contractor as provided in this Contract subject to adjustments provided in this Contract.

.12 "DIRECTOR OF ENGINEERING AND PUBLIC WORKS" shall mean the City Engineer.

.13 "ENGINEER" shall mean:

(a) the City Engineer acting either directly or through his/her properly authorized agents, Professional Engineers, Consultants, and authorized staff, acting severally within the scope of the particular duties entrusted to them or,

(b) notwithstanding Article 1.8 (a), for City construction contracts, the Manager of Construction acting either directly, or through his properly authorized agents, Professional Engineers, Consultants and staff, acting severally within the scope of the particular duties entrusted to them,

(c) notwithstanding Article 1.8 (a), for Private Developments, the Consultant acting on behalf of the developer. The City Engineer will monitor the Consultant and retains the right to direct the Consultant's application of the Engineer's responsibilities.
.14 "EQUIPMENT" shall mean anything and everything except persons used by the Contractor in performance of the work and except material as defined herein.

.15 "HEREIN" and "HEREOF" and similar expressions wherever used in the Contract Documents, shall relate to the whole of the Contract Documents and not to any one (1) paragraph alone, unless the context specifically requires it.

.16 "INSPECTOR" shall mean a person or company authorized by the Engineer or by the Owner to inspect the work or any part of it.

.17 "MATERIAL" or "MATERIALS" shall, unless otherwise specified, mean anything and everything other than persons or the Contractor's equipment which is manufactured, processed, or transported to the site, or existing on the site, and incorporated into the completed works.

.18 "OWNER" shall mean the City of Nanaimo.

.19 "PLANT" shall mean the same as EQUIPMENT.

.20 "PROFESSIONAL ENGINEER" shall mean a person registered with the Association of Professional Engineers of British Columbia as a Professional Engineer.

.21 "PROVIDE" shall mean the same as SUPPLY.

.22 "SUBCONTRACTOR" shall mean any person, engaged by the Contractor or another Sub-Contractor to perform or provide part or parts of the work or to supply material intended to be incorporated into the completed works, but does not include a worker or a person engaged by an architect, an engineer or a material supplier.

.23 "SUPPLY" shall mean supply and pay for or provide and payfor.

.24 "WORK" or "WORKS" shall, unless the context otherwise requires, mean the whole of the work, equipment, materials, labour, matters and things required to be done, furnished, and performed by the Contractor under this Contract.

ARTICLE 2. INTENT OF CONTRACT

.1 The intent of the Contract is that the Contractor shall provide all materials, supervision, Labour, equipment, and all else necessary for, or incidental to, the proper execution of the work unless specifically noted otherwise. The Contractor shall do all the work shown on the drawings and/or described in the specifications and all other things necessary to complete the works.

ARTICLE 3. DRAWINGS AND SPECIFICATIONS FURNISHED

.1 Except as provided for otherwise, a maximum of six (6) copies of drawings and specifications for the execution of the work shall be furnished to the Contractor without charge. Additional instructions may be issued by the Engineer during the progress of the work by means of drawings or otherwise for clarification of the drawings and specifications, or as may be necessary to explain or illustrate Changes in the work to be done in accordance with Article 39 – Changes to the Work. One (1) complete set of all drawings and specifications shall be maintained at the jobsite by the Contractor and shall be available to the Engineer at all times.
SECTION 2 - GENERAL CONDITIONS
DRAWINGS, SPECIFICATIONS AND RELATED DATA

ARTICLE 4. DOCUMENTS CONFLICT

.1 In case of any inconsistency or conflict between the provisions of the Contract Documents the provisions of such documents and addenda thereto will take precedence and govern in the following order:

1. Contract Agreement
2. Supplementary General Conditions
3. General Conditions
4. Specifications
5. Drawings
6. Executed Tender Form
7. Instructions to Tenderers
8. Invitation to Tender
9. All other documents

.2 Figured dimensions on a drawing take precedence over measurements scaled from the drawing, and large scale drawings take precedence over those of smaller scale. Supplementary drawings and specifications supersede their antecedents. In case of conflict between figured dimensions on a drawing and the dimensions of a specified product, the dimensions of the specified product will govern. In case of conflict in materials and methods, the specifications govern. The drawings and specifications complement each other and anything called for by one will be as binding as if called for by both.

ARTICLE 5. DISCREPANCIES

.1 Any discrepancies found between the drawings and specifications or any errors or omissions in the drawings or specifications shall immediately be reported to the Engineer, who shall promptly correct such error or omission in writing. Any work done after discovery of such discrepancies, errors or omissions shall be done at the Contractor's risk.

ARTICLE 6. SHOP DRAWINGS

.1 The Contractor shall furnish to the Engineer, at proper times, all shop drawings including diagrams, illustrations, schedules, performance charts, brochures and other data necessary to clarify the work intended or to show its relation to adjacent work of other trades. The Contractor shall provide such additional drawings and shall make any changes or additions to such drawings or diagrams which the engineer may require consistent with the Contract and will submit sufficient copies of the revised prints for review, all but three (3) of which all be returned to the Contractor following review

.2 Prior to submission to the engineer the Contractor shall review all shop drawings. By this submission, the Contractor represents that he has determined and verified all field measurements, field construction criteria, materials, catalogue numbers and similar data and that he has checked and coordinated each shop drawing with the requirements of the work and of the Contract Documents.

.3 The Contractor shall submit shop drawings to the Engineer for his review with reasonable promptness and in orderly sequence so as to cause no delay in the work of other contractors. If either the Contractor or the Engineer so requests, they shall jointly prepare a schedule fixing the dates for submission and return of shop drawings. Shop drawings shall be submitted in the form of a reproducible transparency or prints as the engineer may direct. At the time of submission, the Contractor shall notify the engineer in writing of any deviations in the shop drawings from the requirements of the Contract Documents.
SECTION 2 - GENERAL CONDITIONS
DRAWINGS, SPECIFICATIONS AND RELATED DATA

.4 The Engineer will review and return shop drawings in accordance with any schedule agreed upon, or otherwise with reasonable promptness so as to cause no delay. The Engineer's review shall be for conformity to the design concept and for general arrangement only and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the Contract Documents unless a deviation on the shop drawings has been specifically approved in writing by the Engineer.

.5 The Contractor shall make any changes in shop drawings, which the Engineer may require consistent with the Contract Documents and resubmit unless otherwise directed by the Engineer. When resubmitting, the Contractor shall notify the Engineer in writing of any revisions other than those requested by the Engineer.

ARTICLE 7. LOCATION OF THE WORKS

.1 Where location dimensions for the proposed works are not shown on the drawings or digital file, the locations are intended to be approximate.

.2 Unless otherwise specified, the Engineer will provide the contractor with a copy of the digital drawing file for the Contractor and/or his surveyor to create a point file to be used for layout to perform the construction works.

.3 The Contractor shall perform all layout as required from the digital drawing file and shall be responsible for all dimensions and elevations determined from the digital information.

.4 The Contractor shall satisfy himself, before commencing any work, as to the meaning, intent, and accuracy of the information in the digital drawing file as it relates to control points, control lines, benchmarks, and the construction drawings.

.5 Should the Contractor discover or suspect any errors in the digital drawing file provided by the Engineer, he shall at once discontinue the affected work until such errors are investigated by the Engineer and, if necessary, rectified.

.6 The Contractor shall carefully preserve bench marks, reference points and stakes. In case of willful or careless destruction or disturbance of such markers, he shall be charged with the expense of replacing them and shall be responsible for any mistakes that may be caused by their destruction, loss or disturbance.

.7 In any dispute between the Contractor and the Engineer on the correctness of grades, locations, elevations of the installations or constructed works, the Contractor shall be responsible for proving by means of cut sheets and undisturbed stakes, that he has made the installation or construction in accordance with the layout provided.

.8 The contractor shall be required to maintain an "as-constructed" drawing set for the project, with all changes and notes marked in red ink and an “as-constructed” digital survey file. This information shall be available to the Engineer for review on request, and shall be submitted to the Engineer prior to issuing the Notice of Acceptance.

.9 Legal survey markers, disturbed or removed by the construction operation that existed at a horizontal distance of 1.0 m or more from the maximum allowable trench width as shown on the standard drawings, shall be replaced at the Contractor’s expense. If it is necessary to remove or disturb existing legal survey markers that are within the above limits, the Engineer shall be so notified a minimum of three working days before such removal or disturbance and replacement will be at the Owner's expense.
ARTICLE 8. LOCAL CONDITIONS

.1 The Contractor shall, by personal inspection, examination, calculations or tests, or by any other means, satisfy himself with respect to the local conditions to be encountered and the quantities, quality, and practicability of the work and of his methods of procedure. No verbal agreement or conversation with any officer, agent, or employee of the Owner, either before or after the execution of the contract, shall affect or modify any of the terms or obligations herein contained.

.2 Failure to properly assess the local conditions to be encountered and the quantities, quality and practicability of the work and his methods of procedure is a risk to be borne by the Contractor.
ENGINEER, OWNER, CONTRACTOR RELATIONS

ARTICLE 9. ENGINEER'S STATUS

.1 The Engineer will be the Owner's representative during the construction period and will observe work in progress on behalf of the owner. The Engineer will have the authority to stop the work whenever such stoppage may be necessary, in his opinion, to ensure the proper execution of the work in accordance with the provisions of the contract. The Contractor shall obey such order immediately. Neither the giving or carrying out of such orders shall thereby entitle the Contractor to any extra payment.

.2 The Engineer may delegate such of the powers of the Engineer to other persons, as the Engineer deems appropriate.

.3 The Engineer or the Owner may appoint any persons or company or the employee of any such person or company or of the Engineer to be an Inspector. Such Inspector shall have the authority of the Engineer to reject materials, procedures or workmanship as not complying with the provisions of the Contract and to order the Contractor to stop work until the materials, procedures or workmanship comply with such provisions.

ARTICLE 10. INSPECTION OF WORK

.1 The Contractor shall allow the Engineer and/or owner or their duly appointed Inspector access and provide adequate facilities for access to any part of the works at all times. If the specifications, Engineer's instructions, laws, ordinances or any public authority requires any work to be specially tested or approved, the Contractor shall give the Engineer advance notice of his preparedness for such inspection, and if the inspection is by an authority other than the Engineer, of the date fixed for such inspection. The Engineer will inspect the work promptly and without causing unreasonable delay to the Contractor. Extra payment will not be made to the Contractor for delay occasioned by an inspection, and extension of completion time will not be allowed for delay resulting therefrom.

.2 On request by the Engineer, the Contractor shall open for inspection any part of the work that has been covered up. If the Contractor refuses to comply with such request, the Owner may employ other persons to uncover the work. If the work is found to be in accordance with the Contract requirements then the cost of uncovering and recovering the work shall be borne by the Owner. If any of the work was covered by the Contractor in contravention of the Engineer's instructions, or if the uncovered work is found not to be in accordance with the Contract requirements, then the cost of uncovering and recovering the work shall be charged to the Contractor.

.3 The lack of comment on the part of the Engineer, on methods of construction by the Contractor shall not relieve the Contractor of his responsibility for any errors therein, and shall not be regarded as an acceptance of responsibility for work done by the Contractor.
SECTION 2 - GENERAL CONDITIONS
ENGINEER, OWNER, CONTRACTOR RELATIONS

ARTICLE 11. SUPERVISION AND LABOUR

.1 The Contractor shall keep on the work at all times during its progress a competent superintendent who is approved by the Engineer, which approval may be withdrawn at any time. The superintendent shall represent the Contractor in his absence and directions given to him shall be held as being given to the Contractor. The superintendent shall give efficient and effective supervision to the work until its completion.

.2 When competent personnel are available locally they shall, whenever possible, be employed by the Contractor.

ARTICLE 12. LANDS BY OWNER

.1 The Owner will provide the lands upon which the work is to be performed. Where work is to be performed on lands owned by others, the Owner, will obtain the necessary easements or rights-of-way. The Owner will endeavor to obtain the necessary easements or rights-of-entry in time to permit construction to proceed as scheduled by the Contractor. When this is not possible, the Contractor shall withhold work on property owned by others until such easements or rights-of-entry have been obtained. Delay in providing these lands, or in obtaining easements or rights-of-way which, in the opinion of the Engineer, delays the work or results in extra cost to the contractor, will be deemed proper cause for adjustment in the time of completion and adjustment of the Contract Price to cover the extra cost to the Contractor.

ARTICLE 13. LANDS REQUIRED BY CONTRACTOR

.1 Any lands other than those which are to be provided by the Owner and which may be required by the Contractor for temporary facilities, storage purposes, or access to the work site, shall be obtained by the Contractor at no cost to the Owner.

ARTICLE 14. PRIVATE LAND

.1 It shall be the Contractor's responsibility to ascertain the boundaries within which the work must be confined. The Contractor shall not enter lands other than those provided by the Owner for any purpose without obtaining prior written permission of the land owners and occupiers. The Contractor shall not enter upon lands owned by others on which the Owner has easements or rights-of-entry without having received the written authorization of the Owner for such entry. It shall be the Contractor's responsibility to ascertain from the Owner the conditions on which easements or right-of-entry have been granted on private lands and to abide by these conditions throughout the course of construction.

The Contractor shall notify the Owner and Engineer, in writing, of any supplementary construction agreements made between the Contractor and the Owner of private property in lieu of or in addition to the condition sheets provided by the Owner and forming part of this document.

.2 The Owner will not be responsible for any supplementary construction agreements other than those to which the Owner is a signed party.
SECTION 2 - GENERAL CONDITIONS
ENGINEER, OWNER, CONTRACTOR RELATIONS

ARTICLE 15. ASSIGNMENT OF CONTRACT

.1 Neither party shall sublet, sell, transfer, assign, or otherwise dispose of the Contract or any portions thereof, or his right, title, or interest herein, or his obligations thereunder without written consent of the other party, except for an assignment to a bank of the payments to be received hereunder.

ARTICLE 16. SUSPENSION OF WORK BY OWNER

.1 The Owner may at any time suspend the work, or any portion thereof, provided he gives the Contractor five (5) days written notice of suspension. The Contractor shall resume work upon written notice of the Owner within ten (10) days after the date set forth in such notice, or in a subsequent notice to resume work. The Owner will reimburse the Contractor for costs and expenses incurred by the Contractor necessitated by such suspension of work or portion thereof, but the Contractor shall not recover from the Owner payment for any loss of anticipated profits or damages.

ARTICLE 17. OWNER’S TERMINATION OF THE CONTRACTOR’S RIGHTS

.1 The Owner will have the right to terminate the Contractor’s right to continue with the work if the Contractor at any time becomes bankrupt, makes an assignment of his property for the benefit of the creditors, or if a receiver or liquidator should be appointed. Such termination shall be effective upon the Owner giving notice thereof.

.2 If at any time the Engineer is of the opinion and so states in writing to the Owner that the Contractor:

(a) has failed to commence work or to recommence work after a suspension within the time specified in the contract documents;
(b) has failed or is failing to furnish or to maintain a detailed work schedule and plan of operation as required by Article 38 - Schedule of Completion thereof;
(c) has failed or is failing to use diligence or has failed to comply with the instructions of the Engineer to expedite his work or is other wise failing to make such progress with the work as is necessary to ensure the completion of the work or any part thereof in the time specified in the contract documents;
(d) has failed or is failing to supply enough competent workmen, management, materials or suitable equipment; or
(e) has failed, or is failing to pay, the minimum rate of pay as described in Article 28 – Personnel and Rates of Pay;
(f) has become in any way unable to carry on the work or any part thereof;
(g) has failed to ensure the safety of the workers and public; (REvised NOVEMBER 2016)
(h) has failed or refused to comply with a regulation or order issued pursuant to the Workers Compensation Act. (REvised NOVEMBER 2016)

the Owner may give notice in writing to the Contractor of such opinion and requiring that such default or defaults be remedied forthwith. If, within five (5) days of such notice, such default or defaults are not remedied to the satisfaction of the Engineer, the Owner may terminate the Contractor’s right to perform further the work under the contract. Such termination shall be effective immediately.
.3 Upon such termination, the Owner may employ such means as he sees fit to complete the works. In such cases:

(a) The Contractor shall have no claim for any further payment in respect of work performed, but shall be liable for all damages and expenses which may be suffered by the Owner by reason of such default or delay, or the non-completion by the Contractor of the works;
(b) No objection or claim shall be raised or made by the Contractor by reason of or on account of the ultimate cost of the works so taken over for any reason proving greater than, in the opinion of the Contractor, it should have been;
(c) All materials and all rights, proprietary or otherwise, licenses, powers and privileges, whether relating to or effecting real or personal property, acquired, possessed or provided by the Contractor for the purposes of the work under the provisions of this Contract will become or remain and be the property of the Owner for all purposes incidental to the completion of the works and may be used, exercised, and enjoyed by the Owner as fully to all intents and purposes connected with the works as they might therefore have been used, exercised and enjoyed by the Contractor; and,
(d) The Owner may forthwith enter into possession of all the Contractor's equipment on the site of the work and may use the same in any way it sees fit in order to complete the works without the Owner being in any way liable for damage or any other cost in connection with such use by the Owner. Upon completion of the work, such equipment may be returned to the Contractor or may be sold by the Owner and the net proceeds of such sale credited to the Contractor's account.

.4 If the Contractor's right to perform the work is terminated in accordance with the provisions of this clause, the Contractor shall not be entitled to receive any further payment until the work is completed.

.5 Upon completion of the work the Engineer shall determine:

(a) The amount which would have been due to the Contractor under the Contract if all of the work had been performed by him;
(b) The costs and expenses borne by the Owner in completing the work and damages for delay in completion, if any.

.6 The Contractor shall be entitled to receive the balance of the contract price less such costs and expenses, or if such costs and expenses exceed such price, the Contractor shall pay the amount of such excess to the Owner on demand.

.7 The Owner shall have the option, under the provisions of this Article, to be exercised in its absolute discretion, to terminate the right of the Contractor to perform any part or parts of the work and to permit the Contractor to continue to perform the rest of the work. All the provisions of this article shall apply to such part or parts with such modifications as the circumstances may require.

ARTICLE 18. CONTRACTOR'S TERMINATION OF THE CONTRACT

.1 The Contractor shall have the right to terminate the Contract for any of the following reasons:

(a) In the event of any Order of any Court or other public authority, other than the Owner, causing the work to be stopped or suspended, and when the period of such stoppage
or suspension exceeds ninety (90) days, and when such stoppage or suspension occurs through no act or fault of the Contractor, his agent, or servants.

(b) In the event that the Owner fails to pay, except as provided in the Contract documents, any sum certified by the Engineer within twenty (20) days from the due date of payment, and fails to remedy such default within ten (10) days of the Contractor's written notice to do so.

.2 In either event, the Contractor will receive from the Owner payment for all work performed and losses sustained in respect of any materials. For termination under (a) above, the Owner will not be liable for any loss of anticipated profits, damages, or expenses incurred by the Contractor as a result of such stoppage or suspension, but under (b) above, the Contractor will be paid for loss of profits, damages and expenses. Such termination shall be effective upon the Contractor giving notice hereof.

.3 The amount due to the Contractor for work performed and losses sustained shall be determined by the Engineer and certified by him to the Contractor and to the Owner.

ARTICLE 19. SEPARATE CONTRACTS

.1 The Owner reserves the right to let other contracts in connection with the work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

.2 If any of the Contractor's work, as specified herein and shown on the drawings, depends upon the work of any other contractor, the Contractor shall inspect and measure the work in place and determine whether anything in such work renders it unsuitable for proper execution of his work. He shall promptly report the results of such inspection and measurement to the Engineer if anything in such work renders it unsuitable for proper execution of his work. His failure to inspect and report promptly shall constitute an acceptance of the other contractor's work and he shall have no claim against the Owner by reason of anything in such work rendering the same unsuitable for proper execution of his work.

ARTICLE 20. SUBCONTRACTS

.1 The subcontractor named in the Tender Form, and others as may be approved by the Engineer following execution of the Contract Agreement, shall not be changed nor shall additional subcontractors be employed except with the written approval of the Engineer. The Contractor is responsible to the Owner for the acts and omissions of his subcontractors and of their employees, to the same extent that he is responsible for the acts or omissions of persons employed by himself. Nothing in the Contract Documents shall create any contractual relation between any subcontractor and the Owner. The Contractor shall bind every subcontractor to the terms of the Contract Documents.

.2 Each Subcontract shall contain a provision that the Certificate of Completion of the work by the Subcontractor shall be binding on the Contractor and Subcontractor.
ARTICLE 21. ORAL AGREEMENTS

.1 No oral instruction, objection, claim or notice by any party to the other shall affect or modify any of the terms or obligations contained in any of the Contract Documents, and none of the provisions of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by a waiver or modification thereof in writing and agreed to by the parties to the contract.

ARTICLE 22. NON-WAIVERS

.1 Any failure by the Owner or the Engineer at any time, or from time to time, to enforce or require the strict keeping and performance of any of the terms or conditions of the contract will not constitute a waiver of such terms or conditions and will not affect or impair such terms or conditions in any way or the right of the Owner or the Engineer at any time to avail itself or himself of such remedies as it or her may have for any breach or breaches of such terms or conditions.

.2 No provision in the Contract which imposes or may be deemed to imposes extra or specific responsibilities or liabilities on the Contractor shall restrict the general or other responsibilities or liabilities of the Contractor in any way.
ARTICLE 23. MATERIALS BY CONTRACTOR

1. The Contractor shall supply all materials unless it is expressly specified to the contrary. Materials used in the work shall meet the requirements of the specifications, or where not detailed in the specifications, shall be to the Engineer's satisfaction. Unless otherwise specified, all materials shall be new.

2. Unless otherwise specified, the Contractor shall provide all water, light, power, heating and equipment necessary for the execution of the work.

3. Schedules of piping, fittings, reinforcing, or other materials indicating quantity and/or dimensions, which are shown on the drawings, or in the applicable sections of the specifications, are intended only to assist the Contractor in his quantity takeoff. Quantities and dimensions shown therein are not guaranteed to be accurate and the Contractor must satisfy himself as to the accuracy of the quantities and dimensions.

4. No variations between the quantities shown on the schedules and those actually installed shall give rise to any claim by the Contractor or to any right for additional payment in a lump sum price contract or to a variation in unit price in a unit price contract.

5. All materials provided by the Contractor shall remain in the custody and at the risk of the Contractor.

ARTICLE 24. MATERIALS BY OWNER

1. The Owner will provide only such materials as are specifically listed as being supplied by the Owner.

2. The Contractor shall be responsible for materials from the point of delivery to the jobsite. The Contractor shall verify the delivery dates of materials provided by the Owner and shall arrange work schedules to comply therein.

3. The Owner shall not be liable in any way for a delay in such delivery arising out of any cause beyond the Owner's reasonable control.

ARTICLE 25. MATERIALS STORAGE

1. The Contractor, at his own cost, shall store all materials provided for the work either by himself or the Owner until they have been incorporated into the completed works. Materials shall be so stored as to ensure the preservation of their quality and fitness for the work, and shall be so protected from vandalism and theft. Stored materials shall be located so as to facilitate prompt inspection. Faulty materials shall not be stored on the site, and any material found to be faulty shall promptly be removed from the site by the Contractor.
ARTICLE 26. TESTING, REJECTED WORK AND MATERIALS

.1 If, in the opinion of the Engineer, testing is required, the Engineer will arrange for a testing firm to carry out tests to determine whether the applicable standards and specifications have been met. Where initial testing indicates inadequacies, additional testing may be required by the Engineer.

.2 The Contractor, as directed by the Engineer, shall supply specimens or samples for testing.

.3 All materials, which do not conform to the requirements of the Contract Documents, are not approved by the Engineer, or are in any way unsatisfactory or unsuited to the purpose for which they are intended, will be rejected. Any defective work, whatever the cause thereof, and without limiting the generality of the foregoing, whether the result of poor workmanship or use of defective materials, shall be removed within five (5) days after written notice is given by the Engineer, and the work shall be re-executed by the Contractor. The fact that the Engineer may have previously overlooked such defective work shall not constitute an acceptance. The removal of work and the re-execution thereof shall be at the expense of the Contractor, and he shall pay the cost of replacing the work which shall include materials of other contractors destroyed or damaged by the removal of the rejected work or materials and the subsequent replacement with acceptable work. The Contractor shall also reimburse the Owner for initial testing and any additional engineering, inspection, testing or other contractor’s costs incurred in respect of rejected work or materials, whether such work or materials are replaced or not or are accepted at a lower price.

.4 If, in the opinion of the Engineer, it is not expedient to re-execute defective work 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 by the Engineer.

ARTICLE 27. OWNER’S RIGHT TO CORRECT DEFICIENCIES

.1 Upon failure of the Contractor to perform the work in accordance with the Contract Documents, and after five (5) days’ written notice to the Contractor, or without notice if an emergency or danger to the work or public exists, the Owner may, without prejudice to any other remedy he may have, correct such deficiencies. The cost of work performed by the Owner in correcting deficiencies shall be paid by the Contractor.

ARTICLE 28. PERSONNEL AND RATES OF PAY

.1 All workers must have sufficient knowledge, skill, and experience to perform properly the work assigned to them. Any foreman or workers employed by the Contractor or subcontractor who, in the opinion of the Engineer, does not perform his work in a skillful manner, or appears to be incompetent or to act in a disorderly or intemperate manner shall, at the written request of the Engineer, be removed from the site of the work immediately and shall not be employed again in any portion of the work without the approval of the Engineer.

.2 In addition the minimum rate of pay to all workers for work performed under this Contract or under Sub-contract shall be as classified in the current Agreement between the City of Nanaimo and the Canadian Union of Public Employees, Local No. 401.
.3 Failure of the Contractor to pay the minimum rate of pay as described in Article 28.2, may result in the Owner:

(a) terminating the contract, in accordance with Article 17- Owner’s Termination of the Contractor’s Rights
(b) suspending payments to the Contractor, in accordance with Article 44 - Payment Withheld, until the Owner is satisfied the Contractor is complying with Article 28.2.
(c) holding back sufficient funds to cover the difference between what the Contractor or Sub-Contractor is paying and what they should be paying under Article 28.2.

ARTICLE 29. GUARANTEE PERIOD

.1 Neither the Notice of Acceptance nor a Notice of Partial Acceptance nor any payment by the Owner shall relieve the Contractor of responsibility for faulty materials or defective workmanship. The Contractor guarantees to maintain the work against any defects arising from faulty installation, faulty materials, supplied under the Contract or faulty workmanship which may appear within one (1) year of the date of the Notice of Acceptance. If a Notice of Partial Acceptance has been issued, the guarantee period shall begin from the date of such Certificate except for the work still to be performed and the defects and deficiencies still to be corrected which are listed on such Certificate. Faulty materials shall be replaced and defects discovered and failures which occur during the guarantee period shall be rectified to the satisfaction of the Engineer and in accordance with the Contract Documents, including, if deemed necessary by the Engineer, replacement of all or a portion of the work. The same guarantee as is here in provided and for the same period shall attach to such replacement materials or rectified work and the period shall begin on the date the Engineer accepts such replacement materials or rectified work.

.2 If the Owner observes through use of the works, or if it is discovered by tests or inspection of the works prior to the end of the guarantee period, that a deficiency or defect exists in the materials or workmanship in respect to the works, the Owner shall immediately notify the Contractor, by whatever means are available, of the defect or deficiency and instruct him to rectify the fault. Such notification shall be confirmed by the Owner in writing to the Contractor. In the event that this work, in the opinion of the Owner, must be done immediately to prevent serious damage, injury or loss of life, the Owner may perform, or cause to be performed, the necessary work, and shall notify the Contractor accordingly. Work required under guarantee shall, except as otherwise provided herein for emergencies, be carried out by the Contractor or his representative within ten (10) days of the Owner’s written instruction to perform the work. In the event that this work is not done by the Contractor within the ten (10) day period, or such further period as may be approved by the Engineer, the Owner may take whatever action is necessary to have the work done.

.3 All costs relating from the necessity to do work under the guarantee requirement, whether it be done by the Contractor, his representative, or the Owner, as provided herein, shall be borne by the Contractor. The Contractor shall, in addition, be liable to the Owner for all expense, losses, or damages incurred by the Owner as a result of faulty materials and defective workmanship as are referred to in Article 29.1, or as a result of the Contractor's failure to meet the guarantee requirements as specified herein, including, but without limiting the generality hereof, all costs of engineering, inspection and testing. All costs will be deducted by the Owner from the guarantee amount described in Article 51 -Release of Guarantees.

.4 The issuance of a Certificate of Completion in relation to a subcontract shall not relieve the Contractor of his obligation under this Article 29 - Guarantee Period.
2.04  **LEGAL RESPONSIBILITY AND PUBLIC SAFETY**

**ARTICLE 30.  DAMAGE TO WORK**

.1 The Contractor shall be responsible for all loss and damage whatsoever which may occur on or to the works, completed or otherwise, until such time as the entire works have been completed and the Notice of Acceptance has been issued by the Owner. In the event of any loss or damage occurring, the Contractor shall, on notice from the Engineer, immediately put the works into the condition it was immediately prior to such loss or damage all at the Contractor's expense, except where such loss or damage was caused solely by an act of the Owner.

**ARTICLE 31.  INDEMNITY**

.1 The Contractor shall indemnify and save harmless the Owner from and against all losses and all claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description brought or recovered against him, and/or the Owner, by reason of any act or omission or alleged act or omission of the Contractor, his agents, employees, or subcontractors in the execution of the work.

**ARTICLE 32.  BONDS**

.1 To ensure the faithful execution and proper fulfillment of this Contract, the Contractor shall provide the Owner with the following bonds at the time of his execution of the Contract Agreement:

(a) a Performance Bond in the amount of fifty percent (50%) of the total *Contract Price* covering the faithful performance of the Contract and maintenance of the Contract for one year after the Notice of Acceptance;

(b) a Labour and Material Payment bond in the amount of fifty percent (50%) of the total *Contract Price*; and the above bonds must be issued by a Surety Company licensed to conduct business in the Province of British Columbia and shall be provided in quadruplicate on the forms contained within the Contract Documents.

.2 Notwithstanding anything contained elsewhere in the contract documents, the Owner shall not be required to make any payment whatever to the Contractor until the above bonds, duly executed, have been delivered to the Owner.

**ARTICLE 33.  PATENTS AND ROYALTIES**

.1 The Contractor shall pay all royalties and license fees with respect to and shall assume the defense of and indemnify the Owner and the Engineer, their employees, officers and agents from all claims relating to inventions, copyrights, trademarks, or patents used in doing the work and in the subsequent use and operation of the work or any part thereof upon completion. The contractor shall not be liable hereunder with respect to any claims arising from a construction method, process or equipment specified by the Owner in the documents submitted to the Contractor before he submitted his tender.
SECTION 2 - GENERAL CONDITIONS
LEGAL RESPONSIBILITY AND PUBLIC SAFETY

ARTICLE 34. PERMITS AND REGULATIONS
.1 The Contractor shall, at his own expense, procure all permits, certificates and licensees required for the construction of the work and shall comply with all federal, provincial, and local laws, regulations and ordinances affecting the execution of the work, save insofar as the Contract Documents specifically provide otherwise.

.2 The Owner will obtain all necessary governmental approvals for the design of the completed work, and all permits and licenses required by law for the completed works.

ARTICLE 35. INJURY OR DAMAGE TO PERSONS OR PROPERTY
.1 The Contractor shall use due care and take all necessary precautions to ensure the protection of persons and property and shall comply with the provisions of the Workers' Compensation Act of the Province of British Columbia and any safe work procedures as listed in Section 3.10 – WorkSafe BC. The Contractor shall be liable for any and all injury or damage which may occur to persons or to property due to any act, omission, neglect or default of the Contractor, or of his employees, workmen or agents.

.2 The Contractor shall, without further order, provide and maintain at all times during the progress or suspension of the work, suitable barricades, fences, signs, signal lights and flagpersons as are necessary to ensure the safety of the public and those engaged in the work.

.3 Notwithstanding the provision of Article 9 – Engineer’s Status, in an emergency affecting the safety of life, or of the works, or of adjoining property, the Contractor, without the necessity of authorization from the Engineer, shall act in a reasonable manner to prevent loss or injury.

.4 The work shall be carried out in a manner that will cause the least interruption to vehicular and pedestrian traffic. Where work is to be carried out on highways or properties other than those of the Owner, the Contractor shall familiarize himself with the requirements of the owner or controllers of those highways or properties which pertain to traffic control and safety or which place limitations on the work and shall comply with such requirements.
PROGRESS, COMPLETION OF WORK AND PAYMENT

ARTICLE 36. NOTICE TO PROCEED

.1 Following the execution of the Contract Agreement by the Contractor and the provisions of the required bonds and insurance policies, written Notice to Proceed with the work will be given to the Contractor by the Owner. The Contractor shall begin work within fourteen (14) days following receipt of the Notice to Proceed and shall prosecute the work regularly and without interruption thereafter, unless otherwise directed in writing by the Engineer or Owner, in such a manner as to secure completion of the work within the time stated in the Contract Agreement. Time shall be of the essence of the Contract.

.2 If, however, when the Notice to Proceed is given, as strike or lockout affecting workers of a classification required to organize or begin performance of the work reasonably prevents the Contractor from beginning work promptly, the completion date stated in the Contract Agreement will be extended by the same number of days as the strike or lockout. If the strike or lockout affects workers of several classifications and such strike or lockout ends on different dates, the end of the strike or lockout will be deemed to occur when all workers of a classification required to organize or begin performance of the work are permitted to work for the Contractor. No extension of time herein provided, shall be grounds for any claim whatsoever by the Contractor for extra payment.

ARTICLE 37. FAILURE TO COMPLETE ON TIME

.1 If the work is not complete within the scheduled time, the Owner may extend the time of completion. If the time limit be so extended, the Owner shall have the right to charge to the Contractor and to deduct from the final payment for the work, the actual cost to the Owner of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the contract and which accrue during the period of such extension, except that the cost of final surveys and preparation of final estimates shall not be included in such charges.

ARTICLE 38. SCHEDULE OF COMPLETION

.1 The Contractor shall prepare a detailed work schedule and plan of operation approved by the Engineer. The schedule and plan of operation, unless otherwise approved by the Engineer, shall be submitted to the Engineer not later than fourteen (14) days after the date of the Notice of Award. The schedule and plan of operation shall describe the proposed labour force and equipment, sequence and methods of operation, and projected weekly progress to show completion of all work within the Contract time for completion. Upon receipt of such schedule and plan of operation by the Engineer, the schedule shall become the approved construction schedule. Neither the plan of operation nor the approved construction schedule shall be changed without the prior approval of the Engineer.

.2 Unless otherwise approved by the Engineer, work shall be scheduled between the normal working hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding Statutory Holidays. For work scheduled outside the normal working hours, the owner shall have the right to charge to the contractor and to deduct from the Contractor's payments, the actual cost to the Owner for engineering inspection, superintendence and other overhead expenses which are directly chargeable to the contract and which accrue outside the normal working hours.
.3 If the Engineer should be of the opinion, and so state in writing to the Contractor, that the rate of progress of the work is insufficient to enable the whole of the work or any part or parts thereof to be completed within the time or times specified for such completion in the approved construction schedule, the Contractor shall take whatever steps the Engineer may in his absolute discretion specify in writing to the Contractor to expedite the progress of the work. Such steps may include, but shall not be limited to adoption of shift work and/or the provision of additional men or equipment. The Contractor shall not be entitled to any extra payment by reason of such order of the Engineer.

ARTICLE 39. CHANGES IN THE WORK

.1 The Owner, without invalidating the Contract, may make changes and adjust the Contract Price in accordance with this Article 39 – Changes in the Work. The Owner may issue any Change Order or Change Directive, to the Contractor or any other person authorized by the Contractor to receive a Change Order. The Owner may, at any time, require the Contractor to add one or more optional items to the Work as a Change. No Change will be made without a Change Order or Change Directive from the Owner.

The Contractor will not be entitled to a Change Order or Change Directive, or to any adjustments to the Contract, for any Change for which the Contractor has not, prior to commencing the performance of a Change, obtained from the Owner a Change Order or Change Directive except where expressly allowed in this Contract. The Owner may, at any time, by issuance of a “Contemplated Change Notice” require the Contractor to assess the impact of a proposed Change on the Contract Price and the Contractor will provide the Owner with such assessment within 10 days after the Owner’s request or such other time as may be agreed by the Owner, acting reasonably.

The Contractor shall proceed with the Work as changed and the Work shall be executed under the provisions of the Contract. No Change shall be undertaken by the Contractor, without written order of the Engineer, except in an emergency endangering life or property, and no claims for additional compensation shall be valid unless the change was so ordered. No payment for extra work or changes in any contract will be entertained by the Owner unless a “Change Order Form” is completed prior to the change or commencement of the extra work.

.2 If, in the opinion of the Engineer, such changes affect the time of Contract completion or the Contract Price, these will be adjusted at the time of ordering the changes. The value of the addition or deduction from the Contract Price, and the method of determining such value, shall be decided by the Engineer. The Engineer will use one (1) or more of the following methods in deciding such value:

(a) by unit prices or combinations of unit prices in the Contract Tender Form:
(b) by unit prices submitted by the Contractor and accepted by the Owner:
(c) by lump sum submitted by the Contractor and accepted by the Owner:
(d) on a force account basis as specified in the next succeeding Article.

.3 If the Contractor and the Owner cannot agree on the method of determining such value, the Engineer shall decide and certify the unit prices or lump sum to be used which are or is in his opinion fair and reasonable to both parties and his decision shall be final.
The Contractor shall obey, perform and comply with the Engineer's orders or instructions with respect to the work or concerning the conduct thereof promptly, efficiently and to the satisfaction of the Engineer. However, if the Contractor is of the opinion that such orders or instructions are not authorized under the provisions of the Contract or involve a change for which a Change Order or Change Directive should be issued as described in Article 39.1, he shall so notify the Engineer in writing before proceeding to carry them out and, in any event, within ten (10) days of the receipt of such orders or instructions. If the Contractor does not so notify the Engineer within the time so limited, he shall not claim at any time thereafter that the orders or instructions were not authorized or should have been subject to a Change Order or Change Directive. Nevertheless, the giving of such notice to the Engineer shall not relieve the Contractor of his obligations to carry out and obey such orders and instructions.

ARTICLE 40.  FORCE ACCOUNT WORK

.1 Force account rates for personnel shall be based on the direct cost to the Contractor. A markup of 20% of the total direct costs will be paid to cover overhead and profit. The total direct costs shall be calculated based on:

(a) The rate of pay as outlined in Article 28, or the employees actual rate of pay, if higher.
(b) All applicable employee benefits.
(c) All small tools and equipment, signage and transportation required by the employee to perform the duties of the listed occupation.
(d) All applicable Federal, Provincial and Municipal taxes, duties and charges.

.2 Force account rates for equipment shall be determined by the Engineer based on the B.C. Government Blue Book Equipment Rental Rate Guide as follows: (REVISED NOVEMBER 2016)

(a) For Contractor owned equipment, "all found" rates will be paid which include allowances for the equipment operator, small tools, overhead and profit.
(b) For Non-Contractor owned equipment, the lower of, Blue Book rates; or the actual rental costs, as evidenced by invoice, plus a 10% markup to cover overhead and profit.
(c) Attachments on equipment will only be paid when in use and not because the equipment has the attachment(s).

.3 Subcontractors will be paid the subcontractor’s proper bill for such work performed with a markup of 10% to cover overhead and profit.

.4 Materials will be paid based on the supplier’s invoice price with a markup of 10% to cover overhead and profit.

.5 The cost of the work done each day shall be submitted to the Engineer by the Contractor in a satisfactory form on each succeeding day after force account work is carried out and shall be approved or adjusted by the Engineer. No claim for compensation for extra work or materials shall be considered or allowed unless such report shall have been made, or the Engineer shall have extended the time for such reports or released the Contractor therefrom. The submission to, or acceptance or approval by, the Engineer of daily force account cost records shall not at any time be deemed to be an admission that the work is properly chargeable to force account.

.6 The Contractor will be required to demonstrate to the Engineer’s satisfaction the personnel force account rates are in fact the direct cost to the Contractor. The Contractor will also be required to provide any necessary information required by the Engineer to determine
ARTICLE 41. DELAYS

.1 If the Contractor is delayed during the performance of the work, the time for completion of the work under the Contract may be extended by the owner in the event of one (1) or more of the following:

(a) Where extra work as herein provided is added to the work under this Contract.
(b) Where the work is suspended as provided for in Article 16 – Suspension of Work by Owner.
(c) Where the work is delayed on account of conditions which could not have been foreseen or which were beyond the control of the Contractor and which were not the result of the fault or negligence of the Contractor, his agents, or employees, provided, however, rain, wind, flood, or other natural phenomena of normal intensity for the area shall not be construed as cause for an extension of time for completion of the work.
(d) Where work is delayed on account of conditions that are beyond the reasonable control of the Engineer or the Owner.
(e) Where delay occurs in the progress of the work as a result of the negligent act of the Owner or his employees, in the administration of this contract.
(f) Where delay occurs as a result of an act of a public authority.
(g) Where the Engineer causes delay in furnishing of drawings or necessary information.
(h) Where strikes, lockouts, or labour disputes prevent or substantially interfere with the progress of the work.
(i) Where, in the opinion of the Engineer, the Contractor is entitled to an extension of time.

.2 A claim for extension of Contract time shall only be considered when submitted by the Contractor to the Engineer in writing within seven (7) days of the occurrence of the delay on which the claim is based, provided, however, that in the case of a continuing cause of delay only one (1) claim shall be necessary. Within a reasonable period after the Contractor submits a request for an extension of time, the Engineer will present his written recommendation to the Owner stating his opinion on whether or not the delay justifies an extension of time; and, if so, the number of days extension due to the Contractor. The Owner will make the final decision on all requests for extension of time.

.3 Delays, pursuant to Article 41, shall not entitle the Contractor to reimbursement for any additional costs, except as outlined in .1 (b) or (e) above.

ARTICLE 42. USE OF COMPLETED PORTIONS

.1 The Owner will have the right to take possession of and use any completed or partially completed portions of the work, whether the time for completing the entire work or such portions has or has not expired, but such taking possession and use will not be deemed an acceptance of any work so taken possession of or used. If such prior use increases the cost of, or delays the completion of uncompleted work or causes refinishing of completed work, the Contractor shall be entitled to such extra compensation or extension of time, or both, as the Engineer may determine.
ARTICLE 43. PROGRESS PAYMENT CERTIFICATES

.1 At the end of each calendar month the Contractor will estimate project quantities for that month and provide to the Engineer for review and approval. Where unit prices apply, payment will be calculated on the basis of the tendered prices and the units of work completed as determined by the Engineer. Where a lump sum price applies, payment will be calculated on the basis of the Engineer’s estimate of the percentage of work completed. The Engineer will prepare final payment certificate for payment by the Owner.

.2 The payment certificate shall show as of the end of the last day of each calendar month the value of all labour and materials incorporated into the works, including extras, and all adjustments previously made whether additions or deductions. The certificate shall also show the aggregate of previous payments, the amounts withheld to comply with the Builders Lien Act, and the amount, if any, of the holdback released in respect of completed subcontracts. Except in respect of the final progress payment, the gross amount shown on such certificate, less the aggregate of all previous payments, previous sums withheld, and the amount then required to be withheld to comply with the Builders Lien Act as set out below, shall become due and be payable by the Owner to the Contractor on or before the last day of the next month. In those cases where the work is such that the Builders Lien Act does not apply or does not require the retention of a holdback, the Owner will nevertheless retain holdbacks to the same extent as if such legislation applied to the work.

.3 Ten percent (10%) of each progress payment shall be retained by the Owner to comply with the Builders Lien Act until payment is due in accordance with the provisions of Article 50 – Release of Holdback.

.4 The monthly estimates shall not bind the Owner or Engineer in any manner in the preparation of the final estimate of the work done, but shall be construed and held to be approximate only, and shall in no case be taken as an acceptance of the work or as a release of the Contractor from his responsibility therefore.

ARTICLE 44. PAYMENT WITHHELD

.1 Upon receipt of a certificate in writing from the Engineer stating that, in his opinion, justification exists and stating the basis and the amount of such deduction, the Owner may withhold or nullify, on written notice to the Contractor specifying the ground or grounds relied on, the whole or part of any progress payment to the extent necessary to protect himself from loss on account of one (1) or more of the following:

(a) The Contractor is not making satisfactory progress in the opinion of the Engineer.
(b) That defective work is not being remedied at all or in a manner satisfactory to the Engineer.
(c) That there are claim of liens (or a lien) filed, against the holdback funds, lands and premises on which the work is done or is being done, or reasonable evidence of the probable filing of claim of lien or registration of liens (or a lien).
(d) That the Contractor is failing to make prompt payments as they become due to subcontractors or for material or labour.
(e) That there exist unsatisfied claims for damages caused by the Contractor to anyone employed on the site or in connection with the work.
(f) That the Contractor or any Sub-Contractor has failed, or is failing to pay the minimum rate of pay as outlined in Article 28.
.2 Where subcontractors or suppliers of materials are not receiving prompt payment, the Owner may make payment to such subcontractors or suppliers directly and deduct the amount of such payments from amounts otherwise due to the Contractor.

ARTICLE 45.  BUILDER’S LIENS

.1 The Contractor shall remove or cause to be removed all claim of lien or liens filed or registered against the holdback funds, lands and premises on which the work is being performed which claim of lien or liens arise out of anything done or to be done under the Contract. Such removal shall be effected by the Contractor forthwith upon demand by the Owner or the Engineer.

.2 Certificate of Completion shall have the interpretation assigned to it by the Builder’s Lien Act.

.3 Application for the Certificate of Completion shall be in accordance with the Builder’s Lien Act and shall include a written statement from the Contractor that all claims and demands of the Contractor for extra work or otherwise in connection with the Contract were presented in writing to the Engineer.

.4 The Owner shall release a holdback in respect of a completed subcontract if a Certificate of Completion has been issued in respect of that subcontract and the holdback period established under the Builder’s Lien Act has expired without any claims of lien being filed that arose under that subcontract.

.5 Notwithstanding anything elsewhere contained in the contract documents, the Contractor shall indemnify and hold harmless the Owner from all demands, damages, costs, losses and actions arising in any way out of claims or lien or liens which arise out of anything done or to be done under the Contract whether the lien period binding on the Contractor has expired or not.

.6 The obligations imposed on the Contractor by the provisions of this Article 45 shall not extend to claims of lien or liens properly filed by the Contractor himself.

ARTICLE 46.  COMPLETION

.1 When the Contractor is of the opinion that he has completely performed the work, he shall inspect the work to ensure that all work has in fact been performed, that it is in a clean and tidy condition and that it is ready in all respects for acceptance by the Owner. He shall then submit a written request to the Engineer that he make a final inspection.

.2 The Engineer will make an inspection and notify the Contractor in writing of any defects or deficiencies, which require correction by the contractor. When the defects or deficiencies are corrected, and the Contractor has submitted to the Engineer the “as-constructed” drawings, digital survey file and a written statement that all claims and demands of the Contractor for extra work or otherwise in connection with the Contract were presented in writing to the Engineer, the Engineer will recommend to the Owner to issue a Notice of Acceptance to the Contractor. The Owner, subject to their acceptance of the Engineer’s recommendation, will issue the Notice of Acceptance.
ARTICLE 47.  PARTIAL COMPLETION

.1 If the Contractor considers that, by reason of climatic or similar problems beyond his reasonable control, not all the work can be performed or defects or deficiencies corrected promptly, he may in writing request the Engineer for a Notice of Partial Acceptance. Such request shall be accompanied by a written statement that all claims and demands of the Contractor for extra work or otherwise in connection with the work to be accepted have been presented in writing. If the Engineer considers such request to be reasonable, he will carry out an inspection and will notify the Contractor in writing of any defects or deficiencies which require correction before he will recommend partial acceptance. He will prepare an additional list of defects and deficiencies which in his opinion do not impair the usefulness to the Owner of the whole work and the correction of which may reasonably be deferred. This list shall show the amount, which the Engineer considers to be 200% of the cost of completing such work and correcting such defects and deficiencies. When all work has been performed and defects and deficiencies corrected other than those on this list, he will recommend to the Owner that a Notice of Partial Acceptance be issued to the Contractor. If the owner accepts this recommendation, he will issue a Notice of Partial Acceptance which shall list the work to be performed and the defects and deficiencies to be corrected and 200% of the estimated cost thereof. The Notice of Partial Acceptance shall fix a date within which all such works shall be performed and the defects and deficiencies corrected.

.2 The Owner may make his acceptance conditional on the Contractor providing written consents of sureties under any Performance or Labour and Materials Payment Bonds or other evidence that no guarantor or surety will be relieved of his obligations.

.3 When all such work has been performed and the defects and deficiencies corrected, the Contractor shall call for final inspection in accordance with Article 46 - Completion.

.4 If all work is not performed and all defects and deficiencies are not corrected by the date set out in the Notice of Partial Acceptance, the Owner may have the work performed and the defects and deficiencies corrected by any means he thinks suitable, and may recover the costs thereof from any money withheld from the Contractor or from the Contractor if such money is insufficient.

ARTICLE 48.  FINAL PROGRESS PAYMENT

.1 The final progress payment certificate will be prepared following the issuance of the Notice of Acceptance. The Engineer will review with the Contractor all work quantities and all claims and demands of the Contractor for extra work in connection with the Contract. The final progress payment certificate will show the total amount of the payment due to the Contractor less the amount required to be retained under the Builder’s Lien Act whether a lien can be filed or not and less a 2% guarantee amount or five thousand ($5,000) dollars, guarantee amount, whichever is greater.

.2 The final progress payment shall be made by the Owner within thirty (30) days of the date of the final progress payment certificate provided the Contractor supplies the Owner with a full and final payment receipt in respect of the work in the Contract, covering and including acknowledgment of full payment for the cost of all extra work and material furnished by the Contractor in the fulfillment of the works and all incidentals thereto and releasing the Owner from all claims whatsoever out of the Contract.
ARTICLE 49.  PROGRESS PAYMENT AFTER PARTIAL COMPLETION

.1 If the Owner issues a Notice of Partial Acceptance, the Engineer will prepare a Progress Payment Certificate in the same detail as required for a Final Progress Payment Certificate. From the amount shown on such certificate to be due to the Contractor shall be deducted the amount required to be retained under the applicable lien legislation and twice the amount shown on the Notice of Partial Acceptance to be 200% of the estimated cost of performing the remaining work and correcting the defects and deficiencies. Payment of the net amount due to the Contractor shall be made by the Owner within thirty (30) days of the date of this progress payment certificate. If the amount to be withheld in respect of work still to be performed or defects and deficiencies still to be corrected exceeds the amount otherwise payable to the Contractor, the excess shall be withheld from the amount of the lien holdback to be paid under the provisions of Article 50 - Release of Holdback.

ARTICLE 50.  RELEASE OF HOLDBACK

.1 If applied for, the Certificate of Completion shall, in accordance with the Builder’s Lien Act, start the period within which liens must be filed. Otherwise, a Notice of Partial Acceptance or where none is issued, a Notice of Acceptance shall be conclusively deemed between the Owner and the Contractor to start the period within which liens must be filed by the Contractor in accordance with the Builder’s Lien Act.

.2 The Owner shall pay the holdback to the Contractor within fourteen (14) days of the expiry of the statutory time release of holdback, provided that:

(a) The Contractor has provided to the Owner a Certificate from the proper office to register liens to prove that, as of a date two days after the expiry of the statutory period, no notice of lien or liens has been filed or other matters recorded to make effective any lien.

(b) The Contractor has complied with any conditions imposed by the Owner in his acceptance of the recommendation of the Engineer to issue a Notice of Partial Acceptance.

(c) The Workers’ Compensation Board has, at the request of the Contractor, filed with the Owner a certificate that all assessments due to the Board by the Contractor have been paid; such certificate shall be dated after the expiry of the statutory period for filing liens.

(d) If in accordance with the Builder’s Lien Act, there is no person who can provide the certificate referred to in (a) above, the Contractor shall furnish to the Owner a Statutory Declaration, dated not earlier than seven (7) days after the expiry of the statutory lien period, stating that all materials, labour, work and services incurred directly or indirectly on account of the work have been paid for by the Contractor.

ARTICLE 51.  RELEASE OF GUARANTEES

.1 The Performance Bond and 2% of the final contract price, or five thousand dollars, ($5,000), whichever is greater, or a letter of credit in lieu of the 2% amount or five thousand dollars, ($5,000), whichever is greater, will be held by the Owner for one year from the date of Notice of Acceptance.

.2 The 2% guarantee amount, or five thousand dollars ($5,000), guarantee amount, held back during the one year guarantee period, or remaining portion thereof, will be released to the Contractor one year following Notice of Acceptance. No interest will be allowed.
3. Prior to the expiration of the one year guarantee period and subsequent release of guarantees, the Owner, Engineer and Contractor shall conduct an inspection to determine that all deficiencies have been corrected and that no new defects or deficiencies exist in the materials or workmanship in respect to the works. Any faults corrected at this time will be covered as set out in Article 29 – Guarantee Period and sufficient guarantees retained for an additional one year period from acceptance of the replacement materials or rectified work.

4. As an alternate to Article 51.1 and Article 51.2, a Contractor may deposit with the City an irrevocable letter of credit for $50,000 to cover the guarantee for all works undertaken for the City in any calendar year. This letter of credit would serve as an overall guarantee in place of individual guarantees for each project completed and would be renewed on its anniversary date each year. No interest will be allowed.

ARTICLE 52. INSURANCE

.1 The Contractor shall, at his own expense, provide the following insurance. Each policy shall contain a clause stating that: "This policy will not be cancelled or materially changed without the Insurer giving at least thirty (30) days written notice to the Owner." Certified copies of these policies shall be filed by the Contractor with the Owner prior to commencement of the work. Wherever the word "Owner" or "Engineer" is to appear in these policies, the legal name shall be inserted. The Contractor shall ensure all Subcontractors comply with these insurance requirements. (REVISED NOVEMBER 2016)

.2 Builder's Risk Course of Construction Insurance:

(a) The Contractor shall at all times during construction and until all conditions of this Contract (except guarantee provisions) have been fully complied with, keep all buildings, structures, works, equipment (other than Contractor's mobile equipment), and supplies, including materials which will form part of such building, works, or structure, which is the subject matter of this contract, insured in the name of the Owner and the Contractor for any amount not less than the Contract price against the following perils: "All risks of direct physical loss or damage from any cause whatsoever, including flood and earthquake. (REVISED NOVEMBER 2016)

(b) Such insurance shall be with Insurers and on forms acceptable to the Owner and shall contain the following clause: "It is agreed that the right to subrogation against the Owner and the Engineer or any of their parent, subsidiary, or affiliated companies or corporations or any employee thereof is hereby waived."

(c) Coverage shall be on an "All Risks" basis, subject to a deductible provision not exceeding $2,500 for any one occurrence. The following exclusions shall be deemed permissible (additional or modified exclusions subject to permission of the Owner). (REVISED NOVEMBER 2016)

(i) Any loss or use of occupancy howsoever caused;
(ii) Penalties for non-completion of or delay in completion of Contract or non-compliance with Contract conditions;
(iii) Cost of making good faulty workmanship, construction, or design, but this exclusion shall not apply to damage resulting from such faulty workmanship, construction, or design;
(iv) Wear, tear, normal upkeep, and normal making good;
(v) Loss, damage, or liability occasioned by, happening through or in consequence of war, invasion, hostilities, acts of foreign enemies, civil war, rebellion, insurrection, military or usurped power or martial law or confiscation by order of any government or public authority;
SECTION 2 - GENERAL CONDITIONS
PROGRESS, COMPLETION OF WORK, AND PAYMENT

(vi) Any weapon or war employing atomic fission or radioactive force whether in time of peace or war;
(vii) Claims or liability arising directly or indirectly from nuclear fission, nuclear fusion, or radioactive contamination;
(viii) Loss or damage caused by frost or freezing unless resulting from damage occasioned by fire and/or lighting and/or windstorm and/or hail and/or riot attending a strike and/or civil commotion and/or vehicles and/or smoke;
(ix) Loss due to disappearance or revealed by inventory shortage alone;
(x) Mechanical breakdown, but this exclusion shall not be deemed to exclude loss or damage arising as a consequence of mechanical breakdown;
(xi) Infidelity of the Assured's employees;
(xii) Loss or damage to material and/or equipment while in the course of ocean marine shipment, but this exclusion shall not apply to shipments by regular coast-wise vessels, regular ferry lines, or railway car transfer barges;
(xiii) Automobiles or Contractor's equipment of every description.

.3 Liability Insurance:

(a) The Contractor shall buy and keep in force until twelve (12) months after the date of acceptance, and with respect to completed operations twenty-four (24) months, Comprehensive General Bodily Injury and Property Damage Liability Insurance. Such insurance shall be in the name of the Contractor, the Engineer and the Owner, and shall include a Cross Liability or Severability of Interest Clause. Such insurance shall be on a form and with an Insurer acceptable to the Owner. Both Personal Injury and Property Damage sections are to provide coverage on an "occurrence basis". Any property damage deductible shall not exceed $2,500 for any one occurrence. (REVISED NOVEMBER 2016)

(b) Exclusion pertaining to the following operations are to be deleted, if such operations are to be performed by the Contractor or anyone on his behalf:
   (i) Blasting or use of explosives;
   (ii) Pile driving;
   (iii) Excavation;
   (iv) Underpinning, shoring or removal or rebuilding of support;
   (iv) Demolition.

(c) Such insurance shall indemnify the Contractor for claims arising out of all premises, operations, subcontracted operations, completed operations, products, and for all liability for personal injury or property damage assumed by the Contractor under any contract or agreement (including this Contract). (REVISED NOVEMBER 2016)

(d) Such insurance shall be for the following minimum limits:
   Bodily Injury and Property Damage - $5,000,000 Inclusive. (REVISED NOVEMBER 2016)

.4 Owned and Non-Owned Automobile Insurance:

(a) The Contractor shall maintain, until all conditions of the Contract have been fully complied with, such insurance as required under the Insurance (Motor Vehicle) Act of British Columbia. Such insurance shall be for the following limits: (REVISED NOVEMBER 2016)
   Bodily Injury and Property Damage $3,000,000 Inclusive. (REVISED NOVEMBER 2016)

(b) The Contractor shall provide a Certificate of Insurance, ICBC for No. APV47 for owned or leased vehicles as evidence of third party motor vehicle insurance coverage. (REVISED NOVEMBER 2016)
 SECTION 2 - GENERAL CONDITIONS
PROGRESS, COMPLETION OF WORK, AND PAYMENT

.5 Contractor’s Equipment Insurance:

(a) Notwithstanding anything contained elsewhere herein, it is understood and agreed that the Owner and/or Engineer will not be liable for any loss or damage to Contractor’s equipment including loss of use thereof. Each and every policy insuring Contractor’s equipment to be used on this project shall contain the following clause:

"It is agreed that the right to subrogation against the Owner and the Engineer or any of their parent, subsidiary or affiliated companies or corporations or any employee thereof is hereby waived."

ARTICLE 53. ARBITRATION

.1 In the case of any dispute between the Owner or the Engineer on his behalf, and the Contractor, during the progress of the work or afterwards, or after the determination of breach of Contract, as to any matter arising thereunder, either party hereto shall be entitled to give to the other notice of such dispute and to demand arbitration thereof. Such notice shall be in writing and shall specify the matter to be submitted to arbitration, and in it said party shall name a person to act as arbitrator; thereupon within fifteen (15) days after receipt of such written notice the other party by written notice shall chose and name a second arbitrator; the two (2) arbitrators so chosen shall forthwith jointly select a third arbitrator, giving written notice to both parties of the choice so made, and fixing a place and time for meeting not later than thirty (30) days thereafter, at which both parties may appear and be heard, touching such controversy relating to the matters aforesaid. In case the two (2) arbitrators shall fail to agree upon a third arbitrator, or in case the party notified of the demand for arbitration shall fail to name the second arbitrator within the time stipulated, such third arbitrator (or such second arbitrator as the case may be) upon the application of either party, of which the other shall be given notice, shall be named by a Justice of a Superior Court of the Province of British Columbia. The parties may agree to submit the matter to one (1) arbitrator, whose award shall be as binding as that of three (3) arbitrators.

.2 The submission and the arbitration proceedings shall be under the provisions of the Arbitration Act of the Province of British Columbia provided nevertheless that any statutory limitation on the fees payable to the arbitrator or arbitrators shall be waived. The decision of the said arbitrator(s) shall be made in writing within thirty (30) days after the completion of hearings thereon, and when signed by a majority of them shall be final and conclusive upon the parties thereto.

.3 Arbitration proceedings shall not take place until after the completion or alleged completion of the work except; (a) on a question of certificate for payment; or (b) in a case where either party claims that the matter in dispute is of such a nature as to make immediate arbitration proceedings necessary while the evidence is available. The arbitrator(s) in their decision shall determine which party shall bear all or a portion of the costs and expenses of the arbitration including the fees of the arbitrator(s), and said arbitrator(s) may in any such decision allocate such costs and expenses between the parties in such amounts as they may deem fair and equitable by reason of such decision.
### MEASUREMENT AND PAYMENT

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SECTION 3 - GENERAL REQUIREMENTS

MEASUREMENT AND PAYMENT

3.70 EXISTING STRUCTURES AND UTILITY WORKS

Extra payment will not be made to the Contractor for expense incurred as a result of the presence of existing structures except as follows:

(a) Location of Existing Structures: Section 3.22.3

Where he is specifically instructed by the Engineer to locate, by excavating, underground structures for the purpose of establishing line or grade, the Contractor will be paid on the basis of the payment items shown on the Tender Form.

(b) Support of Existing Piping  Section 3.27

Payment for work to support or replace existing piping, as specified for diameter and material type, under which excavation for works crosses shall be made at the unit price quoted in the Tender Form. This price shall include supply of materials, excavation, backfilling and all work incidental thereto.

3.71 CLEARING AND GRUBBING  Section 3.52

Payment for clearing and grubbing will be made at the lump sum price shown in the Tender Form. This price shall include materials, and all work incidental thereto.

3.72 SALVAGED MATERIALS  Section 3.23

This item covers the cost of salvage and delivery of salvaged items to the City of Nanaimo Works Yard on Labieux Road. This work shall be paid for on a per unit basis as shown in the Tender Form. No payment will be made for items damaged due to the act of removal or delivery.

3.73 CONTROL OF PUBLIC TRAFFIC  Section 3.60, 3.61, 3.62, and 3.63

Payment will be made as a lump sum as shown in the Tender Form.

3.74 REMOVAL OF EXISTING PIPE

Payment for pipe removal will be made at the unit price per linear metre shown in the Tender Form for the various sizes of pipe. Measurement will be made horizontally along the centre line of the existing pipe.

This item covers the removal and disposal of all existing pipe designated on the drawings for removal including backfill of the trench with suitable native material. Payment for the handling, cutting and removal of asbestos cement pipe shall include all labour, equipment and materials required for the proper removal and disposal of asbestos cement pipe as required by the WorkSafeBC Regulations.
Section 3 - Measurement & Payment

Where imported granular fill is required, it shall be paid for at the unit price quoted in the tender form.

3.75 Removal of Existing Structures  Section 3.23

Payment for the removal and disposal of structures, as designated on the drawings, will be made at the unit price shown in the Tender Form.

a) Hydrants – This price shall include the removal and disposal of hydrant, hydrant lead, valve, valve box riser pipe, tie rods, and all work incidental thereto.

b) Valves – This price shall include the removal and disposal of the valve, valve stem, riser, backfill and compaction with suitable native material, and all work incidental thereto.

c) Fittings – This price shall include the removal and disposal of the fitting, appurtenances, and all work incidental thereto.

d) Abandon Valve - This price shall include the removal and disposal of the valve box, riser, placement of geotextile, pea gravel, surface restoration, and all work incidental thereto.

e) Abandon Manhole - This price shall include the removal and disposal of the manhole cover, frame, barrel sections, plugging of all connected pipes, installation of drain rock, placement of geotextile, surface restoration, and all work incidental thereto.

f) Fencing – This price shall include the removal and reinstatement of the fencing, and all work incidental thereto, where shown to complete the work.

g) Storm Drain - This price shall include the removal and reinstatement of the existing storm drain, and all work incidental thereto, where shown to complete the work.

For these pay items, import granular backfill where required, and surface restoration will be paid separately under the applicable unit rate in the Tender Form.

3.76 Plug/Cap Existing Pipe

Payment for plugging or capping of existing pipe is to be made at the unit price per proposed pipe size shown in the Tender Form. This item covers the supply and installation of a manufactured cap or concrete plug as specified on the drawings for abandonment of existing pipe and includes backfill of the trench with suitable native material. Where imported granular fill is required, it shall be paid for at the unit price quoted in the tender form.
MEASUREMENT AND PAYMENTS

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4.70 **AUTHORIZED HAND EXCAVATION** Section 4.09

Payment for authorized hand excavation will be made at the unit price per linear metre if shown in the Tender Form and will be based on the trench depth. This price shall include supply of materials, hand excavation, hand backfilling, and all work incidental thereto.

4.71 **TRENCH ROCK EXCAVATION** Section 4.07B

Payment for trench rock excavation will be made as shown in the Tender Form:

(a) **By Volume Measurement:**

Payment will be made for excavation of single boulders, pieces of concrete, or masonry having individual volumes exceeding one cubic metre in volume.

Measurement for trench rock excavation will be calculated based on:

1. The depth from the top of the rock surface to 150 mm below the bottom of the pipe barrel.
2. The maximum allowable trench dimensions as per T-1, or for common trenches, as per T-2.
3. The length measured horizontally along the centre line of the trench.
4. Cross sectional measurements will be made at 3 m intervals or as required.
5. In the event that the average rock width is less than 600 mm in any 3 m interval, payment will be based on a 600 mm minimum rock width.

This price shall include excavation, disposal of rock, and all work incidental thereto.

(b) **By Linear Metre:**

The City will provide a rock profile along the trench centreline showing rock elevations at 10 m intervals.

Payment will be made per linear metre of trench where rock is excavated irrespective of depth. This price shall include excavation, disposal of rock, and all work incidental thereto.

(c) **By hourly rates:**

Rates for personnel and equipment shall be in accordance to Section 2 – Article 40 Force Account Work. The contractor shall schedule his workforce in such a manner that the Trench Rock Excavation will not interfere substantially with progress of other work. Only personnel and equipment required for the excavation and disposal of the rock will be paid under force account rates. No payment will be made for delays or standby time.
4.72 **OVEREXCAVATION AND PLACEMENT OF BASE GRAVEL MATERIAL**  Section 4.07B (d) (e) and 4.14

Payment for authorized overexcavation and placement of base gravel material or other material specified will be made at the unit price per tonne of material placed as shown in the Tender Form. This price shall include supply of materials, overexcavation and disposal of the unsuitable material, placement and compaction of the specified base gravel material, special bracing and sheeting as may be required, and all work incidental thereto. Payment for this work will only be made when, in the opinion of the Engineer, it is necessitated by the natural existence of unsatisfactory soil conditions. No payment will be made for unauthorized over excavation which has resulted from acts, neglects, or delays of the Contractor.

4.73 **IMPORTED GRANULAR FILL**  Section 4.20

Payment for imported granular fill will be made at the price per cubic metre or tonne as shown in the tender form (conversion of tonnes to cubic metres compacted will be 2.43 tonnes/cubic meter). This price shall include supplying, loading, hauling, placing, compacting imported granular material, disposal of excavated material and all work incidental thereto. Payment by weight will be based on weigh certificates for material actually incorporated into the work unless otherwise approved by the Engineer.

Tender quantities are based on the allowable trench width limits as shown on Standard Drawings T-1 or T-2, with allowances for site soil conditions. Placement of import granular fill beyond these limits will be at the Contractor's expense where the Contractor employs methods that excavate beyond these limits without prior authorization from the Engineer.

4.74 **CONCRETE AND CONTROLLED DENSITY FILL**

(a) Concrete Fill Section 4.21 - Standard Drawing T-5 and T-6
(b) Controlled Density Fill - Section 4.24 - Standard Drawing T-3

Payment for concrete or controlled density fill for pipe base, encasement, or backfill in the trench will be made at the unit price per cubic metre shown in the Tender Form. Measurement will be based on the design dimensions of the concrete placed. This price shall include supply of materials, concrete work, form work, curing and protection and all work incidental thereto.

4.75 **TRENCH DAMS**  Section 4.18  Standard Drawing T-8

Payment for trench dams will be made at the unit price per trench dam shown in the Tender Form. This price shall include supply of materials, installation and all work incidental thereto.
4.76  **SURFACE RESTORATION**  Section 4.27, 4.28 & 4.29

Payment for surface restoration will be made at the price per square metre as shown on the Tender Form for the various types of surface restoration.

a)  For surface restoration of untraveled areas, (boulevards, rights-of-way and private property), price shall include all labour, equipment and materials necessary to restore untraveled areas, to a condition equal to or better than existed prior to construction and in accordance with the specifications and drawings.

b)  For surface restoration of traveled areas, (roads, shoulders, driveways, sidewalks, curbs and walkways), price shall include all labour, equipment and materials necessary to restore the traveled areas, to a condition equal to or better than existed prior to construction and in accordance with the specifications and drawings. **This price shall include surface cutting and removal, supply and installation of gravel materials, and restoration of the travelled surface.**

c)  For temporary surface restoration of traveled areas, (roads, driveways, sidewalks, curbs and walkways), price shall include all labour, equipment and materials necessary to restore and maintain the traveled surface, as directed by the Engineer, using the materials as shown on the Tender Form.

Tender quantities are based on the allowable trench width limits as shown on Standard Drawings T-1 or T-2. Surface restoration beyond these limits will be at the Contractor’s expense where the Contractor employs methods that damage areas beyond these limits without prior authorization from the Engineer.
### Measurement and Payment

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The contractor will note that the tendered price for all items specified in this section will include but not be limited to the following: Please refer to Section 4 – Trench Excavation, Bedding and Backfill for further clarification of these items.

(a) materials  
(b) excavation  
(c) dewatering  
(d) bracing & sheeting  
(e) bedding  
(f) pipe installation  
(g) backfill with native material  
(h) maintenance  

The Contractor will note that payment for surface restoration and asphalt removal is paid in accordance with Section 4.76.

5.70 PIPE Section 5.43

Payment for water main pipe will be made at the unit price per linear metre shown in the Tender Form for the various sizes and class of pipe. Measurement will be made horizontally along the centreline of the installed pipe including fittings. This price shall include materials, excavation, dewatering, bracing & sheeting, bedding, pipe installation, backfill with native material, and maintenance, test points and testing as specified, and all work incidental thereto except those items for which payment is specified additional to that for piping.

5.71 FITTINGS Section 5.48

Payment for fittings will be made at the unit price per fitting shown in the Tender Form. This price shall include supply of materials, installation of the fitting, thrust blocking, and all work incidental thereto. Payment will be in addition to that of 5.70.

5.72 FLANGE ADAPTORS AND JOINT RESTRAINTS Section 5.47

Where noted on the drawings or specifically requested by the Engineer, payment for flange adaptors and joint restraints shall be made at the unit prices shown in the Tender Form. This price shall include supply of materials, bolts, installation, and all work incidental thereto. Payment will be in addition to that of 5.70.

5.73 GATE VALVES Section 5.50 Standard Drawing W-16

Payment for valves will be made at the unit prices shown in the Tender Form for gate valves. This price shall include supply of materials, installation of the valve and valve box, valve hood, riser pipe, asphalt apron and thrust blocking if required, and all work incidental thereto. Payment will be in addition to that of 5.70.
SECTION 5 - WATER DISTRIBUTION SYSTEM

MEASUREMENT AND PAYMENT

5.74 **VALVE MARKERS** Section 5.51 Standard Drawing W-9

Payment for water main valve markers will be made at the unit price shown in the Tender Form. This price shall include supply of materials, excavation, fabrication, painting, installation, backfilling, and all work incidental thereto. Payment will be in addition to that of 5.70.

5.75 **HYDRANT ASSEMBLIES** Section 5.52.1, 5.52.2, 5.52.3 Standard Drawings W-5

Payment for hydrant assemblies will be made at the unit price shown in the Tender Form as follows:

a) **Hydrant Assemblies**
   This price shall include supply of materials, installation of the hydrant, hydrant lead, valve, valve box riser pipe, tie rods, drain rock, and all work incidental thereto. Payment will be in addition to that of 5.70.

b) **Relocating Existing Hydrants**
   Payment for relocating existing hydrants will be made as per 5.75 a) except work includes relocating an existing hydrant to the new location as specified on the drawings.

c) **Connect to Existing Hydrants**
   Payment for connecting to existing hydrants will be made as per 5.75 a) except work includes connecting to an existing hydrant as specified on the drawings.

5.76 **HYDRANT ACCESS CROSSING** Section 5.52.4 Standard Drawing W-7

Payment for hydrant access crossings will be made at the unit price shown in the Tender Form. This price shall include all supply of materials, excavation, dewatering, backfill and compaction and all work incidental thereto. Payment will be in addition to that of 5.70.

5.77 **FLUSHOUTS** Section 5.53 Standard Drawing W2A - W2B

Flushouts will be paid at the unit price shown in the Tender Form for the specified type of flushout.

a) For above ground flushouts, this price shall include supply and installation of flushouts in accordance with the specifications and drawings including all pipes, fittings, valves, valve boxes, thrust blocking, drain rock, bedding, backfill, cedar post, painting and all work incidental thereto. Payment for the iron cap or plug will be paid separately under Section 5.71. Payment will be in addition to Section 5.70.

b) For below grade flushouts, this price shall include supply and installation of flushouts in accordance with the specifications and drawings including all pipes, fittings, valves, valve boxes, thrust blocking, drain rock, bedding, backfill, concrete barrel, brickwork, frame and cover, grouting, adjustment to grade, asphalt apron and all work incidental thereto. Payment for the iron cap or plug will be paid separately under Section 5.71. Payment will be in addition to Section 5.70.
5.78 **AIR VALVES AND FITTINGS** Section 5.54  Standard Drawing W4

Air valves and fittings will be paid for at the unit price shown in the Tender Form. This price shall include excavation, supply of materials, piping, pipe saddle, vent piping, gate valve, air valve, manhole, manhole frame and cover, adjustment to final grade, asphalt apron and all work incidental thereto. Payment will be in addition to that of 5.70.

5.79 **FLOOR DRAIN ASSEMBLIES** Section 5.55

Floor drains will be paid at the unit price shown in the Tender Form for the various types of floor drain assemblies. Payment for the storm service connection will be paid separately under Section 7 - Storm Sewers.

a) For perimeter drains, price shall include supply and installation of materials including pipe, fittings, drain rock, filter cloth and all work incidental thereto.

b) For sump pumps, price shall include supply and installation of materials including sump drainer assembly, piping, fittings, piping to surface discharge, and all work incidental thereto.

5.80 **CONNECTION TO EXISTING MAIN PIPING** Section 5.49

Payment for connections to existing piping will be made at the unit price per connection shown in the Tender Form. This price shall include supply of couplings, materials, and all work incidental thereto. Payment will be made in addition to that of 5.70.

5.80A **CONNECTIONS TO EXISTING SERVICES** Section 5.49

Payment for connections to existing services will be made at the unit price per connection shown in the Tender Form regardless of existing service depth. This price shall include supply of materials, and all work incidental thereto.

5.81 **SERVICE CONNECTION PIPE** Section 5.56

Payment for water service connection pipe will be made at the unit price per linear metre shown in the Tender Form. Measurement will be made horizontally along the centreline of the installed pipe from the centre of the main pipe to the curb stop. This price shall include supply of materials, pipe installation, testing, flushing, chlorination, and all work incidental thereto, except those items for which payment is specified additional to that for water connection pipe.

5.82 **CORPORATION STOPS AND SADDLES** Section 5.30.2, 5.30.6, 5.56.4 (f)

Payment for corporation stops and saddles will be made at the unit price shown the Tender Form. This price shall include supply of materials, drilling and tapping the main pipe, installation, and all work incidental thereto. Payment will be in addition to that of 5.81.
SECTION 5 - WATER DISTRIBUTION SYSTEM

MEASUREMENT AND PAYMENT

5.83 CURB STOPS  Section 5.56.6 (a)

Payment for curb stops will be made at the unit price shown in the Tender Form. This price shall include supply of materials, installation of curb stop, and all work incidental thereto. No additional payments will be made for supply and installation of test points. Payment will be in addition to that of 5.81.

5.84 METER SERVICE BOXES, BOX EXTENSIONS, AND LIDS  Section 5.56.6 (b)

Payment for meter service boxes, box extension, and touch read lids will be made at the unit price shown in the Tender Form. This price shall include supply of materials, installation of service boxes and all work incidental thereto. Payment will be in addition to that of 5.81.

5.85 TOUCH READ METERS  Section 5.57

Payment for touch read meters will be made at the unit price shown in the Tender Form. This price shall include completion of meter cards, supply of materials, installation of meter, touch read sensor and all work incidental thereto. This pay item includes installing new meters in both existing and new meter boxes. Payment will be made in addition to that of 5.81.

5.86 METER CHAMBERS (Section 5.58) and PRESSURE REDUCING STATIONS (Section 5.60)

Payment for meter chambers, booster pump stations and pressure reducing stations will be made at the lump sum price in the Tender Form and shall include supply and installation of valves, chamber, piping and asphalt apron all as detailed on the drawings and all work and materials incidental to construction of the station.
MEASUREMENT AND PAYMENT

Piping and Fittings 6.70
Service Junctions 6.71
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Sewer Service Connection Piping 6.79
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The contractor will note that the tendered price for all items specified in this section will include but not be limited to the following: Please refer to Section 4 - Trench Excavation, Bedding and Backfill for further clarification of these items.

(a) materials
(b) excavation
(c) dewatering
(d) bracing & sheeting
(e) bedding
(f) pipe installation
(g) backfill with native material
(h) video inspection
(i) maintenance

The Contractor will note that payment for surface restoration and asphalt removal is paid in accordance with Section 4.76.

6.70 PIPING AND FITTINGS Section 6.42 - 6.46

Payment for piping and fittings will be made at the unit price per linear metre shown in the Tender Form for the various sizes and class of pipe. Measurement will be made horizontally along the centreline of the installed pipe, including fittings, from centre-to-centre of manholes or to the end of the pipe, whichever is applicable. This price shall include materials, excavation, dewatering, bracing & sheeting, bypassing of sewer flows, bedding, pipe installation, backfill with native material, video inspection and maintenance, testing as specified, and all work incidental thereto except those items for which payment is specified additional to that for gravity sewer pipe.

6.71 SERVICE JUNCTIONS Section 6.48

Payment for service junctions installed in the gravity sewers will be made at the unit price shown in the Tender Form. This price shall include materials, and placement of the wye and plug or cap as required.

6.72 CONNECTIONS TO EXISTING PIPING Section 6.47

(a) Payment for connections to existing main piping will be made at the unit price per proposed pipe size per connection shown in the Tender Form. This price shall include materials, and all work incidental thereto.

(b) Payment for connections to existing service connections will be made at the unit price per pipe size per connection shown in the Tender Form. This price shall include materials, and all work incidental thereto.

(c) Payment for connections to existing manholes will be made at the unit price per location shown in the Tender Form. This price shall include materials, bypassing of sewer flows, and all work incidental thereto.
SECTION 6 - SANITARY SEWER SYSTEM

MEASUREMENT AND PAYMENT

6.73 PRECAST MANHOLE SECTIONS Section 6.51 and 6.54

Payment for manholes will be made at the unit price per vertical metre per diameter of manhole barrel shown in the Tender Form. Measurement will be made from the lowest channel invert in the manhole to the bottom of the manhole cover slab. This price shall include materials, installation, grouting, and all work incidental thereto except those items for which payment is specified additional to that for manholes.

6.74 CONCRETE BASES, FRAMES AND COVERS Sections 6.49, 6.49A, 6.52, 6.53

Payment for concrete bases or tee manholes, cover slabs, and frames and covers will be made at the unit price per manhole shown in the Tender Form. This price shall include materials, installation, brickwork, concrete, channeling, grouting, adjustment to grade, asphalt apron and all work incidental thereto. Payment will be in addition to that of 6.73 above.

6.75 DROP STRUCTURES Section 6.55

Payment for drop structures on manholes will be made at the unit price per vertical metre of drop shown in the Tender Form. Measurement will be made between pipe inverts at the top and bottom of the drop section. This price shall include materials, installation, concrete, asphalt apron and all work incidental thereto.

6.76 STUBS Section 6.56

Payment for stubs in manholes will be made at the unit price per linear metre for the various sizes of pipe shown in the Tender Form. This price shall include materials, grouting, installation, cap, and all work incidental thereto. Payment will be in addition to that of 6.73 above.

6.77 CLEANOUTS Section 6.57 Standard Drawing S12

Payment for cleanouts will be made at the unit price shown in the Tender Form for the specified type of cleanout. This price shall include excavation, materials, installation, concrete base, concrete barrel, grouting, brickwork, frame and cover, pipe, fittings, adjustment to grade and all work incidental thereto.

6.78 ADDITIONAL EXCAVATION AND BACKFILL

Payment will not be made as a separate item for excavation, backfill and work applicable thereto required at any structure specified in this section. The cost of such work shall be included in the applicable prices for the various structures shown in the Tender Form.
6.79 SEWER SERVICE CONNECTION PIPING  Section 6.59

Payment for sewer service connection pipe will be made at the unit price per linear metre shown in the Tender Form for the various sizes of pipe. Measurement will be made horizontally along the centreline of the installed pipe from the centre of the gravity sewer to the terminus of the service pipe or from the bend fitting in the case of riser service connections. This price shall include materials, excavation, dewatering, bracing & sheeting, bedding, pipe installation, backfill with native material, and maintenance, testing as specified, bends, caps, and other fittings, and all work incidental thereto except those items for which payment is specified additional to that for sewer service connection pipe.

6.80 SERVICE CONNECTION INSPECTION ASSEMBLY  Section 6.59.3 (j) & (k) and 6.59.4

Standard Drawing S-5

Payment for service connection inspection assemblies will be made at the unit price shown in the Tender Form. This price shall include installation of pipe, fittings, marker posts, concrete service box, other materials and all work incidental thereto.

6.81 MANHOLE AND CLEANOUT LID MARKERS  Section 6.35  Standard Drawing S-14

Payment for manhole and cleanout lid markers will be made at the unit price shown in the Tender Form. This price shall include supply of materials, excavation, fabrication, painting, installation, backfilling and all work incidental thereto. Payment will be in addition to that of 6.73 and 6.77.
## SECTION 8 - CURBS AND SIDEWALKS

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8.70 CURBS  Section 8.20.1

Payment for curbs will be made at the unit price per linear metre per curb type shown in the Tender Form. Linear measurement will be made along the centreline of the curbs. This price shall include materials, base preparation, forming, jointing, reinforcing, finishing, curing, curb and all work incidental to the completed installation. Payment for granular base materials will be made at the unit price per material type shown in the Tender Form.

8.71 SIDEWALKS, MISCELLANEOUS SIDEWALKS AND CROSSINGS  Section 8.20.1 and 8.56

Payment for sidewalks and crossings will be made at the unit price per square metre shown in the Tender Form. The price shall include materials, base preparation and all work incidental to the completed installation. Payment for import fill, excavation, subgrade preparation, granular sub-base and granular base materials will be made at the unit price for material type shown in Section 9 of the Tender Form.

8.72 CUTTING AND REMOVAL OF EXISTING ASPHALTIC AND CONCRETE SIDEWALK PAVEMENT  Section 8.42

(a) Payment for cutting of existing asphaltic and concrete sidewalk pavement will be made at the unit price per linear metre of sidewalk cut, regardless of thickness, shown in the Tender Form.

(b) Payment for removal of existing asphaltic and concrete sidewalk pavement will be made at the unit price per square metre of pavement and sidewalk removed, regardless of thickness, shown in the Tender Form. This price shall include loading, hauling, and disposal of all unwanted material.

8.73 CUTTING AND REMOVAL OF EXISTING CONCRETE CURB OR CURB AND GUTTER  Section 8.42

Payment for cutting and removal of existing concrete curb or curb and gutter will be made at the unit price per lineal metre of curb or curb and gutter removed, regardless of thickness, measured along the curb face as shown in the Tender Form.

This price shall include cutting, loading, hauling and disposal of all unwanted material.

8.74 CATCH BASINS AND MANHOLES  Section 8.58

Payment for adjusting frames on existing catch basins, manholes, and other structures will be made at the unit price per item shown in the Tender Form. No additional payment will be made for adjusting catchbasins, manholes, and other structures installed in this contract.
SECTION 8 - CURBS AND SIDEWALKS

MEASUREMENT AND PAYMENT

8.75 **HANDRAILS, BOLLARDS AND BARRIERS**  Section 8.62  
Drawing Nos. CS-13, CS-14, CS-15, CS-16A, CS-17A, CS-18, CS-19

Payment for handrails, bollards and barriers will be made at the unit price shown in the Tender Form. This price shall include all labour, equipment, materials, for the supply, installation and all work incidental thereto.

8.76 **STAIRWAYS**  Section 8.12  Drawing CS-16 and CS-16A

Payment for stairways will be made at the unit price shown in the Tender Form. The price shall include materials, base preparation and all work incidental to the completed installation. Payment for import fill, excavation, subgrade preparation, and granular base materials will be made at the unit price for material type shown in Section 9 of the Tender Form.
## MEASUREMENT AND PAYMENT

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9.70 **STRIPPING AND COMMON EXCAVATION**  Section 9.44 and 9.45

Payment for stripping and common excavation will be made at the unit price per cubic metre shown in the Tender Form. Excavated volume will be computed as the difference between the original cross sections and the subgrade cross section using the average end area method. Cross sections will be taken every 20 m along the centreline, or at such lesser interval as the Engineer may deem necessary. This price shall include excavating material, placing and compacting as earth fill or rock fill, disposal of surplus material and all work incidental thereto.

9.71 **ROCK EXCAVATION**  Section 9.46

Payment for rock excavation will be made as shown in the Tender Form.

a) **By Volume Measurement:** Payment will be made for excavation of single boulders exceeding one metre in volume. Where solid rock is excavated, the volume of rock for payment will be calculated on the basis of the average end area method measured at 5 metre intervals along the grade to the design subgrade. This price shall include excavation, disposal of unsuitable material and grading of subgrade. No additional payment will be made for backfill material required to achieve subgrade elevations due to overbreak.

b) **By Hourly Rates:** Rates for personnel and equipment will be as listed in the Tender Form for force account work. The Contractor shall schedule the work in such a manner that it will not interfere substantially with progress of other work. No allowance will be made for standby time.

9.72 **AUTHORIZED OVEREXCAVATION**  Section 9.47

Payment for authorized over-excavation and placement of import material will be made:

(a) At the applicable unit rates for common excavation and import materials, as shown on the Tender Form, when the authorized over-excavation occurs in conjunction with the Contractor’s common excavation operation.

(b) At the unit price per tonne of import material placed, as shown in the Tender Form for authorized over-excavation, when the authorized over-excavation occurs independent of the Contractor’s common excavation operation. This price shall include over-excavation, disposal of unsuitable material, supply and placement and compaction of specified imported material, and all work incidental thereto.

Payment for this work will only be made when, in the opinion of the Engineer, it is necessitated by the natural existence of unsatisfactory soil conditions. No payment will be made for unauthorized over-excavation which has resulted from acts, neglects or delays of the Contractor.
9.73 **IMPORTED EARTH FILL**  Section 9.27A, 9.52

Payment for imported earth fill will be made at the unit price per cubic metre or tonne shown in the Tender Form. This price shall include borrow pit development and restoration, materials, excavation, hauling, placing and compacting as earth fill, disposal of surplus or unsuitable material from the borrow pit and all work incidental thereto. Payment by cubic metre will be based on the volume used on the construction between the existing ground after stripping of topsoil and unsuitable material and the final cross sections of the fill area. Cross sections of the fill area will be taken every 15 metres or at such lesser interval as the Engineer may deem necessary.

9.74 **IMPORTED GRANULAR FILL**  See Section 9.28A

Payment for import granular fill will be made at the unit price per tonne as shown in the Tender Form. This price shall include supply, placement and compaction, and all work incidental thereto.

Payment by weight will be based on weigh certificates for material actually incorporated into the work unless otherwise approved by Engineer.

9.75 **SUBGRADE PREPARATION**  Section 9.50

Payment for the subgrade preparation will be made at the unit price per square metre shown in the Tender Form. The area will be computed using the nominal design width of the finished subgrade and the length measured horizontally along the centreline of the finished roadway, with due allowance made for increased areas at intersections. This price shall include scarifying, windrowing, watering and dewatering, shaping, compacting, proof rolling and all work incidental thereto. Payment will not be made in areas where an earth or rock fill in excess of 150 mm has been placed. No additional payment will be made for reworking the subgrade because of damage from weather conditions.

9.76 **SUBBASE**  Section 9.54

Payment for subbase will be made at the unit price per tonne shown in the Tender Form. This price shall include materials, materials handling, placing, watering, shaping, compacting, and all work incidental thereto. Payment by weight will be based on weigh certificates for material actually incorporated into the work unless otherwise approved by Engineer.

9.77 **BASE COURSE**  Section 9.54

Payment for base course will be made at the unit price per tonne shown in the Tender Form. This price shall include materials, materials handling, placing, watering, shaping, compacting, and all work incidental thereto. Payment by weight will be based on weigh certificates for material actually incorporated into the work unless otherwise approved by Engineer.
9.78 **BORROW PITS, CRUSHING AND STOCKPILING** Section 9.40 and 9.41

No payment will be made for acquisition, royalties, clearing and grubbing, stripping, access, crushing or any other costs incurred in developing or operating borrow pits. Related costs for acquisition, handling and stockpiling of borrow material shall be included in the applicable tendered prices.

9.79 **DITCHES**

No separate payment will be made for excavation of drainage ditches unless otherwise shown in the Tender Form. Material excavated will be classified as common excavation, except in rock, and payment made in accordance with 9.70 except rock payment shall be made in accordance with 9.71.

9.80 **STREET NAME AND TRAFFIC SIGNS** Section 9.61

Payment for street name and traffic signs will be made at the unit price per sign shown in the Tender Form for the various signs. This price shall include all materials, erection of the sign post and sign and all work incidental thereto.

9.81 **ROAD MARKINGS** Section 9.62

Payment for road markings will be made as a lump sum as shown in the Tender Form. These prices will include all materials, premarking, preparation, application and all work incidental thereto.
### MEASUREMENT AND PAYMENT

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>Cutting of Existing Asphaltic Concrete Pavement</td>
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<td>Removal of Existing Pavement</td>
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<td>Tack Coat</td>
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<tr>
<td>Asphaltic Concrete</td>
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</table>
12.70 **CUTTING OF EXISTING ASPHALTIC CONCRETE PAVEMENT**  Section 12.42

Payment for cutting of existing asphaltic concrete pavement will be made at the unit price per linear metre of cut shown in the Tender Form, regardless of pavement thickness. This price shall include cutting and all work incidental thereto.

No payment will be made for cutting of existing pavement except where a neat vertical edge is required for paving operations. No payment will be made where cutting has been necessitated by the Contractor's operations.

12.71 **REMOVAL OF EXISTING PAVEMENT**  Section 12.42

Payment for removal of existing pavement as specified in the Tender Form will be made at the unit price per square metre shown in the Tender Form for pavement removed, regardless of thickness. Payment will be based on the measured area of the pavement designated for removal. (This price shall include ripping, grinding, loading, hauling, disposal and all work incidental to the removal of asphaltic concrete pavement.)

No payment will be made where removal of existing asphaltic concrete pavement is included in common excavation or has been necessitated by the Contractor's operations.

12.72 **ADJUSTMENT OF SERVICES**  Section 12.43

Payment for the adjustment of existing manholes, catchbasins, valve boxes and other structures within the area to be paved will be made at the unit prices shown in the Tender Form. These prices shall include materials and all work incidental thereto.

12.73 **TACK COAT**  Section 12.45

Payment for tack coat will be made at the unit price per square metre shown in the Tender Form. Payment will be based on the measured area of the tack coated surface. This price shall include material, spraying, and all work incidental thereto.

12.74 **ASPHALTIC CONCRETE**  Section 12.46 - 12.51

Payment for asphaltic concrete pavement will be at the unit price per tonne or square metre shown in the Tender Form. Payment by weight will be based on weighing certificates for mix actually incorporated into the work. Payment by square metre will be based on the actual area of asphaltic concrete pavement laid. The price by weight or square metre shall include final base preparation, supply of aggregate and asphaltic cement, mixing, weighing, transporting, placing, compacting and all other work incidental thereto.
APPENDIX 1

RECEIPT CONFIRMATION FORM

Invitation to Tender 2393-2019

UPLANDS AREA UTILITY UPGRADE

Closing date and time: **3:00 PM**, Pacific Time, **Tuesday, May 7, 2019**

As receipt of this document **and** to receive any addendums for this Tender, please return form to:

CONSTRUCTION DEPARTMENT
City of Nanaimo
2020 Labieux Road
Nanaimo, BC, V2T 4M7
Fax: 250.756.5336
Email: constructioninfo@nanaimo.ca

COMPANY NAME: ________________________________________________
STREET ADDRESS: _______________________________________________
CITY/PROVINCE: _________________________________________________
POSTAL CODE: __________________________________________________
PHONE NUMBER: ________________________________________________
FAX NUMBER: ___________________________________________________
CONTACT PERSON: ______________________________________________
EMAIL ADDRESS: ________________________________________________
SIGNATURE: _____________________________________________________
APPENDIX 2

Asbestos Cement Pipe
Safework Procedures
City of Nanaimo, Feb. 15, 2019
Asbestos Cement Pipe Safe Work Procedures

Background:

Although asbestos containing cement (AC) pipe will not be used in new installations, there is still a need for work to be done on existing AC pipe. Removing AC pipe sections may sometimes be required for repair or tying into new connections. Exposure to asbestos can occur during work performed on AC pipes.

To minimize fiber release, and prevent exposure to fibers during work activities, the following procedures are to be followed when performing work on AC pipe. All employees and contractors throughout The City of Nanaimo must understand the requirements of these procedures prior to conducting any work on AC pipe.

The following procedures are for hand tools only such as snap cutters, handsaws, tapping machines and hand drills. An excavator or other heavy equipment may also be used to lift and move AC pipe. The operation of hand tools with AC pipe has been determined to be a Moderate Risk Work Activity as outlined in Worksafe Regulation 6.1.

Snap cutters (roller chain cutters) consist of deep penetrating cutting wheels mounted in a chain that is wrapped around the pipe barrel. A cut is made when pressure is applied by means of a hydraulic pump or a manual ratchet depending on the size of the pipe.

Friable versus Non-Friable
Asbestos containing products are often referred to as friable and non-friable. By WorkSafeBC definition, friable materials are materials that, when dry, can be easily crumbled or powdered by hand. This term may also refer to materials that are already crumbled and powdered. Some nonfriable materials, such as vinyl-asbestos floor tile or asbestos containing cement products have the potential to become friable if they are disturbed and/or handled in an aggressive manner (for example, sanded with a power sander) or dropped from a height.

Hazards:

- The use of powered disc saws (cut-off saw, K-5 saw, stihl saw, etc) MUST NOT be used to cut AC pipe. The use of such abrasive disc saws will release excessive levels of asbestos fibres into the atmosphere and cause over-exposure to employees, contractors and the public.
- Exposure to asbestos fibres can lead to grievous long term illness and death such as lung cancer, asbestosis and meothelioma. All efforts must be made to avoid exposure to asbestos fibres. If an exposure is suspected during your shift, report this suspected exposure to the OH&S Department without delay.
- If clothing is exposed to asbestos fibres, that clothing needs to be bagged, marked and cleaned appropriately. Don’t risk bringing asbestos home to your family or exposing others.
- Cold and Heat Exposure is amplified during the winter & summer months respectively.
  - Cold - Tyvek suits with cold water and cold temperatures do not give workers a lot of protection from the cold. Workers and supervisors should be aware of symptoms of cold exposure such as hypothermia and plan accordingly.
**Heat** – Tyvek suits are impermeable and thus do not allow body heat out. Overheating by wearing Tyvek combined with radiant heat from the sun is a possibility. Workers and supervisors should be aware of the signs and symptoms of Hyperthermia (unsafe increase in the body’s core temperature). If the worker is feeling these signs and symptoms, they should follow decontamination procedures to exit the “Asbestos Work Zone” and take a break in a cool place while having some water.

**Training for workers will include:**
- Hazards of asbestos
- Safe work procedures to be followed for the work activity
- Correct use of the required PPE and engineering controls
- Current respirator fit testing

**PPE Required:**
The use of disposable material is to ensure asbestos fibres that can be found in the AC pipe debris do not get transferred out of the asbestos work zone.

- ½ face respirator or hood respirator or full face respirator. Respirators will have P100 cartridges.
- Disposable Coveralls – Impermeable protective coveralls must have a hood, and elastic seals
- Steel toed Rubber Boots or work boots with covers to prevent contamination
- Disposable Gloves
- Hardhat
- Eye Protection (Where Required)
- Hearing Protection (Where Required)

**Special Equipment Required:**
- 6 mm poly sheeting & Asbestos waste bags
- Signs/labels for taping on double wrapped AC Pipes
- Duct tape (sealing waste bags, poly and taping wrists/ankles)
- Wet/Dry HEPA Vacuum with DOP testing available
- GFCI
- “Candle Stick” style traffic delineators for creating the “Asbestos Work Zone”, OR, any other suitable posts or stake
- Asbestos warning tape and warning signs
- Snap Cutters and non-powered hand tools as required
- Continuous “low flow” running water – high pressure must never be used on asbestos
- Wet wipes, wash clothes and bucket of water (decontamination)

**Supervision**
Only trained supervisors will oversee AC pipe work. The supervisor will have experience, knowledge and training to with AC pipe removal.
Pre Set-Up:

- Perform pre-excavation hazard identification and risk assessment through the use of a Pre-Excavation Checklist. Keep completed checklist on site.
- Ensure the appropriate WSBC NOP for work on Asbestos Containing Materials is completed. Ensure that a copy of the NOP(A) is on site at all times.
- Ensure that the Pre-Ex is on site and utilities have been marked out before carrying out any excavations.
- Set up work zone appropriately – utilize traffic control if needed.
- Complete a crew talk to ensure all workers on site are trained and aware of the hazards which exist and review emergency procedures for the site.
- Any workers who are going to be carrying out AC Pipe procedures need to have been trained on AC Pipe Procedures.
- Ensure this procedure and that all workers have been trained in the procedure.
- Ensure a continuous water supply is available on site.

Procedure:

Expose AC Pipe in accordance with City of Nanaimo Excavation and Trenching Safety program.

1. Create an “Asbestos Work Zone”

   NOTE: This zone must include the trench, wrapping area, disposal bin and decontamination area. This Asbestos Work Zone will continually move along the top of the trench so the excavator can reach it at all times.

   a. Utilize traffic control as needed.
   b. Figure out where you want your Decontamination Zone and set-up bucket, water, rags and asbestos waste bags and duct tape.
   d. Identify the Asbestos Work Zone by using barricades with Asbestos signage or stanchions with asbestos banner tape or other clearly identifying means of demarking the Asbestos Work Zone.
   e. Post Asbestos Warning Signs at all access points to the work zone.

   NOTE: ~ Only workers wearing all PPE are allowed inside the Asbestos Work Zone. The work zone barrier must keep all non-protected workers 10 feet away from the asbestos double wrapping location.

2. Set-up AC Pipe Wrapping Station:

   a. To manage 4+ foot long lengths of AC Pipe, cut 6mm poly into 8’ lengths and layer them (fully spread out) on top of each other at the wrapping station.
   i. Before start removal, this entire amount of 6mm poly should be pre-cut and laid out
   b. Have tape ready to use prior to putting a piece of AC Pipe down to wrap.
   c. Have an asbestos waste bag nearby to use for any small asbestos waste

3. Don PPE: Employees within Asbestos Work Zone to put on the following PPE (personal protective equipment):

Form Revised: February 15, 2019  
Approved by: Health and Safety Manager
a. Tyvek suit with hood and duct taped at wrists and ankles
b. ½ face respirator with dual P100 cartridges (straps underneath Tyvek hood) or hood respirator or full face respirator.
c. Steel toed rubber boots or work boots with covers to prevent contamination
d. Disposable gloves
e. Hardhat
f. Eye protection
g. Hearing protection (where required)

4. When needing to use the snap cutter, expose AC Pipe in accordance with City of Nanaimo excavation and trenching procedure and hand dig last 6” to expose the pipe.

5. Remove large sections of AC Pipe by the following methods:

a) Cutting initial pipe to get the job started:

i) Soak down AC Pipe with low flow water and continue a misting technique at all times while worker is in the trench. This can be done by a worker on top of trench operating the hose.

ii) In order to keep workers out of trench as much as possible, two workers will enter trench inside the cage to hand dig and expose the initial location to begin the procedures to remove the AC section of pipe.

iii) Hand tools (non powered) must be used to cut/snap the pipe (i.e. snap chain cutter).

iv) Once the the pipe is cut through, the workers will wrap a sling around the pipe and attach the sling to the hook on the excavator bucket. At this time, the worker in the trench will get out of the trench.

v) The excavator will gently lift on the pipe to remove the section of AC pipe. Note that by lifting the pipe the non-cut end will crack into an approximately 4’ to 5’ length allowing the now free section of pipe to be removed.

vi) The excavator can then lift that initial section to the double wrapping location immediately adjacent to the trench and place the pipe onto the double poly.

vii) Workers in full PPE can double wrap the pipe at this time like a present (see procedure #7 below for double poly wrapping technique).

viii) Once double wrapped and labelled, the Pipe can be placed in the asbestos waste bin.

b) Remove subsequent pipe sections (the trench is now a confined space) unless sewer line can be diverted or by other engineered controls suitable for confined space isolation). Note: If for any reason, workers have to enter the trench during this phase of work, they will be fully suited up for AC Pipe work and proper confined space procedures shall be implemented. **Refer to City of Nanaimo Confined Space Entry procedure.

i) Excavator operator will strip overburden from the top of the pipe from 6” above the pipe.
ii) A worker on top of the excavation will constantly wet the pipe with low flow water.

iii) 4-5’ sections will be removed at a time by the excavator operator gently lifting upward from under the open end of pipe until pipe cracks.

iv) Once the section of pipe is free, the excavator can put the end down and lift the pipe out of the trench to the double poly wrapping station. **Note:** the pipe must be handled as gently as possible when placing down on the poly

v) Workers in full PPE can double wrap the pipe at this time like a present (see procedure #7 below for double poly wrapping technique).

vi) Continue to do steps i) to v) until all asbestos pipe is removed, properly wrapped and disposed of in the asbestos waste bin.

6. **Handling Small Pieces of AC Pipe:**

   a. Small pieces of ac pipe can, from time to time, be found in the trench from old jobs or from small fractures when snapping. Standard procedures of wetting and double bagging must be followed. These include:

      i. Wet the piece down with low flow water prior to handling.

      ii. Worker who is in full PPE can gently pick up piece and place into an asbestos waste bag to be sealed up when bag is 2/3 full. See step #8 for double bagging procedures.

7. **Double poly wrapping:**

   a. Wrap the first layer of poly over the pipe like a present and tape into position.

   b. Wipe down 1st layer with damp cloth to eliminate any fibers.

      i. Wrap the second layer of poly over the pipe (again like a present) and tape down.

      ii. Apply asbestos labels to outside of pipe that has been double wrapped (apply with tape).

   e. Have excavator/loader remove wrapped pipe and place gently as possible into asbestos bin.

8. **Double Bagging Procedure:**

   a. Check the bag for rips or tears. If torn, duct tape fully over tear before continuing.

   b. Gently twist the Asbestos Waste Bag closed (Do NOT squish out the air) and then fold over the twisted portion (goose neck) and duct tape closed.

   c. Wipe down the outside of the asbestos waste bag.
d. Place first asbestos waste bag into second asbestos waste bag.

e. Twist the top of the second bag to close it, and then fold over twisted portion and use duct tape to tape the twisted portion to the bag.

f. Place asbestos waste bags into asbestos waste bin with rest of double wrapped AC Pipe.

9. Removing Double Wrapped Waste to Bin:

Once AC Pipe is double wrapped and labelled (either in poly or asbestos waste bag), the waste can be moved to the secured bin.

This will be done by the following steps:

a. Place double wrapped AC Pipe waste in bucket of backhoe or loader.

b. Drive it to location of asbestos waste bin.

c. Place it into bin by hand or for heavy pieces by the heavy equipment.

d. Re-lock and secure the bin.

For small pieces of AC pipe. Place the bag back of truck and dispose of in the designated Asbestos Disposal Bin at the back of the yard and advise Stores that you have done so. AC Pipe must never be left in the back of a truck overnight.

Post Procedure/Take Down

1. Decontaminate equipment:

a. Once all AC Pipe has been removed from the trench, thoroughly wash the snap cutter and all other tools used on AC Pipe with clean, low pressure water to remove all AC pipe debris.

b. Wash down excavator arm, bucket and thumb (if used) with low flow water to remove all AC pipe debris and asbestos fibers.

c. Remove all cleaned tools from the trench.

2. Decontamination of all workers handling asbestos (other than last worker to decontaminate):

a. Proceed to where the wash station/ asbestos & asbestos waste bag is located

b. Thoroughly wash off boots & hard hat with low flow water.

c. Remove gloves (first aid method turning inside out) and place in the asbestos waste bag.

d. Remove Tyvek and gently place in Asbestos Waste Bag.
e. Wash face and any exposed hair & hands with water and rag/ wet wipes.

f. Remove respirator cartridges and place into asbestos waste bag.

g. Thoroughly clean safety glasses & respirator with a disposable wet cloth/ wet wipes.

h. Throw away all clothes/ wet wipes into asbestos waste bag.

i. Step out of Asbestos Work Zone.

3. Last person out of trench to decontaminate:

   a. Take down barrier and dispose of tape in asbestos waste bag

   b. Proceed to where the wash station/ asbestos waste bag is

   c. Thoroughly wash off boots & hard hat

   d. Remove gloves (first aid method turning inside out) and place in the asbestos waste bag.

   e. Remove Tyvek and gently place in asbestos waste bag.

   f. Thoroughly clean safety glasses & respirator with a disposable wet cloth/ wet wipes.

   g. Put all disposable clothes/ wet wipes in asbestos waste bag.

   h. With respirator still on:
      i. Wash respirator, face and any exposed hair & hands with water and rag/ wet wipes
      ii. Gently twist the Asbestos Waste Bag closed (Do NOT squish out the air) and then fold
      iii. over twisted portion (goose neck) and duct tape closed.

   i. Wipe down the outside of the asbestos waste bag and place aside momentarily.

   j. Remove cartridges and place into second asbestos waste bag.

   k. Remove respirator, wipe down and set aside.

   l. Place first asbestos waste bag into second asbestos waste bag (has your respirator cartridges already in it).

   m. Twist the top of the bag to close it, and then fold over twisted portion and use duct tape to tape the twisted portion to the bag.

   n. Place asbestos waste bags into bin with rest of double wrapped AC Pipe.

4. Backfill trench as per usual procedures.
Other Considerations

1. Specific Respirator Maintenance
   - Clean respirator by washing with respirator wipes
   - Rinse in clean, warm water
   - Wipe dry and hang to complete drying
   - Visually inspect inhalation and exhalation valve before replacing

2. Contingency Plan – Spill/ Split Double Bag or Poly Wrap
   This section is to be used in the event a bag breaks open, a wrapped asbestos containing pipe is dropped or the double poly breaks open or other small spill of pre-bagged asbestos containing material.
   - **Immediately soak down the contents** with low flow water and barricade the area that the spill has occurred to keep unprotected workers and public out of area:
     - Create an “Asbestos Work Zone”. Use four “Candlestick” style traffic control posts as the corners of the work zone. Use “Asbestos Hazard” warning tape to create a barrier surrounding the work zone, connecting all 4 corners. The work zone barrier must keep all non protected workers 10 feet away from the work zone. Post Asbestos Warning Signs where appropriate.
     - Employees entering the “Asbestos Work Zone” must be wearing the required personal protective equipment.
   - If workers are not already in Tyvek and other required PPE or workers with Tyvek and all other required PPE are unavailable → Have workers **don all appropriate** personal protective equipment required for Moderate Risk Asbestos Procedures.
   - **Rewrap the Asbestos:**
     - **Small Debris** - Use the double bagging procedure:
       - Place the pipe of piece and any visible pieces or debris into the Asbestos Waste Bag.
       - Twist the top of the bag to close it, and then fold over twisted portion and use duct tape to tape the twisted portion to the bag.
       - Place the bagged section near the edge of the “Asbestos Work Zone”.
       - Wipe down bag with a wet disposable cloth to remove any asbestos debris.
       - Place the bag into a second Asbestos Waste Bag and duct tape closed the same way.
     - **Large Debris:**
       - Wrap the first layer of poly over the pipe like a present and tape into position.
       - Wipe down 1st layer with damp cloth to eliminate any fibers.
       - Wrap the second layer of poly over the pipe (again like a present) and tape down.
       - Apply asbestos hazard labels
       - Dispose of in bin with other double wrapped AC Pipe
   - In addition to the above:
     - If contents were **spilled on soil**:
       - Ensure a layer of top soil is removed with the asbestos debris to minimize future exposure.
- Utilizing a flat faced spade style shovel, dig horizontally deep enough under the surface to capture all of the fibers that may have been collected within the surface soils.
- Gently place each shovel full into an Asbestos Waste Bag.
- Seal bag as per “Small Debris” procedures above.
- Decontaminate shovel with running water prior to removing from “Asbestos Work Zone”

- If contents were **spilled on asphalt, concrete or other hard surface**:
  - Hepa vac contents up using DOP tested hepa vacuum
  - Wet wipe the area with disposable wet rags
  - Dispose of rags in double bag

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<th>Review Date</th>
<th>Review Description</th>
<th>JOHSC Member</th>
<th>Approved By</th>
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<td>SWP Created</td>
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<td>01/30/2015</td>
<td>SWP Reviewed</td>
<td>--</td>
<td>Jason Duchak</td>
</tr>
<tr>
<td>03/15/2019</td>
<td>SWP reviewed to WSBC inspection and upcoming standing NOP application. Added use of excavator, double poly wrapping of pipe. Removed section of leaving removed AC pipe at worksite and logging it into database as AC pipe is removed for disposal and not left on site.</td>
<td>Jason Place</td>
<td>Sheldon Weatherby</td>
</tr>
</tbody>
</table>
APPENDIX 3

Emerald Drive Sanitary Sewer Improvement Project
Environmental Assessment
EDICity of Nanaimo  
411 Dunsmuir Street  
Nanaimo, BC  
Attention: Rob Shearer, C.Tech

RE: Emerald Drive Sanitary Sewer Improvement Project

EDI Environmental Dynamics Inc. (EDI) was retained by the City of Nanaimo to assess a small watercourse that flows along and crosses the Emerald Drive Sanitary Sewer Improvement Project (the Project) location. This letter summarizes the assessment I conducted at the watercourse crossing and provides recommendations regarding the future sanitary sewer improvement works.

ASSESSMENT RESULTS

Watercourse Characteristics

A visual assessment of watercourse values and conditions at the Project site was conducted on November 28, 2017. Watercourse information collected by EDI for a previous, unrelated project a short distance upstream of the Project site in 2014 prevented the need to assess the watercourse within private property upstream of the Project site. The site was easily accessed as it is adjacent to the north side of Emerald Drive, within the east end of 3301 Emerald Drive.

The watercourse was flowing at the time of the assessment due to several rainstorm events that occurred in November. The proposed 300 mm diameter PVC sanitary sewer pipe crosses the watercourse approximately 5 m upstream of a storm sewer inlet (750 mm diameter reinforced concrete main). The storm sewer eventually discharges into Departure Creek (a known fish bearing stream), several hundred metres downstream (according to the City’s mapped utilities information available at http://maps.nanaimo.ca/nanaimomap/). Therefore, the watercourse is connected by surface flow to downstream fish habitat. Upstream of the Project site, the stream flows within an older second growth forest.

The entire Project site consists of the small stream and its immediate riparian area north of Emerald Drive. The riparian area is within the lawn of 3301 Emerald drive and consists of a grassy swale with a few ornamental plants, including one small tree. The watercourse consists of a narrow, sinuous stream with a low gradient and
an average channel width of approximately 0.8 m. The stream banks have been lined with cobbles and small boulders – likely to prevent scour erosion that could otherwise occur due to a lack of tree and shrub roots.

**Aquatic Habitat Values**

At the crossing site, the ephemeral watercourse had little aquatic habitat value. There were no suitable habitats for fish (shallow, narrow channel, no deep pools). It is not possible for fish in Departure Creek to access the stream through several hundred metres of sloped storm sewer system. Further, a resident population of fish would not occur upstream as the watercourse is known to be devoid of surface water much of the year. There are a few small pooled water areas upstream of the Project site are not considered to be substantial enough to support a resident population of fish. Given these characteristics, the watercourse at the crossing site should be considered non-fish bearing and fish sampling to verify fish absence is not warranted for the purposes of this assessment (especially since the site has already been impacted by previous developments and since the work can be completed when there is no flow present).

At the Project site, the stream provides no breeding habitat for amphibians, nor any meaningful foraging or hydration habitats due to a lack of pools and riparian vegetation. Upstream of the Project site, the watercourse flows within a mature forest and contains suitable habitats for a variety of amphibians such as red-legged frogs, Pacific chorus frogs and rough-skinned newts.

![Photo 1. Looking upstream at the Project site from the storm sewer inlet. Red line indicates approximate planned sanitary sewer pipe alignment.](image-url)
REGULATORY REQUIREMENTS

The watercourse is a stream under the definition provided by the Water Sustainability Act (WSA), which includes “without limitation, a lake, pond, river, creek, spring, ravine, gully, wetland or glacier, whether or not usually containing water”. As such, a Section 11 WSA Notification should be submitted for the planned sanitary sewer crossing works. Under Section 39 (1)(e) of the regulation, the following criteria needs to be met so that a Change Approval is not needed, which is a more onerous approval process: “the pipeline and associated works are installed in a dry stream channel at a depth so that the top of the pipe is at least 1 m below the lowest elevation of the bed of the stream”.

As the current design drawings indicate that the new pipeline will be >1 m below the existing grade (and encased in concrete), and as the stream is naturally dry during much of the year, it should be straightforward to meet the above criteria.

As there is no suitable fish habitat at the crossing site and as the works can be completed without adverse downstream impacts (through implementation of standard mitigation measures), it is not considered necessary to submit a Request for Review to DFO. It should be noted; however, that the Federal Fisheries Act could be revised before the work is completed next summer and, if this occurs, this aspect should be revisited to determine whether any notifications to DFO may be necessary.
RECOMMENDATIONS

If a culvert were to be installed here, fish sampling to further verify fish absence could be warranted and could be requested by the Province; however, given that there will be no permanent infrastructure impact to the watercourse by the pipeline crossing and that the work can be done during dry or low flow conditions, fish sampling to verify absence is not necessary especially since there is a lack of potential habitat in this narrow, ephemeral watercourse.

The following recommendations have been provided to ensure potential adverse impacts are avoided during construction:

- The works shall be conducted in isolation of flowing water and during the reduced risk timing window. For Vancouver Island, the general timing window is from June 15 to September 15. It is likely that the watercourse will be devoid of surface flow during this period; however, if there is some small amount of flow, then clean water should be pumped around the work area during all works at the crossing site to maintain clean water downstream.
- A written or verbal site isolation plan and erosion and sediment control plan should be prepared by the contractor prior to implementing the work. A qualified environmental professional could be retained to prepare these plans and to conduct environmental monitoring during the works if there is some flow present at the time of construction.
- Ensure the temporarily disturbed bed and banks of the watercourse are adequately reconstructed to ensure short and long-term stability.
- Ensure the banks of the grassy swale are adequately revegetated to prevent erosion. To achieve this, the disturbed portions of the lawn below the top of bank on either side of the stream could be replaced with turf. Other portions of the lawn could simply be replaced by placement of seeded topsoil.

If desired by the City and property owner, the entire riparian area of the stream within 3301 Emerald Drive could be significantly improved from an ecological perspective by planting native tree and shrub species. This would encourage long-term bank stability, improve ecosystem conditions and create an aesthetically appealing feature within the residential property. The riparian area between the top of bank and the stream channel is the most important area to revegetate, but riparian planting could be extended 10 m from the edge of the stream as 10 m is typically the minimum riparian setback required by local governments in accordance with the Riparian Areas Regulation (RAR). The RAR provides a science-based methodology to determine the minimum functional riparian width needed to protect the features, functions and conditions of the riparian area and of aquatic and fish habitat. EDI can provide recommendations for development of a site-specific planting plan. For an easy to read guide on use of native plants suitable for southeastern Vancouver Island see the brochure available at www.hat.bc.ca/attachments/HAT_Garden_Brochure_web.pdf.
• Standard best practices should be followed to ensure potential construction impacts are avoided, which are available from the Ministry of Environment website: http://www.env.gov.bc.ca/wld/instreamworks/pipelinecrossings.htm

STATEMENT OF LIMITATIONS

This report was prepared exclusively for the City of Nanaimo by EDI Environmental Dynamics Inc. The quality of information, conclusions and estimates contained herein are consistent with the level of effort expended and is based on: i) information available at the time of preparation; ii) data collected by EDI Environmental Dynamics Inc. and/or supplied by outside sources; and iii) the assumptions, conditions and qualifications set forth in the report. The report is intended to be used by the City of Nanaimo only. Any other use or reliance on this report by any third party is at that party’s sole risk

Yours truly,

EDI Environmental Dynamics Inc.

Senior Biologist/Project Manager
APPENDIX 4

Island Health

Construction Permits
March 29, 2019

Michael Yaremkewich
Project Manager
Public Works Department
2020 Labieux Road
Nanaimo BC V9T 6J9

Dear Mr. Yaremkewich:

Re: Water Supply System Construction Permit No. W-CN-3167 – Uplands Drive
Departure Bay Road to Villa Road

Please find enclosed Water Supply System Construction Permit No. W-CN-3167, issued under Section 7 of the Drinking Water Protection Act, authorizing construction of a proposed watermain replacement along Uplands Drive from Departure Bay Road to Villa Road to serve existing and future development in the City of Nanaimo, BC.

This permit is valid for one year and is not transferable unless the transfer is approved by the Issuing Official or the Drinking Water Officer. This permit is subject to the following terms:

Design Deviations: This permit applies exclusively to the works as approved. Any subsequent design modifications will require the submission of amended drawings to the Issuing Official or Drinking Water Officer and approval obtained before installation of the amended works.

Disinfection: It is the responsibility of the water distribution system owner (City of Nanaimo) to ensure that, following the completion of construction, repair, or draining and refilling of any portion of the system affected, and prior to the delivery of water to customers served by these works, all waterworks affected by this permit are disinfected in accordance with the appropriate American Water Works Association (AWWA) standard or equivalent.

Chlorinated water used for disinfection of all waterworks shall not be directly discharged into the environment without the permission of the Ministry of Environment, and/or Fisheries and Oceans Canada.

The water supplier (City of Nanaimo) shall maintain records of the completion date of the permitted work, and the results of the bacteriological testing conducted as part of the disinfection protocol. The water supplier shall notify the Island Health if bacteriological tests are unacceptable. These records shall be made available to the Public Health Engineer or Island Health personnel upon request.

Health Protection & Environmental Services
3rd Floor – 6475 Metral Drive
Nanaimo BC V9T 2L9

Public Health Engineering
Tel: 250.755.6299 | Fax: 250.755.3372
viha.ca
**Sewers:** It is the responsibility of the water distribution system owner (City of Nanaimo) to ensure that mains under construction or repair are not contaminated by seepage or effluent from sewers or storm drains.

This document grants authorization under Section 7 of the *Drinking Water Protection Act* only, and does not constitute permission or consent under any other Act or authority.

Please contact the Public Health Engineering Department through the Island Health in Nanaimo, should there be any questions concerning the above.

Yours truly,

[Signature]

Murray M. Sexton, P. Eng.
Public Health Engineer

e.c.: Cina Opel, Environmental Health Officer, Island Health, Nanaimo
    Chris Pogson, P.Eng., McElhanney, Nanaimo

Enclosure

MS/jk
Water Supply System Construction Permit
NO. W-CN-3167

To: City of Nanaimo

Uplands Drive – Departure Bay Road to Villa Road

This is to certify that drawings numbered 23636 (Cover Sheet), 23637 (Rev. 01), 23638 (Rev. 01), and 23639 (Rev. 01) dated February 26, 2019, prepared February 27, 2019 and submitted March 1, 2019 by C. Pogson, P.Eng., of McElhanney Consulting Services Ltd., portraying a proposed watermain replacement comprising of approximately 500 metres of 200-mm diameter PC235 PVC pipe and other related appurtenances to serve existing and future development in the City of Nanaimo, BC, and submitted in accordance with Section 7 of the Drinking Water Protection Act have been reviewed and proposed construction, alteration or extension may be commenced in accordance with the approved plans and the terms and conditions contained in the letter of transmittal.

This document certifies that the plans and specifications for the proposed works have been reviewed pursuant to the current “Guidelines for the Approval of Water Supply Systems” issued by the Island Health and that the plans and specifications meet the protection requirements outlined in the Guidelines.

The standards of structural integrity and safety of the works have not been considered and are not the subject of this Permit. This document grants authorization under Section 7 of the Drinking Water Protection Act only, and does not constitute permission or consent under any other Act or authority.

MAR 29 2019

Date Issued

Murray M. Sexton, P. Eng.
Public Health Engineer

e.e.: Cina Opal, Environmental Health Officer, Island Health, Nanaimo
C. Pogson, P.Eng., McElhanney, Nanaimo
May 4, 2018

Chris Lang, P.Eng.
Project Engineer
Engineering Department
City of Nanaimo
455 Wallace Street
Nanaimo BC V9R 5J6

Dear Mr. Lang:

Re: Water Supply System Construction Permit No. W-CN-3059 – Emerald Drive

Please find enclosed Water Supply System Construction Permit No. W-CN-3059 issued under Section 7 of the Drinking Water Protection Act, authorizing construction of a proposed watermain replacement off Ruby Crescent and along Emerald Drive to serve existing and future development in the City of Nanaimo, BC.

This permit is valid for one year and is not transferable unless the Issuing Official or the Drinking Water Officer approves the transfer. This permit is subject to the following terms:

Design Deviations: This permit applies exclusively to the works as approved. Any subsequent design modifications will require the submission of amended drawings to the Issuing Official or Drinking Water Officer and approval obtained before installation of the amended works.

Disinfection: It is the responsibility of the water distribution system owner (City of Nanaimo) to ensure that, following the completion of construction, repair, or draining and refilling of any portion of the system affected, and prior to the delivery of water to customers served by these works, all waterworks affected by this permit are disinfected in accordance with the appropriate American Water Works Association (AWWA) standard or equivalent.

Chlorinated water used for disinfection of all waterworks shall not be directly discharged into the environment without the permission of the Ministry of Environment, and/or Fisheries and Oceans Canada.

The water supplier (City of Nanaimo) shall maintain records of the completion date of the permitted work, and the results of the bacteriological testing conducted as part of the disinfection protocol. The water supplier shall notify the Island Health if bacteriological tests are unacceptable. These records shall be made available to the public health engineer or Island Health personnel upon request.
Sewers: It is the responsibility of the water distribution system owner (City of Nanaimo) to ensure that mains under construction or repair are not contaminated by seepage or effluent from sewers or storm drains.

This document grants authorization under Section 7 of the Drinking Water Protection Act only, and does not constitute permission or consent under any other Act or authority.

Please contact the Public Health Engineering department through Island Health in Nanaimo, should there be any questions concerning the above.

Yours truly,

[signature]

Murray M. Sexton, P. Eng.
Public Health Engineer

c.c.: Cina Opel, Environmental Health Officer, Island Health, Nanaimo

Enclosure

MS/jd
Water Supply System Construction Permit
NO. W-CN-3059

To: City of Nanaimo  
Emerald Drive

This is to certify that drawings numbered 22736 (Rev. 3) and 22737 (Rev. 3) dated October 17, 2017 and drawings numbered 22738 (Rev. 3) and 22739 (Rev. 3) dated January 15, 2018, all prepared and submitted April 16, 2018 by C. Lang, P.Eng., of the City of Nanaimo Engineering Department, portraying a proposed watermain replacement comprising of approximately 140 meters of 200-mm diameter of PC235 PVC pipe and other related appurtenances to serve existing and future development in the City of Nanaimo, BC, and submitted in accordance with Section 7 of the Drinking Water Protection Act have been reviewed and proposed construction, alteration or extension may be commenced in accordance with the approved plans and the terms and conditions contained in the letter of transmittal.

This document certifies that the plans and specifications for the proposed works have been reviewed pursuant to the current “Guidelines for the Approval of Water Supply Systems” issued by the Island Health and that the plans and specifications meet the protection requirements outlined in the Guidelines.

The standards of structural integrity and safety of the works have not been considered and are not the subject of this Permit. This document grants authorization under Section 7 of the Drinking Water Protection Act only, and does not constitute permission or consent under any other Act or authority.

MAY 04 2018
Date Issued

Murray M. Sexton, P. Eng.
Public Health Engineer

e.c.: Cina Opel, Environmental Health Officer, Island Health, Nanaimo
March 19, 2019

Chris Lang, P.Eng.
Project Engineer
Engineering Department
City of Nanaimo
455 Wallace Street
Nanaimo BC V9R 5J6

Dear Mr. Lang:

Re: Water Supply System Construction Permit No. W-CN-3059 - Emerald Drive - Amendment

This office has received your March 15, 2019 request to extend the deadline of Water Supply System Construction Permit No. W-CN-3059 issued May 4, 2018. The permit was set to expire May 4, 2019.

An extension has been granted. Please remove the previous sentence from the May 4, 2018 letter of transmittal:

“This permit is valid for one year and is not transferable unless the Issuing Official or the Drinking Water Officer approves the transfer.”

and replace with:

“This permit is valid until December 31, 2019 and is not transferable unless the Issuing Official or the Drinking Water Officer approves the transfer.”

All other terms and conditions of Water Supply System Construction Permit No. W-CN-3059 and its letter of transmittal issued May 4, 2018 remain in force and effect.

Please contact the Public Health Engineering department through Island Health in Nanaimo, should there be any questions concerning the above.

Yours truly,

Murray M. Sexton, P. Eng.
Public Health Engineer

e.c.: Cina Opel, Environmental Health Officer, Island Health, Nanaimo

MS/jk
APPENDIX 5

Sanitary Sewer Flows
For Bypassing
Flows presented are for the 5-Year Peak Wet Weather Flow event
APPENDIX 6

MOTI Traffic Control Standards
SECTION 194

TRAFFIC MANAGEMENT FOR WORK ZONES

PART A – GENERAL

194.01 General – Traffic management requirements will be as specified herein and as specified in the Special Provisions or by the Ministry Representative.

The Contractor’s Traffic Management Plan, Construction Schedule and its provisions for traffic control and safety will be based on providing safe passage through the Work Zone for all road users (i.e. cyclists, pedestrians and motorists). The Contractor will at all times make provisions for traffic through the Site to a sufficiently high standard to ensure the safety of the workers on the Project, the safety and the convenience of the travelling public, driver expectancy, and the protection of the Work Area. The Contractor will supply and maintain all traffic control devices and personnel necessary to provide all traffic control.

The Contractor’s accommodation for pedestrian, bicycle and vehicular traffic, and proposed traffic control procedures for each work operation will require approval by the Ministry Representative prior to the start of that operation.

Any one or more of the advance warning area, transition area, buffer space and termination area of the work zone may be outside the Limits of Construction, but this will in no way diminish the Contractor’s responsibility to meet the requirements of the Traffic Management Plan.

194.02 Definitions – For purposes of this Section, the following general terms are defined in the Traffic Management Manual for Work on Roadways:

- Traffic Management Strategy
- Traffic Management Plan
- Traffic Control Plan
- Incident Management Plan
- Public Information Plan
- Implementation Plan

In addition, the following terms are used in this Section and defined below:

“Work Activity Area” refers to an area that contains the work activity and is closed to traffic and set aside for the exclusive occupation by workers, equipment and construction materials. Work areas may remain fixed in location or may move as work progresses.

“Work Zone” as defined in the Traffic Control Manual for Work on Roadways.

“Construction speed zone” as defined in the Traffic Management Manual for Work on Roadways.

194.03 Standard Documents – Traffic Management Plans shall be developed in accordance with standards defined in the latest version of the following documents:

- MoT Traffic Management Manual for Work on Roadways (TMM)
- MoT Electrical and Traffic Engineering Manual and all current Technical Bulletins
- TAC Geometric Design Guide of Canadian Roads
- MoT Supplement to TAC Geometric Guide
- Workers’ Compensation Board (WCB) Regulation

All Ministry Publications listed above can be purchased from:
GOVERNMENT PUBLICATION SERVICES
MINISTRY OF MANAGEMENT SERVICES
PO BOX 9452 STN PROV GOVT
VICTORIA BC V8W 9V7
www.Publications.gov.bc.ca
Email: QPPublications@.gov.bc.ca
PHONE: 1-800-663-6105
FAX: (250) 387-1120

194.04 Traffic Control Supervisor – The Contractor will designate a Traffic Manager who has the Contractor's authority to respond to traffic control requirements and who will provide surveillance of traffic conditions through the Work Zone. This person or qualified designate will be available at all times, both when the Contractor is working and during weekends or other periods when the Contractor's forces are not active on the Project, to respond to calls from the police and from representatives of the Ministry concerning damage or deficiencies in the traffic control devices and the passage for traffic through the Work Zone.

The traffic control supervisor shall meet the requirements of the TMM and WCB Regulation and shall not be the Contractor’s site superintendent.

194.05 Compliance with Acts and Regulations – The Contractor shall comply with the requirements of any legislation, Regulations and by-laws as are in force for the regulation of traffic or use of any road upon or over which it is necessary to carry out work or to haul materials or things.
PART B – PLANNING AND SCHEDULING


The Special Provisions or the Ministry Representative will specify the Traffic Management Strategy and required documentation for the Traffic Management Plan.

The Traffic Management Plan will be fully integrated with the Contractor’s plan and schedule for carrying out the work, comply with the requirements of the TMM, the Traffic Management Strategies listed below, and with the provisions of the Contract.

194.12 Traffic Management Plan Review – The Ministry Representative may review the Contractor’s Traffic Management Plan for general conformance with the requirements of the Special Provisions and the Contract for sufficiency of detail to provide a complete and unambiguous traffic control layout. No review or change requested by the Ministry Representative in any way relieves the Contractor of any its responsibilities for ensuring safe and adequate traffic management. No work that effects traffic will be permitted until the Ministry Representative accepts the Traffic Management Plan.

Where the TMM shows a choice of traffic control layouts for a given specific situation, the Ministry Representative may request the Contractor to use an alternative layout which is acceptable.

The following time periods are required for plan review and acceptance unless otherwise specified in the Special Provisions or by the Ministry Representative:

- A Traffic Control Plan shall be submitted to the Ministry Representative for review at least fifteen (15) working days prior to the start of any Works effecting traffic flows. The following conditions shall apply:
  - Any plan modifications shall be submitted to the Ministry Representative for review at least ten (10) working days prior to any changes being made in the field.
  - A staged plan shall be submitted to the Ministry Representative for review at least ten (10) working days prior to implementation of a new stage.

- The Implementation Plan, if required, shall be submitted to the Ministry Representative for review at least fifteen (15) working days prior to the start of any Works effecting traffic flows.

- The Public Information Plan, if required, shall be submitted to the Ministry Representative for review at least fifteen (15) working days prior to the start of any Works effecting traffic flows.

PART C TRAFFIC MANAGEMENT OPERATIONAL DETAILS

194.21 Speed Zones – Reduction in speed limits may take several forms as defined in the TMM 2.7. Construction speed zones within the Project will be determined at the discretion of the Road Authority or as specified in the Special Provisions.

The Contractor's work plan, Construction Schedule and its provisions for traffic control and safety will include references to the reduced posted speeds referred to in Subsection 194.21.

The location and length of posted speed reduction zones shall be adjusted daily, or more frequently as appropriate to the Work, to provide the shortest reduced speed zone practical. For example, on a resurfacing project, the reduced speed limit would usually be invoked around active operations such as milling, priming, paving, and, if necessary, at access points to pits and the plant, but will not generally be acceptable for areas of the Site used only for haul.

194.22 Use of Channelizing Devices and Taper Rates – Traffic cones, tubular markers, drums, barricades or other channelizing devices shall be used in the following circumstances to channelize traffic:

a) from one lane to another or for merging traffic where a reduction in the number of lanes must be effected
b) around a hazard on the travelled way
c) through an area of unfinished construction where the intended traffic lanes are not self-evident
d) at any other location where, in the Ministry Representative's opinion, channelizing will ensure the safe passage of public traffic.

Minimum taper rates and spacing between devices shall be as shown in TMM.

194.23 Equipment on the Travelled Way – When working on the travelled way, equipment shall be placed in such a position as to present a minimum of interference and hazard to the travelling public. Equipment units shall be kept as close together as working conditions will permit and preferably on the same side of the travelled way. Equipment shall not be left overnight on the travelled way but shall be located so as to avoid the possibility of an accident.

194.24 Roadway Configuration – The Contractor shall arrange to keep interconnected lanes of the highway open
to traffic at all times with the least amount of inconvenience to the travelling public unless otherwise authorized by the Ministry Representative.

194.25 Roadway Condition — The Contractor shall keep the travelled way well-graded, free of potholes and of sufficient width that the required number of lanes of traffic may pass. The subgrade shall be completed progressively in order that gravel surfacing may follow in an orderly manner. Prior to tearing up a portion of the existing travelled way the Contractor shall obtain Ministry Representative approval and shall also have available a sufficient supply of crushed gravel, or another approved product, to ensure a smooth riding surface during the work.

194.26 Closures — Road closures shall not be permitted until the Contractor requests and receives written permission from the appropriate authority in the Ministry of Transportation. This request shall be submitted in writing not less than fifteen (15) days in advance of the closure.

Upon receiving written permission for the closure, the Contractor must notify the local police, fire, ambulance, municipality, school board, and public transit at least seven (7) days in advance of the closure.

The public must be notified by local radio and newspaper at least (5) days in advance of the closure. The Contractor shall arrange any public announcement relating to the Contract and incorporating the Ministry logo through the Ministry Representative and Corporate Writing Services. Such advertisements will be made at the Ministry’s expense. Notices or other advertisements of the Contractor unrelated to the Contract or where the Ministry’s logo or name is not incorporated may be made by the Contractor at the Contractor’s expense.

All costs related to the above shall be borne by the Contractor.

194.27 Detours — Where detours or diversions are required for the execution of the work or deemed necessary by the Ministry Representative, the Contractor shall provide well graded, gravelled detours or temporary roads to facilitate the passage of traffic around the restricted construction area. The Contractor shall be responsible for signs, maintenance of same and maintenance of the detour or temporary road. The Contractor shall consider the condition of the pavement used for detours and its impact on the safety and function of the detour. Milled surfaces upon which traffic is to run shall be clean and allow adequate drainage.

The minimum design requirements for any detours will be specified in the Special Provisions or by the Ministry Representative.

Where the anticipated detour or diversion extends beyond the existing road surface, the Contractor will submit an engineering design to the Ministry Representative for review, a minimum of fourteen (14) days in advance of building the detour. The engineering design will include the design speed, the horizontal and vertical geometry, plus evidence that the design vehicle is accommodated for all movements and that all the requirements of this Contract are satisfied.

Where the anticipated deviation is minor, the Contractor may apply to the Ministry Representative, in writing, for approval to proceed without a formal design. Such approval does not relieve the Contractor of any of its responsibilities for provision of a safe site.

194.28 Access to Property — During operations the Contractor shall provide and maintain reasonable road access and egress to property fronting along or in the vicinity of the work unless other reasonable means of road access exists. The Ministry Representative will be the sole judge of what may be deemed reasonable road access.

194.29 Winter Lay-Up — In the event that the Work is stopped due to winter conditions, the Site is to be left in a condition as specified in the Special Provisions or as deemed acceptable by the Ministry Representative.

194.30 Delays — All major and minor delays to the travelling public will be determined by the Ministry Representative.

The Contractor will monitor the queue lengths created by any delay to the flow of traffic. Traffic must be cleared prior to starting another delay unless authorized by the Ministry Representative. If the Ministry Representative determines that the traffic delays are excessive, the Contractor shall immediately cease construction activities and make all the travel lanes available to traffic as quickly as possible. Resumption of roadway operations shall be permitted as traffic levels dictate and upon approval by the Ministry Representative.

PART D — TRAFFIC CONTROL DEVICES

194.41 Portable Traffic Signals — Portable traffic signals, in accordance with Section 5.7 of the Traffic Management Manual for Work on Roadways, may be used to provide bi-directional traffic control. Portable traffic signals are used primarily on longer term work zones. Typically, a pair of signals is set up at the perimeter of a roadway construction site.

Each signal unit shall have at least two signal heads for each approach and shall be positioned so that at least one signal head is overhead and one is side-mounted. Each signal head shall have a 3 lamp (red, yellow, green) signal display.

The use of portable traffic signals falls into two categories:

1. Category 1 is a fixed time signal used for short duration work in low speed environments of ≤60 km/h, and where advance warning flashers are
SECTION 194

TRAFFIC MANAGEMENT FOR WORK ZONES

not required. A traffic engineer is not required to prepare the timing sheet for the signal.

2. Category 2 is an actuated or fixed time signal used for long duration work, and/or in high speed environments ≥70 km/h, and/or where advance warning flashers are required. A Traffic Engineer is required to prepare the timing sheet for the signal.

The Contractor shall submit a request for the use of portable traffic signals to the Ministry Representative that includes:

- The site layout
- Anticipated volumes
- Requirements for advance warning signs
- The category of portable traffic signal proposed
- Proposed signal timing plan(s)

The approval for the installation of the signals will be determined by the Ministry Representative.

If the proposed traffic signal installation is approved by the Ministry Representative, the Contractor shall:

- Implement any portable traffic signals in accordance with the Traffic Management Manual for Work on Roadways
- For category 2 signals, prepare a traffic signal timing plan, signed and sealed by a Traffic Engineer registered with the APEGBC
- Supply and install all traffic controller equipment
- Supply power
- Operate and maintain the signals

Traffic controller technology used shall comply with industry standard practice and shall have

- Manual override to hold the signal in green
- A conflict monitoring mechanism that will ensure both signals in a pair cannot show green simultaneously
- Ability to revert to flashing red mode if a fault is detected

Where the work activity impacts the operation of an existing signal, the Contractor must submit a written notification to the Ministry Representative a minimum of ten (10) days in advance of the disruption to the signal.

194.42 Pilot Cars – The use of pilot cars may be warranted where public traffic must use a particularly complex or lengthy route through a work area. Pilot cars shall be operated in conjunction with Traffic Control Persons or Portable Traffic Signals stationed at each end of the restricted section. When required, the Contractor shall provide sufficient pilot cars, as required, to keep a steady and controlled flow of traffic moving around or through the construction area.

Pilot cars shall be equipped with the following:

a) A sign or signs with minimum 200 mm letters, designating the vehicle as a pilot car, and showing the message in both directions. Signs shall be retroreflective or illuminated during the hours when headlights must be used. Signs shall not be displayed when the vehicle is not being used for piloting.

b) A 360 degree rotating yellow warning light must be mounted on the roof so as to be clearly visible from both directions. The flashing light shall be in use for both day and night piloting.

194.43 Use of Traffic Control Persons (TCP) – It is generally expected that TCP and/or Portable Traffic Signals will be required in the following situations:

a) when public traffic is required to pass working vehicles or equipment which may block all or part of the travelled roadway.

b) when it is necessary to institute a one-way traffic system through a construction area or other blockage where traffic volumes are heavy, approach speeds are high, and a traffic signal system is not in use.

c) in high volume areas where temporary protection is required while other traffic control devices (barricades, cones, signs, etc.) are being erected or taken down.

d) for emergency protection when other traffic control devices are not readily available.

e) in all situations, where adequate protection for workers, working equipment and public traffic is not provided by other traffic control devices.

194.44 Traffic Signs – All standard signs, new and replacement, shall meet current Ministry specifications. The Ministry Specifications for Standard Highway Sign Materials, Fabrication and Supply are located on our Ministry web page at:


Prior to the commencement of work the Contractor shall supply all posts, hardware and equipment required for the proper installation and maintenance of the project (C-035) signs. The Contractor shall place the signs as indicated in the TMM or as directed by the Ministry Representative.

Upon completion of the project the Contractor shall remove the C-035 signs when directed by the Ministry Representative. The removal of the signs shall also include the backfilling, compacting and dressing of the
postholes to the satisfaction of the Ministry Representative.

The signs shall be erected in advance of all highway and bridge construction projects whether undertaken by contract or day labour. The signs may be omitted at the direction of the Ministry Representative if the project is not in public view.

The Contractor shall supply and maintain all necessary signs and traffic control devices required by this specification and the TMM or as ordered by the Ministry Representative. All signs and devices used must conform to the standards detailed in this manual.

194.45 Barricades, Lights, Delineators, Traffic Lines – The Contractor shall provide, erect and maintain all types of temporary marker devices including traffic line marking tape, barricades, fences, delineators, amber flashing lights, in order to ensure safety to the workers and the general public. These devices shall be as required by the Special Provisions and the TCM, or as directed by the Ministry Representative.

Flashing amber lights, if deemed necessary by the Ministry Representative, are used for extra night time effectiveness and the batteries of the flashing lights shall be checked each day.

Battery operated flashing lights, if two-faced, and if used to mark the right hand edge of a travelled lane, must have one face covered so that the light is not visible to traffic travelling in the other direction. Flashing lights having two faces showing in opposite directions may be used only if it is necessary that the obstruction or lane edge being marked be seen from both directions of travel. They should not be used in a line of delineators through an area of incomplete construction except where traffic must be diverted and a specific hazard exists.

Temporary road construction lighting installations shall be positioned as shown in FIGURE 1: Positioning of Temporary Lighting Adjacent to a Highway to minimize glare and resulting impaired driver vision. Lights shall be aimed away from any approaching traffic and at an angle of less than 45 degrees above vertical. Where lights cannot be located as shown then temporary glare screens shall be used to shield the traffic from the light source. These glare screens shall be metal or an opaque plastic material designed to shield the lighting from the eyes of the driver.

The Contractor shall be responsible for the application and removal of all temporary pavement marking and reflective devices. When traffic lanes have to be redefined for Long Duration Work, the Contractor shall eradicate all redundant temporary or pavement markings that are not required for the intended traffic patterns.

Class I and Class II standard barricades are illustrated in the TMM. Temporary delineator posts shall be as shown on Drawing SP194.02. In speed zones of 50 km/h or less, the minimum height of traffic cones shall be 450 mm. Where the maximum speed limit is over 50 km/h, the minimum height of cones shall be 700 mm.

194.46 Dynamic Message Signs – The use of dynamic message signs (DMS) may be specified in the Special Provisions or by the Ministry Representative. Each sign must be portable. When in operation, the DMS shall be a minimum of two (2) metres from the bottom of the sign display to the road surface, and shall be level and capable of pivoting for sighting purposes. The specifications of the sign are as follows:

- **Sign unit:** Yellow/Orange LED display
- **Sign display:** 3 lines with 8 characters per line
- **Character size:** 450mm (18 inches)
- **Character matrix:** 5 x 7
- **Remote dial-up access:** By cellular phone or equivalent

A full matrix sign may be used given that it has the display parameters noted above.

The Contractor is responsible for the DMS including but not limited to bringing the signs to the Project, moving and setting-up, providing storage as required including moving the signs into and out of storage, maintaining the signs in full operating condition, ensuring the correct message is being displayed, damage to or loss of the signs and returning the signs to the supplier. The Contractor shall provide to the Ministry Representative with a description of the messages displayed and the procedures of how the messages on the DMS will be changed when the Contractor is on and off site.
PART E – GENERAL MAINTENANCE

194.51 Maintenance – The Contractor shall be responsible for the continuing maintenance of all traffic control devices in use as follows:

a) Signs, etc., not applying to existing conditions shall be removed or covered. If covered, such as after sundown or during periods when work is suspended, the covering shall be placed over the sign so as to totally obliterate the message thereon. Where operations are carried out in stages, only those devices or signs, which apply to the current stage, are to be left in place or uncovered.

b) Signs shall be checked daily for legibility, damage, suitability and location. Dirty, damaged, unsuitable or misplaced signs shall be cleaned repaired or replaced. Signs and delineators with a reflective surface shall be cleaned as frequently as necessary to ensure full reflectivity. As considerable damage may be inflicted on signs and devices during a weekend, the Contractor shall conduct a check for replacement or repairs before the rush hour on Monday morning. Similarly, high traffic volume and recreational routes shall be checked during the weekend or at any other time that works is not in progress.

During hours when headlights are required, signs that are not retroreflective shall be illuminated. After sundown all signs shall be checked for visibility and those that cannot be seen clearly shall be adjusted or replaced.

PART F – PAYMENT

194.61 Payment – The cost of all Traffic Management requirements, including the provision of pilot cars, all flagging and traffic control equipment, and personnel covered in this Section and the Contract Documents, or as ordered by the Ministry Representative, will be considered to be included in the unit prices bid for the applicable work of the Contract unless otherwise specified in the Special Provisions.

However, where pilot cars and traffic control persons are included as bid items in the Contract Documents, a record of the days and hours that each pilot car and/or traffic control person was employed shall be submitted daily by the Contractor for verification and approval of the Ministry Representative. In such event the overtime “hours worked” by traffic control persons in accordance with the current union shall be expressed in equivalent straight-time “hours earned” for payment at the rate bid. Pilot cars will be paid for at the all found rate bid in the Schedule for the actual number of hours operated as such.