

CONTRACT DOCUMENTS

City of Port Alberni

Municipal Wastewater Lagoon Desludging RFP 007-22



MAY 2022

CONTRACT SPECIFICATIONS
FOR
CITY OF PORT ALBERNI
MUNICIPAL WASTEWATER LAGOON DESLUDGING
RFP 007-22
MAY, 2022



Seal

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May 20, 2022

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Prepared by Associated Engineering (B.C.) Ltd.
Engineers & Geoscientists BC Permit Number: 1000163

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END OF DOCUMENT

DRAWINGS APPENDED

Drawing No.	Title
2972-03-G-001	General
2972-03-C-001	Site Plan
2972-03-C-002	Laydown Area Plan

END OF DOCUMENT

**CITY OF PORT ALBERNI
MUNICIPAL WASTEWATER LAGOON DESLUDGING**

REQUEST FOR PROPOSALS ("RFP")

Proposals in a sealed package clearly marked for the above RFP, will be received at the offices of the City of Port Alberni, 4850 Argyle Street, Port Alberni, B.C., V9Y 1V8, up to exactly 4 p.m., local time, June 25, 2022. Please use the above RFP description on all correspondence.

It is the sole responsibility of the Proponent to ensure that its proposal is received at the specific location indicated, by the stipulated time. Proposals received at the specific location after the stipulated time shall be returned to the Proponent unopened.

The Proposals shall be for furnishing all labour, equipment, material, and on-site services for the complete desludging of the former municipal wastewater lagoon. Scope of work shall include mobilization, all required site preparation, sludge survey, removal of sludge from lagoon, on-site dewatering, deposition of the dewatered sludge to specified site, and demobilization.

The lowest cost or any proposal will not necessarily be accepted. The Owner reserves the right to accept or reject any or all proposals in whole or in part. Proponents may be required to provide supplementary information after the closing date to support their Proposal.

Technical inquiries may be directed to Christian Brumpton, at Associated Engineering, Telephone: 236-317-2266 or Email: brumptonc@ae.ca

ENGINEER CONTACT:
Christian Brumpton, P.Eng.
Project Manager
Associated Engineering
#500 – 2889 East 12th Avenue,
Vancouver, BC V5M 4T5

OWNER CONTACT:
Rob Dickinson, P.Eng.
Director of Engineering & Public Works
City of Port Alberni
4850 Argyle St.,
Port Alberni, BC V9Y 1V8

END OF DOCUMENT

Part 1 General

1.1 DEFINITIONS

- .1 The definitions set out in Section 00 72 00 - General Conditions are incorporated into and form part of this Section 00 21 16 - Instructions and Information.

1.2 SCOPE

- .1 The Owner requests Proposals for the complete desludging of the former municipal wastewater lagoon. Upon the completion of review of Proposals, it is the intent of the Owner to enter into a contract for the completion of the desludging work.
- .2 The scope of work shall include mobilization to site, initial survey of sludge remaining in the lagoon, all site preparation required for the work, removal of all sludge from the lagoon, on-site dewatering of sludge, containment and disposal of water from dewatering operations, and transport of the sludge to the selected disposal site.

1.3 LIMITATION OF LIABILITY

- .1 The Proponent agrees that the Owner's sole obligation, in return for the Proponent's preparation and submission of its Proposal, is to consider the Proposal in accordance with the RFP Documents. The Proponent hereby waives any claim for damages or costs of any nature against the Owner and the Engineer (including, without limitation, the cost of preparing and submitting the Proposal, and any anticipated profits and contributions to overhead) arising out of the Owner's use of its discretion under the RFP Documents and the Engineer's advice to the Owner.

1.4 DESCRIPTION OF WORK SCOPE

- .1 The City of Port Alberni has recently completed the upgrade of the former Catalyst industrial lagoon to serve as the new Wastewater Treatment Facility for the City and is currently in the process of completing tie-ins to direct all sanitary wastewater flows to the new facility. The former municipal wastewater lagoon site is to be rehabilitated. In preparation for the rehabilitation work, all sludge must be removed from the lagoon.
- .2 During the sanitary forcemain tie-in work, bypass pumping is being employed to pump wastewater from the lagoon to the new facility. As a result, an accurate current estimate of the remaining sludge in the lagoon is not available. Quantities in the proposal form are based on previous survey work and are for the purposes of comparing proposals.
- .3 This Request for Proposal is for the complete desludging of the municipal lagoon. The Scope of Work under the proposed contract shall include, but are not necessarily limited to the following:
 - .1 Mobilization to site.
 - .2 Preparation of a sludge survey to estimate the quantity of sludge remaining in the lagoon.
 - .3 All site preparation required, including temporary containment structures surrounding dewatering facilities.

- .4 Sludge in the lagoon that has sufficiently dried to be removed by direct excavation and hauling to the disposal site.
- .5 Removal of remaining sludge by means selected by the proponent (dredge, pump, etc.) to dewatering facilities.
- .6 Dewatering of the sludge to a minimum average dry solids content of 25% by weight.
- .7 Containment of all wastewater from the dewatering process, and disposal of wastewater in the municipal lagoon adjacent to the laydown area.
- .8 Transportation and deposit of the dewatered sludge cake to the appointed landfill. Address of the appointed landfill is as below:
 - .1 Alberni Valley Landfill: 7080 McCoy Lake Road, accessed via gate on Stirling Arm Rd. Refer to route on layout drawings.
- .9 Where geotubes (or similar) method of dewatering is employed by the Proponent, the City may choose to leave the sludge contained in Geotubes on site for further drying and hauling to disposal by Others.
- .10 Desludging work, including demobilization, shall be completed by September 30, 2022.

1.5 SITE ASSESSMENT

- .1 Site Examination
 - .1 Visit the Project Site and surrounding area before submitting a proposal.
 - .2 For additional visits before or after the proponent briefing, contact the City of Port Alberni (rob Dickinson telephone 250-720-2838 email rob_dickinson@portalberni.ca or Associated Engineering (Christian Brumpton, telephone 236-317-2266, email brumptonc@ae.ca) to arrange .
 - .3 Obtain property owner's permission before obtaining any sludge samples from the lagoon. Any Contractor taking samples from the lagoon must supply all necessary equipment and procedures to meet health and safety requirements of relevant regulatory authorities including (but not limited to) WorkSafe BC.
- .2 Proponent Briefing
 - .1 A briefing for Proponents has been scheduled for 10:30 am, June 2, 2022, at the location of the lagoon.
 - .2 All general contract and major subtrade Bidders and suppliers are invited.
 - .3 Representatives of Owner and Engineer will be in attendance.
 - .4 Material changes to the RFP Documents arising from the briefing will be recorded in an Addendum and issued to known Bidders.

1.6 SUBMISSION OF PROPOSALS

- .1 Proposals signed under seal, executed, and dated shall be sent to Associated Engineering (B.C.) Ltd. electronically via email before 4 pm local time on June 25, 2022 by the Proponent. Executed Proposal to be emailed to brumptonc@ae.ca.
- .2 Associated Engineering (B.C.) Ltd. and Owner shall not accept responsibility for any failure of delivery, lost transmission, quarantined email or undelivered Proposals. It is the

Proponent's sole responsibility to confirm that their Proposal has been received by Associated Engineering (B.C.) Ltd. prior to Proposal Closing. Proposals received at the specific location after the Proposal Closing will not be considered and will remain unopened.

- .3 Upon request by the Engineer, three (3) hard copies and 1 electronic copy (memory stick, PDF format) of the Proponent's Proposal shall be delivered, in a sealed package, to the following specific physical location within five (5) Business Days of such request being received by the Proponent:
- .4 The submission of a Proposal constitutes the agreement of the Proponent to be solely responsible for any and all costs and expenses incurred by it in preparing and submitting its Proposal, including any costs incurred by the Proponent after the Proposal Closing.

1.7 PROPOSAL DOCUMENTS

- .1 Proponents are advised to read and respond fully to all sections of the RFP including the schedules and supplements; an incomplete Proposal may be rejected.

1.8 VALIDITY OF PROPOSAL

- .1 The Proposal submitted by the Proponent shall be valid for a period of sixty (60) Days from the Proposal Closing, whether another Proposal has been accepted or not.

1.9 ENQUIRIES AND ADDENDA

- .1 Enquiries should be addressed to:
Christian Brumpton
Project Manager
Associated Engineering
#500 – 2889 East 12th Ave., Vancouver, BC V5M 4T5
Telephone: 236-317-2266
Email: brumptonc@ae.ca
- .2 Upon receipt of RFP Documents, verify that documents are complete. Notify Engineer should the documents be incomplete.
- .3 Immediately notify Engineer upon finding discrepancies or omissions in RFP Documents.
- .4 Any requests for explanations, interpretations or clarifications made by Proponents must be submitted in writing to the Engineer not less than three (3) Business Days prior to the Proposal Closing.
- .5 Any explanations, interpretations or clarifications will be made in the form of Addenda. Addenda will be in written form. Addenda will be sent to all known Proponents.
- .6 All addenda become part of the RFP Documents. Include costs in the Total Proposal Price.
- .7 Verbal advice from any person is only binding when confirmed by Addenda.

1.10 COMPLETION OF PROPOSAL

- .1 Submit a complete Proposal that meets the requirements and Specifications of the RFP.
- .2 The Proponent shall complete all applicable RFP Documents in ink or in type.
- .3 Unit prices, in Canadian currency, shall be shown for each item specified including labour rates and shall be all inclusive, including but not limited to all packing, crating, freight, cartage, shipping charges, cost of unloading supplies at destination, incidental costs and all tariffs, excise taxes and duties.
- .4 The Owner may exclude certain items and services listed in the Schedule of Proposal Prices after the Proposal Closing.
- .5 Carefully review the RFP Documents and all Addenda issued by the Owner.
- .6 The Proposal shall be in accordance with the terms and conditions contained in the RFP Documents. Any Proposal received which attempts to materially change or supersede these terms and conditions by, for example, including the Proponent's standard terms of sale may be rejected.
- .7 If a Proposal contains a defect or fails in some way to comply with the requirements of the RFP Documents, which in the sole discretion of the Owner is not considered material, the Owner may waive the defect and accept the Proposal.

1.11 SOLICITATION

- .1 If any director, officer, employee, agent or other representative of a Proponent makes any representation or solicitation to any director, officer, agent or employee of the Owner with respect to the Proposal, whether before or after the submission of the Proposal, the Owner shall be entitled to reject the Proposal.

1.12 SUBMISSION OF PROPOSALS

- .1 Verbally transmitted Proposals or amendments to Proposals will not be considered.
- .2 The Owner will not accept an amendment to a previously submitted Proposal unless:
 - .1 It is in writing.
 - .2 It is received prior to Proposal Closing.
 - .3 It is received at the specific location set out in Article 1.5 of this section.
 - .4 It indicates changes to a Proposal already submitted.
 - .5 It is signed by the person or persons who signed the original Proposal.
- .3 The onus is on the Proponent to ensure timely receipt of Proposal amendments. Neither the Owner nor the Engineer makes any assurances regarding availability of fax communication lines or equipment and email boxes. To be considered, Proposal amendments must be received in full prior to Proposal Closing. No extension of the Proposal Closing will be given to accommodate Proposals or amendments to Proposals that do not comply with the requirements herein.

1.13 REQUIRED PROPOSAL FORMAT

- .1 The Proponent shall submit to the Engineer the following completed and executed documentation:
 - .1 Proposal Form, Section 00 42 00, including all Schedules.
 - .2 Acknowledgment of Receipt of Addenda.
 - .3 Consent of Surety:
 - .1 Submit with the Proposal Form a letter of consent on the form provided in Section 00 43 14 - Consent of Surety Company, stating that:
 - .1 the surety is willing to supply a Performance Bond, as specified in Section 00 72 00 - General Conditions.
 - .4 All other applicable forms. Refer to Article 1.5 of Section 00 42 00 - Proposal Form.

1.14 VARIATION TO RFP DOCUMENTS

- .1 If the Proponent wishes to submit a Proposal based on specifications or terms that differ from the Specifications or RFP Documents, it shall show in detail the proposed variations. Areas of non-compliance with the provisions of Section 00 72 00 - General Conditions, and all Specifications sections must be detailed in Section 00 42 00 - Proposal Form Schedule P – Proposed Variations.
- .2 Provide explanations for deviations.
- .3 The acceptability of any such variations will be at the Owner's sole discretion.
- .4 Unless otherwise expressly stated in the Proposal Form or corresponding documentation, the Proponent agrees to accept without reservation or amendment, the whole of the Specifications and RFP Documents.

1.15 EVALUATION METHODOLOGY

- .1 The Proposal evaluation includes both economic and non-economic evaluation criteria.
- .2 By submitting its Proposal, the Proponent acknowledges and agrees to the following:
 - .1 That the Engineer will provide the Owner with an estimate of additional and lifecycle costs that will be considered by the Owner in awarding the Contract;
 - .2 That the Owner shall be entitled to rely upon such estimates in making its decision in its sole and unfettered discretion;
 - .3 That the Proponent is not entitled to challenge the estimates or the manner in which they were made, including whether they contain errors or omissions; and
 - .4 That the Proponent shall have no claim against the Owner (or its employees, elected officials, officers, or directors or agents) in respect of the preparation of the estimates and the reliance thereon, whether arising in contract, tort or otherwise.
- .3 Non-economic evaluation will include references, availability of local/regional support and spare parts, compliance with schedule, commercial, and technical requirements, and past service record. Proponents are required to provide this information.

- .4 The Owner and Engineer may conduct visits to the Proponent's factory or field installations, as part of the evaluation process, to observe the manufacturing environment and equipment similar to that being proposed.

1.16 EVALUATION CRITERIA

- .1 Proposals will be evaluated based on the parameters identified in Table 1.

Table 1 – Evaluation Parameters

Economic Criteria	Maximum Points
Total Proposal Price	60
Non-Economic Criteria	
General Compliance with Technical Terms – Proposed Desludging Work Plan	30
Track Record - Successful Operation in Similar Conditions (Location, Climate, Installed Environment)	10
General Compliance with Commercial Terms	10
Total Points Available	110

1.17 EVALUATION

- .1 Economic:
 - .1 The economic evaluation will include:
 - .2 Proponent's Total Proposal Price.
- .2 Non-Economic:
- .3 Points for non-economic evaluation parameters will be awarded based on assessment as follows:
 - .1 General compliance with technical terms: compliance with specifications based on overall assessment of the information, and evaluation of the proponents proposed work plan including desludging and dewatering methods. Areas of non-compliance must be detailed in Section 00 42 00 - Proposal Form, Schedule P - Proposed Variations.
 - .2 Track record - successful operation: successful operation in 5 similar projects. References provided in Section 00 42 00 - Proposal Form, Schedule I - Qualifications of Proponent may be contacted to confirm the operating conditions to obtain reports on reliable performance and details of any significant operational problems.
 - .3 General compliance with commercial terms: compliance with the Owner's terms and conditions. Areas of non-compliance must be detailed in in Section 00 42 00 - Proposal Form, Schedule P - Proposed Variations.

1.18 CHANGES TO PROPOSAL WORDING

- .1 The Proponent shall not change the wording of the Proposal after the Proposal Closing. Without restricting the generality of the foregoing, no words or comments shall be added

to the Proposal, the terms and conditions, if any, or the Specifications unless requested by the Owner or the Engineer for purpose of clarification.

1.19 OWNERSHIP OF PROPOSALS

- .1 All responses to this RFP become the property of the Owner.

1.20 OWNER'S RIGHT TO MODIFY TERMS

- .1 The Owner in its sole discretion, reserves the right to modify the terms of the RFP at any time, both before and after the Proposal Closing.

1.21 ACCEPTANCE OF TERMS

- .1 The submission of a Proposal constitutes the agreement of the Proponent that all the terms and conditions of this RFP are accepted by the Proponent and incorporated in its Proposal, except those conditions and provisions which are expressly excluded by the Proponent's Proposal and accepted in writing by the Owner.
- .2 General Conditions of the Contract are included for the RFP Documents. Refer to Section 00 72 00 - General Conditions and Section 00 73 50 - Supplementary Conditions.

1.22 NEGOTIATION

- .1 Subsequent to the submission of Proposals, interviews and negotiations may be conducted with any of the proponents, but there shall be no obligation on the Owner to receive further information, whether written or oral, from any proponent nor to disclose the nature of any Proposal received.

1.23 ACCEPTANCE OF PROPOSALS

- .1 Notwithstanding any other provision in the RFP Documents or any practice or custom in the industry, Owner, in its sole discretion, shall have the unfettered right to:
 - .1 Accept any Proposal.
 - .2 Reject any Proposal.
 - .3 Reject all Proposals.
 - .4 Waive defects in any Proposal.
 - .5 Accept a Proposal which is not the lowest priced Proposal.
 - .6 Reject a Proposal even if it is the only Proposal received by the Owner.
 - .7 Negotiate contract terms with any proponent.
 - .8 Negotiate changes or modifications to the scope of Work with any one or more Proponents without having any duty or obligation to advise any other Proponents or to allow them to vary their Proposal Prices due to changes to the scope of Work.
- .2 Acceptance of any Proposal is subject to funding approval.
- .3 No information regarding an award of a contract will be made available between the time of opening Proposals and when a contract award has been made.

- .4 The Owner will notify the successful Proponent in writing that its Proposal, including modifications thereto agreed by the parties in any subsequent negotiations, has been accepted.
- .5 The written acceptance of the Proposal signed by a duly authorized representative of the Owner, shall be the only valid method of acceptance. Upon receipt thereof the successful Proponent shall commence shop drawing preparation.

1.24 CONFIDENTIALITY

- .1 The following conditions apply:
 - .1 The RFP Documents or any portion thereof, may not be used for any purpose other than submission of Proposals.
 - .2 The successful Proponent must agree not to divulge or release any information that has been given to it or acquired by it on a confidential basis during the course of carrying out its duties or performing its services.
 - .3 If the Proponent considers that any of its information is confidential, the Proponent shall identify that confidential information and advise the Owner in its Proposal.
 - .4 Proponents should identify the portions of its submissions which it is submitting in confidence and which contain the following information:
 - .1 Trades secrets, commercial, financial, labour relations, scientific or technical information that, if revealed, could reasonably be expected to significantly harm the Contractor's competitive position or interfere with the Contractor's negotiating position and result in undue financial loss or gain to any person or organization; and/or
 - .2 Personal information regarding persons who would provide services related to this Agreement or who are the Contractor's references, including their names, addresses, phone numbers, qualifications, and experience and employment history.
 - .5 While the Owner will endeavour to use the Freedom of Information and Protection of Privacy Act (the Act) to protect the confidentiality of information identified by the Contractor as confidential, other sections of the Act may apply and the information may have to be disclosed to members of the public who request access to records in Owner custody and control.
 - .6 In this Request for Proposal, the Owner is providing general information concerning the Act for handling information and records. The Proponent may wish to seek its own legal advice on specific aspects of these obligations.
 - .7 All documents and data, including documents and data on electronic media, prepared by the Proponent in conjunction with the project will become the property of the Owner and may be made available under the Act. The Owner will have the right to reproduce the documents and data for its own internal use. Subject to the foregoing, copyright in the drawings prepared by the Proponent shall remain with the Proponent.

1.25 DISCLAIMERS/LIMITATIONS OF LIABILITY

- .1 Neither acceptance of a Proposal nor execution of an Agreement shall constitute approval of any activity or development contemplated in any Proposal that requires any approval,

permit or license pursuant to any federal, provincial, and local laws, regulations and ordinances. It is the responsibility of the successful Proponent (i.e. Supply Contractor) to obtain such prior to commencement of the services under the anticipated contract.

- .2 The Owner and the Engineer, their respective directors, officers, servants, employees, agents and consultants expressly disclaim any and all liability for representations, warranties express or implied or contained in, or for omissions from the RFP documents or any written or oral information transmitted or made available at any time to a proponent by or on behalf of the Owner. Nothing in the RFP documents is intended to relieve a Proponent from forming their own opinions and conclusions in respect of this RFP.

1.26 AGREEMENT

- .1 The Owner shall not be obligated in any manner to any Proponent whatsoever until a written agreement has been duly agreed to by the parties relating to an accepted Proposal.
- .2 Within ten (10) Business Days of receipt of written acceptance of the proposal from the Owner, the Proponent shall execute and deliver the Agreement, in triplicate, to the Owner.

END OF DOCUMENT

Part 1 General

1.1 PROPONENT'S NAME

- .1 This Proposal for the Municipal Wastewater Lagoon Desludging Project is submitted by:

Name of Proponent

Address of Proponent

Telephone Number of Proponent

Proponent's Representative's Name

Proponent's Representative's Email Address

1.2 PROPOSAL DOCUMENTS

- .1 The Proposal Documents for this Contract include the following:
- .1 All documents listed in Section 00 01 10 - Table of Contents.
 - .2 Addenda.

1.3 PROPONENT'S OFFER

- .1 The Proponent offers to complete the Work for the total Proposal price of:

Total Proposal Price: (exclusive of GST, inclusive of PST):	\$	_____	*
[Goods and Services Tax (GST)] [Harmonized Sales Tax (HST)]	\$	_____	*

*To be completed by the Proponent.

1.4 PROPONENT'S DECLARATIONS

- .1 The Proponent declares that it has read and understood and agrees to be bound by the RFP Documents.
- .2 The Proponent has received and incorporated the requirements of Addenda numbered (to be completed by Proponent).
- .3 The Proponent declares that it has fulfilled and complied with all of those obligations and requirements under the RFP Documents which are required to be fulfilled before Proposal Closing.

- .4 The Proponent confirms, represents and warrants that all information which it has provided or will provide to the Owner is true and accurate in every respect.
- .5 The Proponent also agrees:
 - .1 That the Owner is in no way obligated to accept this Proposal.
 - .2 That the Owner may, at Owner's discretion, accept other than the lowest priced Proposal.
 - .3 That should the Proposal form be improperly completed or be incomplete, the Owner shall have the right to disqualify and/or reject this Proposal.
 - .4 That this Proposal is made without knowledge of the Proposal prices to be submitted for this Work by any other company, firm, or person.
 - .5 That this Proposal is made without any connection or arrangement with any other company, firm, or person submitting a Proposal for this Work.
 - .6 That this Proposal is made without any undisclosed connection or arrangement with any other company, firm, or person having an interest in this Proposal or in the proposed Contract.
 - .7 That the Proponent hereby submitted itemized prices as required by the Specifications and agrees that these prices will be used for payment of Work additional to and deleted from the Contract and agrees that the prices quoted shall remain in force until the date of completion of the Contract.
 - .8 That the Proponent confirms that the itemized prices quoted include all necessary costs under the terms of the Contract, including but not limited to supply, fabrication and finishing, conveyance and delivery to the Work Site, packing, crating, freight, cartage, shipping charges, unloading, installation support, drafting charges, overhead, profit and all tariffs, duties and taxes, and excluding the GST.
 - .9 That this Proposal is valid for sixty (60) days after the closing date for receipt of Proposal and that Owner may at any time within such period accept this Proposal whether any other Proposal has previously been accepted or not.
 - .10 To execute the Contract Agreement and deposit with Owner a Performance Bond for the amount specified in Section 00 72 00 - General Conditions within ten (10) Business Days of the date of receipt of written acceptance of the proposal from the Owner, such time limit being extended only on the written approval of Owner.
 - .11 To commence and proceed actively with the Work promptly following receipt of the Notice to Proceed.
 - .12 To compensate the Owner in accordance with the Contract Documents if the Work is not completed within the Contract Time.
 - .13 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 the General Conditions.
 - .14 That payment for the work done will be made on the basis of the prices shown in the Proposal form which shall be compensation in full for the Work done under the terms of the Contract, exclusive of GST payable by Owner.
 - .15 That all prices shown in this proposal are in Canadian currency, including the hourly rates for labour.

- .16 That if the Proponent, for any reason whatsoever, fails or defaults, in the opinion of the Engineer, in respect of any matter or thing which is an obligation of the Proponent in the terms of this Proposal, the Owner at its opinion may either:
 - .1 Consider the Proponent has abandoned the offer made or the Contract if the offer has been accepted, whereupon the acceptance, if any, of the Owner shall be null and void; and
 - .2 Further, the Proponent will fully indemnify and save harmless the Owner, the Engineer and their respective officers, employees and agents from all loss, damage, liability, cost, charge and expense whatever which it, they or any of them may suffer, incur or be put to by reason of such default or failure of the Proponent.

1.5 SUPPLEMENTS TO PROPOSAL FORM

- .1 The Proponent shall complete all the following supplements to the Proposal form, which shall form part of the Proposal:
 - .1 Schedules:
 - .1 The Proponent shall complete all the attached Schedules.
 - .2 The completed Schedules shall form part of the Contract Documents.
 - .2 Acknowledgement of receipt of Addenda.
 - .3 Completed Section 00 43 14 - Consent of Security Company.
- .2 Compliance with technical terms:
 - .1 Complete Schedule P – Proposed Variations, detailing all variances from the technical Specifications, including Addenda updates. Provide explanations for deviations.
- .3 Compliance with commercial terms:
 - .1 Complete Schedule P – Proposed Variations, detailing all variances from the commercial terms. Provide explanations for deviations.

Part 2 Products

Not Used.

Part 3 Execution

3.1 EXECUTION BY PROPONENT

This proposal is executed under seal at _____
this _____ day of _____, 2022.

Name of Firm

Address

For Individual or Partnership:

SIGNED, SEALED AND DELIVERED by

Proponent (please print)

Signature

IN THE PRESENCE OF:

Title

Name

Address

City/Prov/PC

Seal

Occupation

3.2 FOR LIMITED COMPANY:

The Corporate Seal of

Proponent (please print)

WAS HEREUNTO AFFIXED IN THE PRESENCE OF:

Seal

Authorized Signing Officer

Authorized Signing Officer

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

Part 4 INDEX OF SCHEDULES

TO BE UPDATED

Schedule A – Price Breakdown	1
Schedule D – Additional	1
Schedule E – Proposed Desludging & Dewatering Methodology	1
Schedule I – Qualifications of Proponent	1
Schedule J – Qualifications of Supplier’s Field Support Staff	1
Schedule L – List of Subcontractors	1
Schedule P – Proposed Variations	1

Schedule A

Price Breakdown

The total of the unit prices must amount to the total proposal price identified in Section 00 42 00 - Proposal form. We certify that the following is an accurate and balanced breakdown of our lump sum price(s). Work required, but not specifically mentioned, is included in the item with which it is most closely associated.

Item	Description	Unit	Quantity	Unit Price	Extension
1.0	Mobilization and Demobilization	L.S.	1		
2.0	Initial Sludge Survey	L.S.	1		
3.0	Site Preparation	L.S.	1		
4.0	Direct Excavation from Lagoon and Hauling of Sludge to Disposal Site	B.D.T	750		
5.0	On site Sludge Removal and Dewatering	B.D.T	1,000		
6.0	Hauling of Dewatered Sludge to Disposal Site	B.D.T	1,000		
Total					

Additional numbered pages outlining this portion of the Proposal may be attached to this page and/or separate documents listed above may be submitted with these schedules.

Schedule D
Additional Prices

Schedule E

Proposed Desludging & Dewatering Methodology

Proponent to provide a detailed description of the proposed methodology and work plan including:

- Method of removing sludge from the lagoon (dredge, pump or other) and equipment that will be employed. Describe how the Proponent will ensure that all sludge is removed while minimizing risk of drawing up granular material from bottom of the unlined lagoon.
- Method of Dewatering the sludge (mechanical means (centrifuge, etc.) or geotube). Provide detailed description of how the proponent plans to dewater the sludge and equipment that will be used. Provide details on how the available site area will be utilized.

Additional numbered pages outlining this portion of the Proposal may be attached to this page and/or separate documents listed above may be submitted with these schedules.

Schedule I

Qualifications of Proponent

Provide a list of projects where the Proponent has completed similar **desludging and dewatering projects** in North America in the last ten (10) years. Arrange list chronologically, with the most recent first, and provide the details requested.

Project Experience				
Project Name & Location	Approximate Value Equipment Supply (CAN\$)	Year Completed	Plant Capacity (m³/d)	Reference Contact (Phone No. & Email)

Additional numbered pages outlining this portion of the Proposal may be attached to this page and/or separate documents listed above may be submitted with these schedules.

Schedule J

Qualifications of Supplier's Field Support Staff

Provide the name and qualifications of at least 2 trained, experienced technicians proposed for delivery inspection, installation training, installation witnessing, testing witnessing, commissioning witnessing, guaranteed performance testing and ongoing maintenance of the equipment supplied under this Request for Proposal.

Name No. 1	
Employer	
Home Base	
Qualifications	

Name No. 2	
Employer	
Home Base	
Qualifications	

Provide name and location of nearest technical representative (if applicable):

Name	Home Base	Guaranteed Response Time

Attach references of named personnel to the completed Schedule J.

Additional numbered pages outlining this portion of the Proposal may be attached to this page and/or separate documents listed above may be submitted with these schedules.

Schedule P

Proposed Variations

The following is a full and complete statement and description of the Proponent's proposed variations to the Specifications, commercial terms and/or Drawings. Variations must be identified with the Specifications to which they pertain.

Section Number	Clause	Variation from Specification	Explanation for Variation

Additional numbered pages outlining this portion of the Proposal may be attached to this page and/or separate documents listed above may be submitted with these schedules.

END OF DOCUMENT

Supplement to Proposal Form

We, the undersigned Surety Company, do hereby consent and agree to become bound as guarantor in a Performance Bond and in the amount of fifty percent (50%) of the total proposal price for the fulfilment of the Contract, with

.....
as principal for the works specified in the RFP Documents entitled

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

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

We confirm that we will issue new bonds in favour of the General Contractor upon execution of the Novation Agreement and the surrender of the original bonds.

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

END OF DOCUMENT

Part 1 General

1.1 GENERAL

- .1 The schedule is based on an estimated project completion date of September 30, 2022.
- .2 Modifications to the proposed schedule may be allowed to the extent that it does not compromise the General Contractor's ability to complete the project on time.

1.2 SCHEDULE OF SUPPLY AND DELIVERY

- .1 The preliminary schedule is as follows:

Milestone	Date
a) Written acceptance of the proposal by the Owner	July 12, 2022
b) Notice to Proceed	July 19, 2022
c) Completion Sludge Survey	July 29, 2022
d) Mobilization to Site	August 5, 2022
e) Completion of Desludging and Dewatering Work	September 23, 2022
f) Demobilization	September 30, 2022

- .2 Proponent to identify any issues, concerns, or constraints with the preliminary schedule.
- .3 Based on the preliminary schedule above, prepare a Schedule in the form of a horizontal bar chart.
- .4 The Schedule should be the Proponent's best realistic delivery.
- .5 Provide horizontal time scale identifying the first work day of each week.
- .6 Show delivery dates of submittals and major pieces of equipment.
- .7 Submit electronic copy of initial Schedules within ten (10) Business Days after Notice to Proceed.
- .8 Engineer will review Schedule and return reviewed copy within ten (10) Business Days after receipt.
- .9 No progress payment will be approved until receipt of a Schedule acceptable to Engineer.
- .10 Distribute copies of the finalized Schedule to both the Engineer and Owner.
- .11 Distribute copies of the finalized Schedule to suppliers of component equipment and subcontractors. Instruct recipients to report to Supply Contractor, within ten (10) Business Days, any problems anticipated by the timetable shown in the Schedule.

- .12 Revise and resubmit the Schedule and the work plan within five (5) Business Days after notification by the Engineer that the previously reviewed Schedule is not being met. Show changes in the operations proposed to complete the construction work within the Contract Time.
- .13 If, during the course of Work, the Contract Time is extended, correct the Schedule and work plan to show the revised commencement and completion dates of the affected parts of Work.
- .14 In the event that the General Contractor is not prepared to accept equipment based on the Supply Contractor's Schedule, Supply Contractor may be required to store and maintain equipment as provided for in Schedule F of Section 00 42 00 - Proposal Form.

Part 2 **Products**
Not Used.

Part 3 **Execution**
Not Used.

END OF DOCUMENT

THIS AGREEMENT made this ____ day of ____, 2022.

BETWEEN:

(Herein called "The Contractor")

OF THE FIRST PART

AND:

City of Port Alberni
(Herein called "The Owner")

OF THE SECOND PART

1. The Contractor shall provide all labour, equipment and materials required to complete the Work, as required by the Contract Documents.
2. The Owner shall pay the Contractor the Contract Price, as required by the Contract Documents.
3. The Contract Price shall be the sum in Canadian dollars of the following:
 - (a) the total Proposal Price, as set out in Section 00 42 00 - Proposal Form;
 - (b) any and all variations to the Proposal Price that are negotiated and agreed upon subsequent to the Proposal Closing and set out in the Contract Documents; and
 - (c) any payments made on account of changes, as may be required by the Contract Documents.
4. The Contract Price shall be the entire compensation owing to the Contractor by the Owner for the Goods and shall cover and include overhead, profit, transportation, storage, customs and excise duties or charges, financing costs and all other costs and expenses whatsoever incurred in performing the Contract.
5. The Contractor shall complete all Work no later than set out on the Section 00 43 86 - Schedule of Supply and Delivery.
6. The Contract Documents shall form a part of this Agreement as though recited in full.
7. The Contract supersedes all prior negotiations, representations or agreements, whether written or oral except those expressly listed and is the entire agreement between the Owner and the Supply Contractor with respect to the subject matter of this Agreement. All, or any, previous communications are hereby abrogated and withdrawn and no stipulations, representations or agreements by the Owner or the Engineer or their officers, agents or employees shall be binding on the Owner or the Engineer unless contained in this Contract and no local, general or trade customs or previous course of dealing or performance shall alter or vary the terms hereof.
8. The Supply Contractor shall not assign the Contract, or any portion of the Contract, or any payments due or to become due under the Contract, without the express written consent of the Owner.

9. No action or failure to act by the Owner or the Engineer shall constitute a waiver of any right or duty afforded any of them under the Contract or constitute an approval or acquiescence in any breach thereunder, except as may be specifically agreed in writing.
10. This Agreement shall enure to the benefit of and be binding upon the Owner and the Supply Contractor and their respective heirs, executors, legal representatives, successors and permitted assigns.
11. The Owner will enter into a Construction Contract with a General Contractor of the Owner's choosing for the installation of equipment supplied under this Contract. The Supply Contractor under this Contract agrees to join in an assignment and Novation Agreement in the form set out in Section 00 52 61 - Novation Agreement as soon as the Construction Contract between the Owner and General Contractor has been signed.
12. The terms of the Contract, including the price and payments, will be included in the bid information for the Construction Contract, and the Contract price of the Construction Contract, as defined therein, will include the prices of the Contract. The Supply Contractor shall provide a Performance Bond, in the sum of 50% of the Contract Price, in favour of the General Contractor.
13. Time shall be of the essence of this Agreement.

IN WITNESS WHEREOF the Supply Contractor and the Owner have executed this Agreement as of
the _____ day of _____, 2022.

For Individual or Partnership:

SIGNED, SEALED AND DELIVERED by:

_____ Supply Contractor (please print) in the presence of:	_____ Signature
_____ Name	_____ Title
_____ Address	
_____ City/Prov/PC	Seal
_____ Occupation	

For Limited Company:

The Corporate Seal of:

_____ Supply Contractor (please print) was hereunto affixed in the presence of:	
_____ Authorized Signing Officer Title	Seal
_____ Authorized Signing Officer Title	

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

END OF DOCUMENT

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PART 1 CONTRACT DOCUMENTS

GC 1. DEFINITIONS

In this Contract, the following definitions shall apply:

“Abnormal Weather” means adverse temperature, precipitation, wind or other adverse weather condition which, in any two (2) week period, differs from the statistical average for that condition in that period by more than one standard deviation, calculated based on relevant data available from Environment Canada, covering the twenty (20) year period immediately preceding the Notice of Award.

“Business Day” means any day other than a Saturday, Sunday or statutory holiday recognized in the province or territory wherein the Project Site is located.

“Certificate of Insurance” means a document issued by an insurance company or authorised broker to certify the extent, period and limits of insurance coverage under specific conditions granted to listed Persons.

“Certificate of Substantial Performance” means a certificate issued by the Engineer stating that Substantial Performance of the Work has been achieved.

“Certificate of Total Performance” means a certificate issued by the Engineer stating that Total Performance of the Work has been achieved.

“Change” means an increase or addition to, a reduction or deletion from or an extension of the Work or the Construction Schedule, or the replacement of a proposed subcontractor or supplier, which results in a material change to the Contract Time or Contract Price.

“Change Directive” means a written instruction signed by the Owner and issued by the Engineer to the Contractor directing the Contractor to proceed with a Change despite the absence of an agreement as to adjustment of the Contract Price or Contract Time, or both, as applicable.

“Change Order” means a written record of a Change prepared by the Engineer and signed by the Owner, the Engineer and the Contractor stating their agreement to a Change, and setting out a description of the Work covered by the Change Order, the price or method of valuation of the Work and the change in the Contract Price or adjustment of the Contract Time, or both, as applicable.

“Claim” means a written demand for adjustment of the Contract Price or Contract Time made by either Party against the other Party.

“Confidential Information” means all information that is acquired by, or becomes known to, the Contractor or any of its Personnel, or Subcontractors as a result of, directly or indirectly, performing the Work, or otherwise being involved in the Project and which is in the nature of one of the following categories of information:

- (a) all information with respect to the Owner’s operations, the Project and this Contract; or
- (b) all personal information as defined in the Freedom of Information and Protection of Privacy legislation in the jurisdiction in which the Work is performed.

“Consequential Damages” means all damages except direct damages, including any one or more of: loss of profits or anticipated profits, loss of business opportunity, loss of revenue and loss of reputation.

“Construction Equipment” means all tools, machinery and equipment whether operated or not operated, which are required for preparing, fabricating, conveying, erecting or otherwise performing the Work but are not incorporated into the Work.

“Construction Schedule” means the schedule for the Work which is prepared by the Contractor and accepted by the Owner and the Engineer in accordance with GC 25 CONSTRUCTION SCHEDULE.

“Construction Safety Plan” means the plan developed by the Contractor to address safety on the Project Site, and anywhere else that the Work is performed.

“Contemplated Change Notice” means a written notification authorized and issued by or on behalf of the Owner, providing Notice and Specifications or Drawings, or both, to the Contractor and others of a contemplated Change and requesting a quotation for adjustments of Contract Price and Contract Time that would result from the Change.

“Contract Documents” or **“Contract”** means the complete set of documents, Specifications, Drawings, and addenda incorporated therein, as listed in the “Table of Contents” of the Contract, any Construction Memos and any amendments to the Contract.

“Construction Memo” means an instruction, not involving any adjustment to the Contract Price or Contract Time, in the form of Specifications, Drawings, schedules, samples, models or written instructions issued by the Engineer that in the opinion of the Engineer is necessary to supplement or clarify the Contract Documents as required for the performance of the Work.

“Contract Price” means, if the Contract is on the basis of a stipulated or lump sum, the lump sum price stated in Section 00 41 00 – Bid Form, as may be adjusted by Change Orders or Change Directives. If the Contract calls for payments on a unit price basis whether including lump sums or not, Contract Price shall mean the product of the units of Work actually performed and the appropriate unit prices plus the total of the lump sums prices all as stated in Section 00 41 00 – Bid Form, and all as may be adjusted by Change Orders or Change Directives.

“Contract Time” means the time stipulated in Article 1 of Section 00 52 00 - Contract Agreement as the period between the date of the Notice to Proceed and achievement of Total Performance of the Work, as may be adjusted by Change Orders or Change Directives.

“Contractor” means the Contractor named in Section 00 52 00 - Contract Agreement.

“Deficiencies” means one or more defects or deficiencies in the Work or Materials, including Work omitted or not performed as provided for in this Contract.

“Dispute” means any difference between the Contractor and the Owner as to the interpretation, application or administration of the Contract or any failure by the Owner and the Contractor to agree where the Contract Documents call for agreement.

“Drawings” means the graphic and pictorial drawings, sketches and representations, whether electronic or paper-based, prepared to represent the Work and issued by the Engineer, including plans, elevations, sections, details, schedules, and diagrams.

“Engineer” means Associated Engineering acting through a delegate duly appointed to act on its behalf, or such other engineer, architect or Person as may from time to time be duly authorized and appointed in writing by the Owner.

“Force Account” means the method of calculating payment the Contractor shall receive for the Work performed as set out in GC 56 FORCE ACCOUNT WORK.

“Governmental Authority” means any federal, provincial, first nation or municipal government, official, administrative, regulatory, or legislative authority, commission, tribunal or court or any of the respective agencies or departments thereof having jurisdiction over any aspect of the Project, the Work, this Contract, or any matters arising thereunder.

“Law” means the common law and all applicable decrees, statutes, laws, by-laws, rules, orders, codes, directives and regulations in effect from time to time and made or issued by any Governmental Authority having jurisdiction over any aspect of the Project, the Work, this Contract, the Owner, the Contractor and the Subcontractors, and includes any applicable replacement, amendment or supplementary legislation, and any applicable regulations, and further includes the OH&S Legislation.

“Lien Act” means the applicable provincial or territorial lien legislation, including regulations enacted pursuant to that lien statute, at the Project Site, current at the date of the Notice to Proceed and as may be revised during the Contract Time.

“Materials” means materials, supplies, machinery, equipment and fixtures which are or which are to be permanently incorporated into the Work, but excludes Construction Equipment.

“Major Lien Fund Holdback” means the total of lien holdbacks from progress payments for Work performed before Substantial Performance of the Work.

“Milestone Date” means any date or dates specified in the Contract Documents for completion of specified portions of the Work, including the dates of Substantial Performance of the Work and Total Performance of the Work.

“Minor Lien Fund Holdback” means the total of lien holdbacks from progress payments for Work performed after Substantial Performance of the Work.

“Notice” means a notice made in writing and delivered to one of the Parties or the Engineer at the address, or any replacement address, stipulated for and in the method required for, delivery or as set out in Article 6 of Section 00 52 00 - Contract Agreement.

“Notice of Award” is a communication from the Owner, or the Engineer on behalf of the Owner, advising a bidder that the bidder has been awarded the Contract.

“Notice to Proceed” is a direction from the Owner, or the Engineer on behalf of the Owner, advising the Contractor is to commence and proceed actively with the Work under the Contract.

“OH&S Legislation” means, collectively, all of the applicable decrees, statutes, laws, by-laws, rules, orders, codes, directives and regulations concerning occupational health and safety, which may be in force, from time to time at the Project Site.

“Other Contractors” means any other contractors or consultants which are retained directly by the Owner for other work at the Project Site, other than the Contractor, and includes the Owner’s own forces.

“Owner” means the Person identified as such in Section 00 52 00 - Contract Agreement and includes any authorized representative of the Owner.

“Party” means one of the parties to this Contract and Parties means the Owner and the Contractor, collectively, as the case may be.

“Payment Certificate” has the meaning set out in GC 37 PROGRESS PAYMENTS.

“Person” means any one of an individual, partnership, limited liability partnership, limited liability company, corporation, sole proprietorship, trust, unincorporated organization, association, society, or Governmental authority.

“Personnel” means, without limitation:

- (a) in relation to any Party and its affiliates, elected officials, directors, officers, employees, contract personnel, non-employed representatives, contractors, consultants and agents, including those who are assigned or seconded to the Project; and
- (b) in relation to any other Person, each of their respective elected officials, directors, officers, employees, contract personnel, non-employed representatives, contractors, consultants and agents, including those who are assigned or seconded to the Project.

“Pre-Contractual Statement” means any communication or correspondence, including any agreement, undertaking, representation, warranty, promise, assurance, arrangement or draft of any nature whatsoever, whether or not in writing, relating to the subject matter of the Contract and which is not repeated in the Contract, made by any Person at any time before the date of the Contract Agreement.

“Prime Contractor for Safety” means “Prime Contractor”, “Constructor”, “Principal Contractor”, or such other position of similar import as the case may be according to the location of the Project Site, as is defined in the OH&S Legislation.

“Project” means the project identified in Article 1 of Section 00 52 00 - Contract Agreement.

“Project Record Drawings” means a dedicated set of Drawings reserved and annotated by the Contractor on an ongoing basis during the performance of the Work for the purpose of recording differences between the built Work and Drawings.

“Project Site” means the designated location of the Work on the Project as identified in the Contract Documents, or, if not identified in the Contract Documents, as identified by the Owner by Notice to the Contractor, from time to time.

“Project Takeover” means the turnover by the Contractor and the takeover by the Owner of part, or all of, the Project, which may occur in phases, or not, as determined in the sole discretion of the Owner, and which shall occur when all of the prerequisites identified in this Contract have been completed by the Contractor, certified by the Engineer and accepted in writing by the Owner.

“Project Takeover Date” means the date that Project Takeover occurs in relation to a part, or all, of the Project.

“Quantities” means the quantities for the Work performed, measured in accordance with

GC 39 QUANTITIES.

“**Records**” means the records of the Contractor and its Subcontractors relating to the Contract, the Project or the performance of the Work, and which include, paper and electronic copies, as the case may be, of:

- (a) original invoices and accounts;
- (b) records of account for all Work performed, itemizing the names and positions of Personnel, the hours worked by each, the type of services performed and the hourly rate charged, together with copies of all subcontracts and invoices for expenses;
- (c) records of account for all amounts claimed related to termination or suspension, itemizing the names and positions of Personnel, the hours worked by each, the type of services performed and the hourly rate charged, together with copies of all subcontracts; and
- (d) correspondence, minutes of meetings, notes, reports, incident reports and all other documentation including information relating to the Contractor’s compliance with the Law and the Contract and the use of Confidential Information.

“**Shop Drawings**” means one or more Drawings, diagrams, illustrations, photographs, schedules, performance charts, technical brochures, samples, models and other data which are to be provided by or through the Contractor or the Subcontractors to illustrate details of a portion of the Work.

“**Specifications**” means those documents, whenever issued by the Engineer, setting out the requirements and standards for Materials, equipment, systems, workmanship and the services necessary for the proper performance of the Work or any part thereof.

“**Subcontractor**” means a Person who performs part of the Work, including the Supply of Materials, and either: (a) has a direct contract with the Contractor or (b) has no direct contract with the Contractor but is at any tier below the Contractor.

“**Substantial Performance of the Work**” means that the Work is substantially complete or substantially performed as defined in the Lien Act, the Work or a substantial part of it is ready for use or is being used in the way that was intended for the purpose intended, and the Engineer has issued a certificate verifying that, in the opinion of the Engineer, Substantial Performance of the Work has been achieved.

“**Superintendent**” means the Contractor’s senior representative at the Project Site.

“**Supplier**” means a Person having a direct contract with the Contractor to Supply Materials not worked to a special design for the Work.

“**Supply**” means supply and pay for.

“**Surety**” means the Person who has supplied the performance and labour and material bonds for the Contract.

“**Temporary Work**” means temporary supports, structures, facilities, services and other temporary items, excluding Construction Equipment that is required for performing the Work but is not incorporated into the Work.

“Total Performance of the Work” means the Work, with the exception of Warranty Work, has been fully completed, including rectification of all known Deficiencies, and the Engineer has issued a certificate verifying that, in the opinion of the Engineer, Total Performance of the Work has been achieved.

“Toxic or Hazardous Substances” means any solid, liquid, gaseous, thermal or electromagnetic irritant or contaminant and includes all pollutants and hazardous substances or wastes whether or not defined in any Law.

“Warranty Period” means that period of time set out in GC 63 WARRANTY during which the Contractor is obligated to warrant the Work.

“Warranty Work” means the Work to remedy, correct or rectify any Deficiencies, including any Work required to access the Deficiencies and any Work required to make good the Deficiencies and any other Work or work performed by Other Contractors that is destroyed, disturbed or negatively affected by the performance of the Work to remedy, correct or rectify any Deficiencies, which shall be performed by the Contractor.

“Work” means and includes anything and everything required to be done for the fulfilment and completion of the Contract.

“Workers Compensation Legislation” means the applicable workers compensation legislation at the Project Site, current at the date of the Notice to Proceed and as may be revised during the Contract Time.

“Working Day” means any day that there is construction activity at the Project Site or any Business Day that construction activity is reasonably possible.

GC 2. INTERPRETATION AND GENERAL PROVISIONS

- .1 Wherever this Contract requires an action to be performed or an obligation to be undertaken, unless otherwise specified, such action or obligation shall be performed in a prompt and commercially reasonable manner by the Party taking the action or fulfilling its obligation.
- .2 This Contract supersedes all prior negotiations and Pre-Contractual Statements, relating in any manner to the subject matter of this Contract, including any bid documents that are not expressly listed in the Table of Contents of the Contract Documents.
- .3 A Party shall have no right of action against any other Party arising out of or in connection with any Pre-Contractual Statement except to the extent that it is repeated in the Contract.
- .4 This Contract may only be amended by a document in writing signed by the Parties.
- .5 Wherever the term “including” is used, or any derivative thereof, it shall be read to mean “including, but not limited to” or an equivalent phrase for a derivative, as the case may be, if the context so permits such a construction.
- .6 Wherever the singular or masculine or neuter is used it will be interpreted as meaning the plural or feminine or body politic or corporate, and *vice versa*, as the context requires.

- .7 Documents comprising this Contract are complementary, and what is required by any one shall be as binding as if required by all.
- .8 Words and abbreviations that have customary technical or trade meanings are used in this Contract in accordance with such recognized meanings.
- .9 The failure of Owner, the Engineer or the Contractor at any time to require the performance of any provision or requirement of this Contract shall not affect the right of that Party to require the subsequent performance of that provision or requirement.
- .10 All amounts referred to in this Contract are in Canadian dollars, unless otherwise indicated.
- .11 In the calculation of time, the first day shall be excluded and the last day shall be included.
- .12 If a court of competent jurisdiction determines that any provision of this Contract is invalid or unenforceable, such determination shall not affect the validity or enforceability of the remaining provisions of this Contract.
- .13 The Parties have each had the opportunity of obtaining legal advice and accordingly any rule of construction to the effect that any ambiguity is to be resolved against the drafting Party shall not apply in the interpretation of this Contract.

GC 3. LAW OF THE CONTRACT AND ATTORNMENT

- .1 This Contract shall be governed by the Laws of the Province or Territory where the Project Site is located and the Parties agree to attorn to the exclusive jurisdiction of the Courts of that Province or Territory.

GC 4. PRECEDENCE OF DOCUMENT FOR INTERPRETATION

- .1 In case of any inconsistency or conflict between the provisions of the Contract Documents, the provisions of such documents and addenda thereto shall take precedence and govern in the following order:
 - 1. Contract Agreement
 - 2. Supplementary Conditions
 - 3. General Conditions
 - 4. Specifications
 - 5. Drawings
 - 6. Executed Bid Form
 - 7. Instructions to Bidders
 - 8. Invitation to Bid
 - 9. All other documents
- .2 Figured dimensions on a Drawing take precedence over measurements scaled from the Drawing.
- .3 Large-scale Drawings take precedence over those of smaller scale.
- .4 Supplementary Drawings and Specifications supersede their antecedents.

- .5 In case of conflict between figured dimensions on a Drawing and the dimensions of a specified product, the dimensions of the specified product shall govern.
- .6 If compliance with two or more standards or specifications is specified and the standards or specifications establish different or conflicting requirements, the Contractor shall comply with the most stringent requirement.
- .7 Documents of a later date shall govern over a similar type of document of an earlier date.

GC 5. USE OF THE CONTRACT DOCUMENTS

- .1 The intent of the Contract Documents is that the Contractor shall Supply, directly or through a Subcontractor, all labour, Materials, related services, equipment or other matters or things necessary for the Contractor to perform the Work.
- .2 All Work described in the Specifications and not shown on the Drawings and all Work shown on the Drawings and not described in the Specifications shall be performed by the Contractor as if included in both.
- .3 The Contractor shall review the Contract Documents provided by the Owner or the Engineer and shall promptly provide Notice to the Engineer of any of the following that the Contractor discovers or becomes aware of:
 - (a) any errors, inconsistencies, omissions or ambiguities in the Contract Documents;
 - (b) doubt as to the meaning or intent of any part of the Contract Documents;
 - (c) any variance between the content of the Contract Documents and the Law; or
 - (d) modifications required to be made to the Contract Documents as a result of revisions made to the Law.
- .4 If the Contractor does discover any conditions described in GC 5.3, the Contractor shall not proceed with the Work affected until the Contractor has received clarification of or revisions to the Contract Documents from the Engineer.
- .5 If Notice is given by the Contractor in accordance with GC 5.3 and clarifications or revisions to the Contract Documents are required, the Engineer shall revise the Contract Documents and any Change shall be dealt with in accordance with PART 11 CHANGES AND CONCEALED OR UNKNOWN CONDITIONS.
- .6 If the Contractor fails to provide Notice as required in GC 5.3 or proceeds with the Work before receiving clarification of or revisions to the Contract Documents from the Engineer as provided for in GC 5.5, the Contractor shall be responsible for and shall bear the costs, expenses, and damages attributable to any such failure, or of proceeding in such manner.

- .7 Unless otherwise expressly agreed to in writing by the Owner, nothing contained in the Contract Documents shall create any contractual relationship between:
- (a) the Owner or its Personnel and any Subcontractor or its Personnel, or other Persons engaged in the performance of the Work; or
 - (b) the Engineer or its Personnel and the Contractor, or any Subcontractor, or their respective Personnel, or other Persons engaged by them in the performance of the Work.

GC 6. NO WAIVER

- .1 No action or failure to act by the Owner, the Engineer or the Contractor shall constitute a waiver of any right or duty afforded or imposed on any of them under this Contract, and such action or failure to act shall not constitute an approval of, or acquiescence in, any breach of this Contract, except as may be expressly provided for or required by this Contract or otherwise agreed in writing by the Parties.

GC 7. NO ASSIGNMENT WITHOUT CONSENT

- .1 Neither Party to this Contract shall assign their respective rights or responsibilities, or any portion thereof, without the prior written consent of the other Party.

GC 8. SURVIVAL

- .1 Any provision of this Contract which expressly states or naturally implies that it survives the termination, cancellation, completion, suspension or expiration of this Contract, including any other provision that is necessary for the interpretation or enforcement of the same, shall continue as valid and enforceable notwithstanding any such termination, cancellation, completion, suspension or expiration.

PART 2 INSURANCE, WORKERS' COMPENSATION AND BONDS

GC 9. INSURANCE

- .1 The Contractor shall obtain and continuously carry, while the Work is being performed and while any remedial or Warranty Work is being undertaken, at the Contractor's own expense and cost, the insurance coverage as specified in Section 00 73 16 – Insurance, unless otherwise indicated in writing by the Owner. The Owner reserves the right to supplement or add insurance coverage from time to time as may be required, by Change Order.
- .2 The insurance maintained by the Owner or the Contractor shall in no manner limit the Contractor's obligations to indemnify or otherwise perform the obligations required of it pursuant to the terms of this Contract.
- .3 Prior to commencing the Work, the Contractor shall provide the Owner with Certificates of Insurance in a form acceptable to the Owner and evidence the insurance coverage is in accordance with the requirements of the Contract.

- .4 Deductibles, if any, which are applicable to the specified insurance, shall be borne by the Contractor.

GC 10. WORKERS' COMPENSATION

- .1 The Contractor shall ensure all of its and the Subcontractors' respective Personnel, agents, representatives and visitors attending at the Project Site are registered for workers' compensation coverage. The Contractor shall indemnify and save harmless the Owner for any and all claims incurred by the Owner as a result of the Contractor failing to comply with GC 10.
- .2 The Contractor shall at all times pay or cause to be paid any assessment or contribution required to be paid pursuant to the Workers Compensation Legislation applicable to the Project Site. If the Contractor fails to do so, the Owner, in addition to any of its other rights under this Contract, may retain the amount of the assessment or contribution from any payment then due, or to become due, to the Contractor under this Contract.
- .3 At any time during the term of this Contract, when requested by the Owner, the Contractor shall provide evidence of compliance by the Contractor and Subcontractors with the obligations under GC 10. As minimum, the Contractor shall provide evidence, satisfactory to the Engineer, of compliance with the requirements of the Workers Compensation Legislation including payments due thereunder at the following times:
- (a) prior to commencing the Work;
 - (b) as a condition of receiving a Certificate of Substantial Performance; and
 - (c) as a condition of receiving a Certificate of Total Performance.
- .4 If at any time the performance of the Work is stopped because the Contractor unreasonably fails or refuses to comply with a regulation or order issued pursuant to the Workers Compensation Legislation, then such failure or refusal shall be considered a default under this Contract and the provisions of GC 49 OWNER'S RIGHT TO TERMINATE FOR DEFAULT shall apply.

GC 11. BONDS

- .1 The Contractor shall, prior to commencement of the Work, pay for and provide to the Owner:
- (a) a performance bond, in the amount of 50% of Contract Price, covering the performance of this Contract, including any warranty requirements; and
 - (b) a labour and material payment bond, in the amount of 50% of Contract Price.
- .2 The Owner shall not be obligated to make any payment to the Contractor until such time as the bonds specified in GC 11.1 have been delivered to the Owner by the Contractor.
- .3 The bonds specified in GC 11.1 shall be:
- (a) in the form which is in accordance with the latest edition of the CCDC approved bond forms;

- (b) issued by a duly licensed surety company authorized to transact the business of suretyship in the province or territory of the Project Site;
- (c) acceptable to the Owner; and
- (d) maintained in good standing until the fulfillment of the Contract.

PART 3 GENERAL PROVISIONS

GC 12. EXECUTION OF THE CONTRACT AGREEMENT

- .1 The Contractor shall deliver the following documents to the Engineer within ten (10) Business Days of the date of the Notice of Award:
 - (a) Certificates of Insurance in accordance with GC 9 INSURANCE;
 - (b) evidence of compliance with the requirements of the Workers Compensation Legislation including payments due thereunder in accordance with GC 10 WORKERS' COMPENSATION;
 - (c) bonds in accordance with GC 11 BONDS; and
 - (d) draft Construction Schedule in accordance with GC 25 CONSTRUCTION SCHEDULE.
- .2 The Engineer shall deliver the Contract Documents in a form ready for signing to the Contractor within ten (10) Business Days after receipt of the documents from the Contractor provided for in GC12.1 that are satisfactory and in strict compliance with the Contract Documents.
- .3 The Contractor shall sign the Contract Documents and return them to the Engineer within five (5) Business Days after receiving them and the Engineer shall forward them to the Owner for signing.
- .4 The Owner shall sign the Contract Documents and return them to the Engineer within fifteen (15) Business Days after receiving them and the Engineer shall deliver the Contractor's copies to the Contractor.

GC 13. CONDUCT OF THE WORK

- .1 The Contractor shall perform the Work in strict accordance with the Contract Documents and in a professional, competent and safe manner with good workmanship which performance meets or exceeds the standards for construction on projects of a similar nature and locality.
- .2 The Contractor shall perform the Work diligently and take all measures necessary to ensure that the Construction Schedule is met.
- .3 The Contractor represents that it is highly knowledgeable and experienced in the type of work described in the Contract Documents. The Contractor is being retained by the Owner specifically because of its knowledge and expertise in that regard.
- .4 The Contractor shall in all respects be an independent contractor.

- .5 The Contractor shall not, in the performance of the Work, engage in practices which conflict with the Owner's interest including, without limitation, disclosing information about the Owner's business or operations; withholding information that could adversely affect the business interests or operations of the Owner; accepting gifts from or offering gifts to the Owner's Personnel that may lead to a perceived obligation; or engaging in any activity that would contravene any Law. The Contractor shall inform the Owner, immediately and in writing, of any potential conflict of interest that may arise.
- .6 The Contractor shall cooperate and work with any Other Contractors, who are appointed by the Owner from time to time.
- .7 The Contractor shall perform the Work in such manner as to cause a minimum of interference with the Owner's operations and the operations of Other Contractors. The Contractor and the Owner shall cooperate fully with each other, Other Contractors and all other parties with whom the Contractor and the Owner may be involved during the performance of the Work.

GC 14. ACTIVITIES

- .1 The Owner will provide the Project Site. Where Work is to be performed on lands owned by others, the Owner will obtain the necessary easements or rights-of-way. Delay in providing the Project Site, or in obtaining easements or rights-of-way which, in the opinion of the Engineer, delays the Work will be deemed cause for extension of the Contract Time and the provisions of GC 47 DELAY shall apply.
- .2 The Contractor will commence and proceed actively with the Work under the Contract immediately within five (5) Business Days of receipt of the Notice to Proceed. The Contractor shall not enter on the Project Site until the Owner or the Engineer has issued the Notice to Proceed.
- .3 The Contractor shall ensure that all permits, licenses and building occupancy permits for the Project which are required by the Contract Documents to be obtained by the Contractor are obtained in a timely manner and in accordance with the Construction Schedule.
- .4 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.
- .5 The Contractor shall be responsible for all ordering, scheduling and planning required to complete the Work in a timely manner. Without prejudice to Contractor's obligation to perform on time, the Contractor shall give the Engineer prompt Notice in writing if any delay is foreseen for any reason.
- .6 The Contractor shall monitor its progress in performing the Work and report regularly to the Engineer in a format acceptable to the Engineer, which shall include:
 - (a) actual progress reports, with itemization of Work complete, in progress and scheduled for the next period and the Materials delivered to the Project Site;
 - (b) forecasts for progress and labour deployment;

- (c) identification of any portions of the Work which have, or have the potential to be, delayed and the mitigation efforts being deployed by the Contractor to address such delay or potential delay;
 - (d) lost time incident reports; and
 - (e) other reports which may be requested by the Engineer from time to time.
- .7 The Owner shall make reasonable efforts to provide the Contractor with the necessary information regarding the Project which the Owner has available. It shall be the Contractor's responsibility to:
- (a) advise the Engineer if any further or additional information is required; and
 - (b) obtain and assemble adequate information to permit the Work to be completed in a proper and expeditious manner as required by and in accordance with the Contract Documents and the Construction Schedule.

PART 4 ADMINISTRATION OF THE CONTRACT

GC 15. AUTHORITY OF THE ENGINEER

- .1 The Engineer shall have authority to act on behalf of the Owner only to the extent provided for in this Contract or as the Owner may authorize, from time to time, but only to the extent that such authorization is communicated to the Contractor by Notice from the Owner.
- .2 The duties, responsibilities, and limitations of authority of the Engineer shall only be modified or extended by a Notice issued by the Owner to the Contractor.

GC 16. ROLE AND RESPONSIBILITY OF THE ENGINEER

- .1 The Engineer shall, to the extent specifically provided for in this Contract, be a representative of the Owner during the performance of the Work until the date of the Total Performance of the Work and the completion of the Warranty Work. The Engineer's instructions to the Contractor shall be forwarded directly from the Engineer, or alternatively through the Owner, as may be determined appropriate by the Owner from time to time.
- .2 The Engineer shall visit the Project Site at intervals appropriate to the progress of the Work to observe the progress and quality of the Work and to determine if the Work is proceeding in general conformity with this Contract.
- .3 The Engineer may provide at the Project Site one or more Personnel to assist in carrying out the Engineer's responsibilities.
- .4 Based upon the Engineer's observations and evaluation of the Contractor's applications for payment, the Engineer shall make an assessment as to the amounts owing to the Contractor under this Contract and shall issue Payment Certificates as provided for in PART 7 PAYMENT AND ALLOWANCES.

- .5 The Engineer shall not be responsible for, and shall not have control, charge, or supervision of construction means, methods, techniques, sequences, or procedures, quality assurance or safety or environmental protection programs and other programs required in connection with the Work in accordance with applicable Law or general construction practice.
- .6 The Engineer shall not be responsible for the Contractor's failure to carry out its obligations in accordance with the Contract Documents. The Engineer shall not have control over, charge of, or be responsible for the acts or omissions of the Contractor or any Person for whom the Contractor is responsible at Law.
- .7 The Engineer shall be, in the first instance, the interpreter of the requirements of this Contract and shall make determinations as to the performance under the Contract by the Owner and the Contractor and the Subcontractors. Interpretations and determinations of the Engineer shall be consistent with the intent of the Contract Documents.
- .8 Claims, Disputes, and other matters in question relating to the performance of the Work or the interpretation of the Contract Documents, shall be referred initially by Notice to the Engineer for the Engineer's interpretation and determination. The Engineer's interpretation and determinations shall be given by Notice to both the Owner and the Contractor.
- .9 The Engineer shall have authority to reject work which, in the Engineer's opinion, does not conform to the requirements of this Contract. Whenever the Engineer considers it necessary or advisable, the Engineer shall have authority to require inspection or testing of Work, whether or not such Work is fabricated, installed or completed. However, neither the authority of the Engineer to act, nor any decision either to exercise or not exercise such authority, shall give rise to any duty or responsibility of the Engineer to the Contractor.
- .10 During the progress of the Work, the Engineer may issue Construction Memos to the Contractor. The Contractor shall comply with the Construction Memos with reasonable promptness or in accordance with a schedule for implementation of such Construction Memos agreed to by the Engineer and the Contractor.
- .11 The Engineer may issue Field Instructions requiring the Contractor's immediate action to effect, maintain or restore compliance of the Work with the safety or environmental requirements of the Contract.
- .12 The Engineer shall review and take appropriate action upon the Contractor's submittals such as Shop Drawings and samples, as provided in the GC31 SHOP DRAWINGS.
- .13 The Engineer shall prepare Change Orders, Change Directives, and Contemplated Change Notices as provided in PART 11 CHANGES AND CONCEALED OR UNKNOWN CONDITIONS. Neither a Change Order nor a Change Directive shall constitute a Change unless signed by the Owner.
- .14 The Engineer shall conduct reviews of the Work to verify Substantial Performance of the Work and Total Performance of the Work as provided in GC 40 SUBSTANTIAL PERFORMANCE OF THE WORK and GC 42 TOTAL PERFORMANCE OF THE WORK AND FINAL PAYMENT.

- .15 The Engineer shall make reasonable efforts to promptly review and take appropriate action with respect to documents submitted by the Contractor, including written warranties and related documents, and upon the Owner's request, shall establish a process for the Owner's review of some or all such documents.
- .16 In the event that the Contractor believes that the Engineer is not promptly reviewing or taking appropriate action with respect to any samples or documents submitted by the Contractor, the Contractor shall, within five (5) Business Days of such event occurring, provide Notice to the Engineer and the Owner setting out which samples or documents have not been promptly reviewed or in relation to which the Engineer has not taken appropriate action and the effect of such conduct. If the Contractor does not provide such Notice within the specified time, the Contractor shall have no Claim against the Owner for any reason relating to the conduct of the Engineer with respect to the review of samples or documents submitted by the Contractor.

GC 17. REVIEW AND INSPECTION OF THE WORK

- .1 The Owner and the Engineer shall have access to the Work at all times provided they follow the Contractor's safety requirements.
- .2 The Contractor shall Supply sufficient, safe, and proper facilities at all times for the review and inspection of the Work by the Owner, the Engineer and Governmental Authorities. If parts of the Work are in preparation at locations other than the Project Site, the Owner and the Engineer shall be given access to such parts of the Work.
- .3 The Owner may review the Project Site at any time to observe whether the Contractor is fulfilling its responsibilities as Prime Contractor for Safety and under the OH&S Legislation. Reviews may include: Project Site conditions, work processes, procedures and documentation of Project Site safety related activities. Observed infractions or possible infractions will be reported to the Engineer and the Contractor for further investigation and action by the Contractor.
- .4 If any portion of the Work is designated for tests, inspections or approvals in the Contract Documents, or by the Engineer, or by Law, the Contractor shall give the Engineer Notice of not less than five (5) Business Days of when the Work will be ready for review and inspection. The Contractor shall arrange for, and shall give the Engineer reasonable Notice of, the date and time of inspections by all Governmental Authorities.
- .5 The Contractor shall promptly deliver to the Engineer two copies of any certificates and inspection reports relating to the Work, or any portion thereof.
- .6 Within ten (10) Business Days of the commencement of the Work, the Owner and the Engineer, in conjunction with the Contractor, shall jointly develop a schedule of items of Work which are designated for special tests, inspections, or approvals.
- .7 If the Contractor covers or permits to be covered, Work that has been designated for special tests, inspections, or approvals before such special tests, inspections, or approvals are made, given or completed, the Contractor shall, if so directed, uncover such Work, have the inspections or tests satisfactorily completed, and re-perform all covering Work, all at the Contractor's expense, regardless of the outcome of the tests.

- .8 The Engineer may order any portion or portions of the Work to be examined to confirm the Work is in accordance with the requirements of this Contract. If the Engineer provides Notice to the Contractor that the Work is not in accordance with the requirements of this Contract, the Contractor shall correct the Work and pay the cost of examination, correction and restoration. If, on such examination, the Work has been completed in accordance with the requirements of this Contract, the Owner shall be responsible for the cost of examination and restoration, except as provided for in GC 17.7.
- .9 Neither the failure of the Engineer, or an inspection agency appointed by the Owner or the Engineer, to carry out any reviews or inspections, nor errors or omissions in the performance of such reviews and inspections by the Engineer, or an appointed inspection agency, shall relieve the Contractor from responsibility that the Work, or any portion thereof, is performed in accordance with this Contract.
- .10 The Contractor shall continuously monitor and inspect the Work of the Subcontractors for Deficiencies and ensure that all such Deficiencies are promptly corrected.
- .11 The Contractor shall implement and follow a quality assurance program with respect to the performance of the Work, and shall ensure the compliance of the Subcontractors with its quality assurance program, to ensure that the quality of the Work meets or exceeds the standards of performance and quality required by this Contract.

GC 18. DEFICIENCIES

- .1 At all times during the performance of the Work, the Contractor shall promptly remedy, correct and rectify any Deficiencies, whether or not the Deficiencies have been incorporated in the Work, and whether or not the Deficiencies are the result of poor workmanship, use of defective Materials, or vandalism, theft or damage through carelessness, negligence, inadequate security or protection or other act or omission of the Contractor or any Person for whom the Contractor is responsible at Law.
- .2 The Contractor shall remedy, correct and rectify, as required to ensure the timely performance of the Work in accordance with the Construction Schedule, any and all:
 - (a) Deficiencies in a manner acceptable to the Engineer and the Owner; and
 - (b) Work, or other work, that is destroyed or damaged as a result of the Deficiencies or the remedying or correction thereof.
- .3 If, in the opinion of the Owner, it is not expedient to correct any Deficiency as provided for in this Contract, after consultation with the Engineer and Contractor, the Owner may require the Contractor to deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by this Contract. If the Owner and the Contractor do not agree on the difference in value, they shall refer the matter for determination in accordance with PART 12 DISPUTE RESOLUTION.
- .4 In the event that the Contractor does not remedy, correct or rectify the Deficiencies as required herein, the Owner may, upon expiry of ten (10) Business Days after giving Notice to the Contractor, take such steps as may be necessary to remedy, correct or rectify the Deficiencies in the Work or other work which is damaged or destroyed as a result of the Deficiencies or the

remedying or correction thereof. In such event, the Contractor shall promptly pay the Owner for costs incurred by the Owner for remedying, correction or rectification of those Deficiencies, including both the Work or other work, if any, destroyed or damaged, or any alterations necessitated by the Contractor failing to remedy, correct or rectify the Deficiencies and any claims incurred by the Owner in so doing may be set-off against any monies due from the Owner to the Contractor.

PART 5 EXECUTION OF THE WORK

GC 19. CONTROL OF THE WORK

- .1 The Contractor shall have total control of the Work and shall effectively control, direct and supervise the Work so as to ensure conformity with the Contract Documents and compliance with all Law.
- .2 The Contractor shall be solely responsible for construction means, methods, techniques, sequences, procedures and safety and coordination of the various parts of the Work.
- .3 Without limiting the generality of the foregoing, the Contractor is responsible for the coordination of the various parts of the Work so that no part is left in an unfinished or incomplete condition, unless otherwise required or specified by the Engineer to be unfinished or uncompleted.
- .4 Prior to commencing any of the Work, the Contractor shall verify all measurements, dimensions, and levels necessary for the proper, timely and complete performance of all aspects of the Work. Where measurements, dimensions or levels are not included in the Contract Documents or exact locations or requirements are not apparent, the Contractor shall immediately provide Notice to the Engineer identifying the lack of information and shall obtain instructions from the Engineer prior to proceeding with any part of the Work affected thereby.

GC 20. ELECTRONIC INFORMATION

- .1 At the Contractor's request and at the Owner's option, the Engineer may provide the Contractor with electronic copies of the Drawings, design digital terrain model, building information model or other such information.
- .2 If the Engineer does provide such information, it is provided "as is" and at the Contractor's request, without warranty of any kind, whether express or implied. All implied warranties, including, without limitation, implied warranties of accuracy, completeness, merchantability, fitness for a particular purpose, and non-infringement, are hereby expressly disclaimed.
- .3 Under no circumstances will the Owner or the Engineer be liable to any Person for any direct, indirect, special, incidental, or other damages including Consequential Damages and, without limitation, any loss of programs or information, based on any use of this information or any information referenced therein, even if the Owner or the Engineer has been specifically advised of the possibility of such damages.

GC 21. LAYOUT OF THE WORK

- .1 The Engineer shall establish reference points for construction which are necessary for the Contractor to proceed with the Work.

- .2 The Contractor shall preserve and protect the established reference points and shall not modify or relocate the established reference points without the approval of the Engineer.
- .3 Unless otherwise stated in the Contract Documents, the Contractor shall be responsible for:
 - (a) laying out the Work;
 - (b) Supply of stakes, markers and related tools and equipment.
- .4 Regardless of the layout methodology, the Contractor shall verify the accuracy of the proposed location of the elements of the Work as indicated by the layout, prior to their construction, by measurements to legal property lines and existing physical features at the Project Site.

GC 22. CONSTRUCTION BY THE OWNER OR OTHER CONTRACTORS

- .1 The Owner reserves the right to award separate contracts for work at the Project Site to Other Contractors and to perform work with its own forces.
- .2 The Contractor shall cooperate and work with any Other Contractors, who are appointed by the Owner from time to time.
- .3 When separate contracts are awarded by the Owner to Other Contractors for work at the Project Site, the Owner shall:
 - (a) provide for the coordination of the activities and work of Other Contractors with the Work;
 - (b) provide Notice to the Contractor as to whether the Contractor will be Prime Contractor for Safety in relation to some, or all of the work that is performed by Other Contractors; and
 - (c) where the Contractor is Prime Contractor for Safety for the area of the Project Site where work is to be performed by Other Contractors, contractually require that those Other Contractors adhere to the work rules and procedures established by the Contractor to ensure safety and the protection of Persons and the Work.
- .4 When separate contracts are awarded for work at the Project Site or when work is performed at the Project Site by the Owner's own forces, the Contractor shall:
 - (a) provide the Other Contractors with a reasonable opportunity to bring onto the Project Site and store their respective materials and to use their construction equipment and temporary work to execute their respective work;
 - (b) coordinate and schedule the Work with the work of Other Contractors;
 - (c) connect such other work with the Work as specified or shown in the Contract Documents;
 - (d) participate and assist with Other Contractors and the Owner in reviewing and coordinating the construction schedules of those Other Contractors; and

- (e) where part of the Work is affected by, or depends upon for its proper execution, the work of Other Contractors, promptly provide Notice to the Engineer, prior to proceeding with that part of the Work, of any apparent deficiencies in such work. Failure by the Contractor to promptly provide Notice will invalidate any Claims of the Contractor against the Owner by reason of the deficiencies in the work of Other Contractors.

.5 When a Change is required as a result of:

- (a) assignment of Prime Contractor for Safety status by the Owner with respect to Other Contractors; or
- (b) coordination of, interference or damage to the work of Other Contractors; or
- (c) connection of the work of Other Contractors with the Work,

the Changes will be dealt with in accordance with PART 11 CHANGES AND CONCEALED OR UNKNOWN CONDITIONS.

GC 23. SUSPENSION OF WORK BY OWNER

- .1 The Owner may at any time suspend the Work or delay commencement thereof, or any portion thereof, provided he gives the Contractor ten (10) Business Days' Notice of suspension or delayed commencement. The Contractor shall resume Work upon Notice from the Owner within ten (10) Business Days after the date set forth in such Notice to resume Work.
- .2 In the event that the Owner chooses to delay the commencement of the Work or any portion thereof or implement a temporary suspension:
 - (a) the Contract Time shall be adjusted by the Owner to account for the period of delay or suspension affecting the Work and any seasonal impact on the Work directly resulting from the delay or suspension; and
 - (b) the Owner shall reimburse the Contractor for direct and provable costs and expenses incurred by the Contractor necessitated by such delay or suspension of the Work or portion thereof, but the Contractor shall not recover from the Owner payment for any loss of profits or any other form of damages.
- .3 If the delay or suspension of the Work lasts more than forty-five (45) Business Days, the Contractor may, at its option and on ten (10) Business Days' Notice, terminate the Contract as provided for in GC 50 CONTRACTOR'S RIGHT TO TERMINATE FOR DEFAULT. The Contractor shall not be permitted to terminate the Contract when only a portion of the Work is delayed or suspended.
- .4 A suspension of the Work because of seasonal climatic conditions, whether ordered by the Owner or the Engineer or not, shall not be deemed to be a suspension of the Work within the meaning of GC 23.
- .5 Except as provided by GC 23, the Owner shall not be liable in any way to the Contractor in relation to a suspension or delayed commencement of the Work, or any portion of the Work, and

under no circumstances shall the Owner be liable for Consequential Damages as a result of suspension or delayed commencement of the Work pursuant to GC 23.

GC 24. TEMPORARY SUPPORTS, STRUCTURES AND FACILITIES

- .1 The Contractor shall have the sole responsibility for the design, erection, operation, maintenance and removal of Temporary Work and the design and execution of construction methods required in its use.
- .2 The Contractor shall engage and pay for professional engineer(s) registered and in good standing in the Province or Territory where the Project Site is located and skilled in the appropriate disciplines to perform those functions referred to in GC 24.1 where:
 - (a) required by the Law or by the Contract Documents; and
 - (b) in all cases where such Temporary Work and its method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- .3 Despite any other provision of this Contract, where the Contract Documents include designs for Temporary Work or specify a method of construction in whole or in part, such Temporary Work shall be considered to be part of the design of the Work and the Contractor shall not be held responsible for that part of the design or the specified method of construction. The Contractor shall, however, be responsible for the execution of such design or specified method of construction in the same manner as for the execution of the Work.
- .4 At least fifteen (15) Business Days before construction or location of Temporary Work the Contractor shall submit representative designs and sketches of Temporary Work to the Engineer as provided for in GC 31 SHOP DRAWINGS. The Engineer shall review the Temporary Work drawings and sketches for compatibility with the Work and for possibilities of impediments to the operations of Other Contractors and the safe passage of the public.

GC 25. CONSTRUCTION SCHEDULE

- .1 The Contractor shall:
 - (a) within ten (10) Business Days of award of this Contract, prepare a draft Construction Schedule including all of the construction phases of the Work that shall incorporate:
 - (i) the sequence and timing of the required major Project decisions;
 - (ii) the timing of major activities of the Work and sufficient detail of the critical events and their inter-relationship to demonstrate that the Work will be performed in conformity with the Contract Time; and
 - (b) within the time referred to in GC 25.1(a) deliver to the Engineer the draft Construction Schedule and:
 - (i) at a time agreed to by the Engineer, make a presentation of the draft Construction schedule to the Engineer;
 - (ii) where the draft Construction Schedule cannot be accepted by the Engineer without revision, the Contractor shall promptly revise the draft Construction Schedule and deliver and re-present it to the Engineer repeating the process until

- the draft Construction Schedule is accepted and becomes the Construction Schedule;
- (iii) break-down the Construction Schedule into phases of the Work and show the Milestone Dates for the various phases;
 - (iv) use the Construction Schedule as the baseline schedule which will be identified and compared to all subsequent schedule revisions and updates;
 - (v) at least monthly, or as more frequently requested by the Engineer:
 - 1. provide proposed updates to the Construction Schedule, which updates shall include:
 - a. a monthly forecast of the planned progress of the Work;
 - b. adjustments resulting from Change Orders and Change Directives; and
 - c. identification of potential variances between the Construction Schedule and probable completion dates for all elements of the Work;
 - 2. review all schedules for Work not started or completed and when required prepare and plan for mitigation measures and submit the mitigation plan in writing to the Engineer for review.
- .2 Acceptance by the Engineer of the Construction Schedule shall not diminish or lessen the Contractor's obligations and responsibilities under this Contract, including the obligation to meet the Milestone Dates and achieve the Total Performance of the Work within the Contract Time.
- .3 The time for performance of the Work shall commence on the date specified in the Notice to Proceed, or if not so specified, on the date that the Notice to Proceed is issued.

GC 26. SAFETY

- .1 Unless expressly directed otherwise pursuant to GC 22 CONSTRUCTION BY THE OWNER OR OTHER CONTRACTORS, the Contractor shall be solely responsible for construction safety at the Project Site and in performing the Work, and for the Contractor's compliance and that of the Subcontractors with all Law and practices relating to health and safety. The Contractor shall be responsible for initiating, maintaining and supervising all safety programs, including the preparation of applicable hazard assessments, in connection with the performance of the Work.
- .2 The Owner delegates and the Contractor accepts the role and responsibilities of the Prime Contractor for Safety for the entire Project Site until the Project Takeover Date of the entire Work. A partial takeover of the Project by the Owner shall not affect this delegation, unless Notice of a Change in the designation of the Contractor as Prime Contractor for Safety is provided by the Owner to the Contractor, in which case, the Contractor shall follow the directions of the Owner as set out in the Notice.
- .3 In the event of any occurrence, circumstance or condition that caused, or has the potential to cause, injury or damage to any Person, property, reputation, security or the environment, the Contractor shall:
- (a) immediately verbally notify the Owner and the Engineer of the same and follow up with prompt Notice providing details of the occurrence, circumstance or condition;

- (b) keep the Owner and the Engineer informed and provide copies of all relevant documentation to the Owner and the Engineer of all developments, including medical status and anticipated recovery of any individuals involved, investigations by any Governmental Authority, reports prepared by or submitted by the Contractor or any Subcontractor and the laying of any charges;
 - (c) cooperate and ensure the cooperation of all Subcontractors with investigations, whether instigated by the Owner or any Governmental Authority, and provide copies of any investigations undertaken by the Contractor to the Owner; and
 - (d) prepare a corrective action plan in a time period agreed to by the Owner and the Engineer and provide a copy to the Owner and the Engineer.
- .4 The Owner may, acting reasonably but at its sole and absolute discretion, for reasons of health and safety, cause parts of, or all of, the Work or Project to be stopped, or the Contractor or any of the Subcontractors to be removed or excluded from the Project Site. Such action shall not relieve the Contractor from its obligations under this Contract or otherwise affect the Contract Price, the Contract Time or give rise to any Claim by the Contractor against the Owner.

GC 27. SUPERINTENDENT AND KEY PERSONNEL

- .1 The Contractor shall assign to the Project the Superintendent identified in Section 00 45 13 – Bidder's Qualifications. The Superintendent shall remain assigned to the Project up to and including the achievement of Substantial Performance of the Work and shall dedicate substantially all of their full working time and attention to the Project. The Contractor shall ensure that the Superintendent is available at no additional cost for consultation and to provide direction during the correction of Deficiencies and performance of any Warranty Work. The Superintendent shall not be removed, re-assigned to another project or have their role changed on the Project without the prior written consent of the Engineer, unless such individual leaves the employment of the Contractor.
- .2 The Superintendent shall represent the Contractor at the Project Site until all Deficiencies noted at the time of Substantial Performance of the Work have been corrected to the satisfaction of the Engineer. Notices and Construction Memos given to the Superintendent shall be held to have been received by the Contractor.
- .3 The Engineer, may, with reasonable cause at any time during the performance of the Work, by Notice to the Contractor, require the replacement of the Superintendent identified in Section 00 45 13 – Bidder's Qualifications or other supervisory Personnel assigned to the Work. Upon receipt of the Notice, the Contractor shall immediately make arrangements to appoint a replacement acceptable to the Engineer.

GC 28. SUBCONTRACTORS

- .1 The Contractor shall:
 - (a) enter into written subcontracts with Subcontractors to require them to perform their Work as provided in the Contract Documents;

- (b) ensure that the relevant portions of this Contract are incorporated into and form part of, the subcontracts entered into between the Contractor and its Subcontractors, including:
 - (i) provisions equivalent to those set out in PART 10 TERMINATION so that in the event of any kind of termination or delay the Contractor is only required to pay its Subcontractors for those types of costs and expenses that the Owner is required to pay the Contractor and the Contractor shall indemnify the Owner from any other claim by any of its Subcontractors; and
 - (ii) an obligation for Subcontractors to protect the Work, the Owner's property, property on or adjacent to the Project Site and Materials stored off the Project Site on terms equal to, or more favourable, than the terms set out in PART 6 PROTECTION OF PERSONS AND PROPERTY AND TOXIC OR HAZARDOUS SUBSTANCES.
- .2 The Contractor shall employ only those Subcontractors listed in Section 00 43 36 – Subcontract List or others as approved in writing by the Engineer and shall not change or employ additional Subcontractors without the approval of the Engineer and the Owner, which approval shall not be unreasonably withheld. Such changes in Subcontractors shall not result in an adjustment to the Contract Price or Contract Time.
- .3 The Owner, through the Engineer, may at any time during the performance of the Work object to the use of a Subcontractor and give Notice to the Contractor to employ a different Subcontractor that is satisfactory to the Owner.
- .4 If the Owner requires the Contractor to change a proposed Subcontractor or Supplier pursuant to GC 28.3 for any reason other than reasonable cause, the Contract Price or Contract Time, or both as the case may be, shall be adjusted by the differences, if any, occasioned by such required Change.
- .5 Unless a Subcontractor is specified in the Contract Documents, the Contractor shall not be required to engage as a Subcontractor, a Person to whom the Contractor reasonably objects.
- .6 If a Subcontractor provides the Engineer with a copy of the relevant executed subcontract agreement, then the Owner, through the Engineer, may provide to a Subcontractor information as to the percentage of the Subcontractor's Work which has been certified for payment. The Owner and the Engineer shall inform the Contractor of any such communications.

GC 29. LABOUR AND MATERIALS

- .1 The Contractor shall Supply all services, labour, Materials, tools, Construction Equipment, Temporary Work, water, heat, light, power, transportation, and other facilities and services, including temporary access, access roads, parking areas, laydown areas and utilities, necessary for the performance of the Work.
- .2 Materials Supplied shall be new, fit for the purposes intended by the Owner and otherwise of the quality as depicted in and required by the Contract Documents. Materials that are not specified shall be of a quality consistent with those specified and their use confirmed in advance as being acceptable to the Engineer.

- .3 Materials that are used in the performance of the Work, for construction or incorporation into parts of the Work that will be in contact with partially treated or potable water, including water retaining structures and piping, shall be compatible with potable water in accordance with all applicable health and environmental regulations. This shall include, but not be limited to, all sealants, waterproofing agents, form release agents, concrete accessories, and valve and pipe coatings and linings.
- .4 Until such time as the Materials are incorporated into the Work, the Contractor shall be responsible for the safe and secure storage and preservation of Materials on the Project Site, or elsewhere if located off of the Project Site, so as to avoid damage, destruction, contamination, alteration, waste or spoilage to the Materials, injury to Persons, damage or destruction to property or delay to the Project resulting from such Materials.
- .5 The Contractor shall maintain good order and discipline among the Contractor's Personnel, and the Subcontractor's Personnel engaged in the performance of the Work, and shall not employ, or permit to be employed, any Subcontractor not skilled in the tasks assigned.

GC 30. DOCUMENTS AT THE SITE

- .1 The Contractor shall keep at least two (2) copies of current Contract Documents, permits, licenses, authorizations, submittals, reports, the Construction Safety Plan, together with documentation applicable to safety procedures and compliance with the OH&S Legislation and Workers Compensation Legislation, and minutes of meetings for the Work at the Project Site, in good order and available for review by the Owner and the Engineer.
- .2 The Contractor shall ensure that record Drawings, Project Record Drawings, maintenance manuals, operating instructions, and such similar construction documents, are properly completed and handed over to the Engineer in a timely manner, or as otherwise required by the Owner. The Contractor shall not achieve Total Performance of the Work until all record Drawings, Project Record Drawings, maintenance manuals, operating instructions and such similar construction documents are complete and delivered to the Engineer.
- .3 The Contractor shall ensure that all manufacturers' maintenance manuals, service agreements, warranties and guarantees are in order, and shall prepare a register of the same and deliver the register and the documents to the Engineer in a timely manner, or as otherwise required by the Owner, and in any event, before Total Performance of the Work.

GC 31. SHOP DRAWINGS

- .1 In consultation with the Engineer, the Contractor shall establish and implement procedures for timely receipt, processing and review of Shop Drawings and samples. Upon request of the Engineer, the Contractor shall prepare a target schedule of dates for submission, review and return of Shop Drawings for the consideration of the Engineer.
- .2 The Contractor shall Supply Shop Drawings as described in the Contract Documents or as the Engineer may reasonably request.

- .3 The Contractor shall review all Shop Drawings prior to submission to the Engineer and shall represent by its review that:
 - (a) the Contractor has determined and verified all field measurements and field construction conditions and shall ensure that any Subcontractor submitting Shop Drawings has also determined and verified all field measurements and field construction conditions, Material requirements, catalogue numbers, and similar data; and
 - (b) the Contractor and the Subcontractor have checked and coordinated all Shop Drawings with the requirements of the Work and the requirements of the Contract Documents.
- .4 The Contractor shall confirm this review of each of the Shop Drawings by stamp, date, and signature of the individual responsible. Shop Drawings not reviewed, stamped and signed by the Contractor may be rejected by the Engineer.
- .5 The Contractor shall submit Shop Drawings to the Engineer to review in an orderly sequence, in accordance with any schedule that may be agreed to for the submission of Shop Drawings and sufficiently in advance of the need for reviewed Shop Drawings, so as not to cause any delay to the Construction Schedule or to the work of Other Contractors. At the time of submission, the Contractor shall provide Notice to the Engineer of any deviations in the Shop Drawings from the requirements of the Contract Documents.
- .6 Upon the Engineer's request, the Contractor shall revise and resubmit Shop Drawings which the Engineer rejects as inconsistent with the Contract Documents. The Contractor shall provide Notice to the Engineer of any revisions made to resubmitted Drawings other than those requested by the Engineer.
- .7 If the Contractor Supplies the Shop Drawings in accordance with the schedule agreed upon, the Engineer shall review and return Shop Drawings in accordance with the schedule agreed upon, or otherwise with reasonable promptness. In the event that the Contractor believes that the Engineer is not promptly reviewing Shop Drawings submitted by the Contractor, the Contractor shall, within five (5) Business Days of such event occurring, provide Notice to the Engineer and the Owner setting out which Shop Drawings have not been promptly reviewed and the effect of such conduct. If the Contractor does not provide such Notice within the specified time, the Contractor shall have no Claim against the Owner for any reason relating to the conduct of the Engineer with respect to review of Shop Drawings.
- .8 The Engineer's review of Shop Drawings is for general conformity to the design concept, and for general arrangement only, and shall not relieve the Contractor of responsibility for errors or omissions in the Shop Drawings or for meeting all requirements of this Contract.
- .9 The Engineer's authority to review Shop Drawings shall be for the benefit of the Owner and such authority shall not give rise to any duty or responsibility of the Engineer or the Owner to the Contractor, Subcontractors or their Personnel or other Persons performing any of the Work.
- .10 Shop Drawings that require approval of any Governmental Authority shall be submitted to such Governmental Authority by the Contractor for approval, prior to submission to the Engineer, so as not to adversely impact the Construction Schedule.

GC 32. STEWARDSHIP OF THE PROJECT SITE

- .1 The Contractor shall confine Construction Equipment, Temporary Work, storage of Materials, waste products and debris and operations of Personnel and Subcontractors to limits indicated by Law, ordinances, permits or the Contract Documents, as applicable, and shall not unreasonably encumber or obstruct the Work or the Project Site.
- .2 The Contractor shall not load, or permit to be loaded, any part of the Work with a weight or force or in any other manner that will endanger the safety of the Work or any Persons.
- .3 The Contractor shall maintain the Work and the Project Site in a tidy condition free from the accumulation of waste products and debris, other than that resulting from the operations of the Owner or Other Contractors.
- .4 The Contractor shall remove waste products and debris, other than that resulting from the operations of the Owner or Other Contractors, and shall leave the Work and the Project Site clean and suitable for occupancy on each applicable Project Takeover Date. The Contractor shall remove tools, Construction Equipment, and equipment not required for the performance of the remaining Work.
- .5 In the event that any products or debris resulting from the operations of the Owner or Other Contractors affects the Work or safety on the Project Site, the Contractor shall immediately verbally inform the Engineer and the Owner and provide Notice to the same of such condition within one (1) Business Day thereafter.
- .6 Prior to application for the final Payment Certificate, the Contractor shall remove tools, Construction Equipment, Temporary Work, and waste products and debris, other than that resulting from the work undertaken by the Owner or the Other Contractors.

PART 6 PROTECTION OF PERSONS AND PROPERTY AND TOXIC OR HAZARDOUS SUBSTANCES

GC 33. PROTECTION OF WORK AND PROPERTY

- .1 In performing the Work the Contractor shall protect the Work and the Owner's property and any other Person's property from damage. The Contractor shall at the Contractor's own expense make good any such damage which arises as the result of the Contractor's operations.
- .2 At no additional cost to the Owner and as part of the Work, the Contractor shall provide all safety devices, signage and supervision at the Project Site that are necessary to protect Personnel and the public.
- .3 Before commencing any Work at the Project Site the Contractor shall:
 - (a) expose and determine conclusively the location in the field of all underground utilities and structures indicated on the Contract Documents as being at the Project Site;
 - (b) consult with all utility corporations that provide electricity, communication, gas or other utility services in the area of the Project Site, to expose and conclusively determine the location of all underground utilities;

- (c) expose and conclusively determine the location of any other utilities or underground structures that are reasonably apparent or inferable in an inspection of the Project Site; and
 - (d) survey and record the location, in three dimensions, of underground structures exposed in accordance with GC 33.3; and
 - (e) provide the information obtained under GC 33.3 (d) to the Engineer.
- .4 If any underground utility or structure located under GC 33.3 is in conflict with the Work as indicated on the Drawings, immediately provide Notice to the Engineer. If the resolution of the conflict requires a Change that increases or decreases the Contract Price or the Contract Time, then the provisions of GC 57 CONCEALED OR UNKNOWN CONDITIONS shall apply.
- .5 The Contractor shall pay the costs to repair any underground utility or structure that the Contractor damages in the performance of the Work which the Contractor was required to locate under GC 33.3.
- .6 If, in the performance of the Work the Contractor causes damage to an underground utility or structure:
- (a) which was unknown or unforeseeable to the Contractor at the time of the damage; and
 - (b) that the Contractor was not required to locate pursuant to GC 33.3,
- then such event may be considered a concealed or unknown condition and the provisions of GC 57 CONCEALED OR UNKNOWN CONDITIONS shall apply.
- .7 Unless the Owner provides Notice to the Contractor stating otherwise, in the event of a shutdown or suspension of the Work, the Contractor shall continue to be responsible for the care, protection, security and maintenance of the Work during the period of the shutdown or suspension.
- .8 The Contractor shall provide, at no additional cost to the Owner, adequate site security at all times during the performance of the Work. The Owner shall not be responsible for the costs of any theft, damage, alteration, loss or replacement.

GC 34. TOXIC OR HAZARDOUS SUBSTANCES

- .1 Unless otherwise specified in the Contract Documents the Contractor shall assume that the Owner has elected not to conduct tests or investigations for Toxic or Hazardous Substances at the Project Site.
- .2 Subject to the provisions of GC 34, the Owner bears the risk that the Contractor will encounter Toxic or Hazardous Substances at the Project Site.
- .3 The Contractor has no obligation or duty to conduct tests or investigations for Toxic or Hazardous Substances at the Project Site unless the Engineer gives written directions regarding Toxic or Hazardous Substances that are discovered or suspected at the Project Site.

- .4 If, in the performance of the Work the Contractor encounters any materials at the Project Site that the Contractor knows or suspects may be Toxic or Hazardous Substances then the Contractor shall immediately:
 - (a) stop the Work, or portion of the Work, and take such steps as required so that such materials are contained and not disturbed; and
 - (b) give written Notice to the Engineer, the Owner and all other parties as required by Law.
- .5 If the Engineer observes any materials at the Project Site that the Engineer knows or suspects may be Toxic or Hazardous Substances then the Engineer shall immediately give written Notice to the Owner and the Contractor, and the Contractor shall immediately stop the Work or portion of the Work as required by GC 34.4.
- .6 If materials are encountered that are or are suspected to be Toxic or Hazardous Substances and Notice is given either by the Contractor pursuant to GC 34.4, or by the Engineer pursuant to GC 34.5, then the Engineer shall after consulting with the Contractor give the Contractor written directions specifying what, if any, measures are to be taken on account of such materials so as to reasonably permit the Contractor to proceed with the Work. The Contractor shall strictly comply with any such directions.
- .7 The Work shall be performed in full compliance with all Laws applicable to any Toxic or Hazardous Substances encountered at the Project Site.
- .8 Any adjustment that the Contractor is required to make to the performance of the Work on account of suspected or confirmed Toxic or Hazardous Substances encountered by the Contractor at the Project Site and that were not identified in the Contract Documents shall be considered a concealed or unknown condition and the provisions of GC 57 CONCEALED OR UNKNOWN CONDITIONS shall apply.
- .9 Unless stated otherwise in the Contract Documents, the remediation, treatment or removal of any Toxic or Hazardous Substances shall be a Change and the provisions of Part 11 CHANGES AND CONCEALED OR UNKNOWN CONDITIONS shall apply.
- .10 Provided that the Contractor strictly complies with the requirements of GC 34 then the Owner shall indemnify the Contractor against any costs, expenses and damages that the Contractor is required by Law to pay to any third party (excluding Subcontractors) as a direct result of encountering any Toxic or Hazardous Substances in the performance of the Work at the Project Site.
- .11 If the Contractor fails to notice any materials that a competent contractor reasonably experienced in the Work would have noticed were Toxic or Hazardous Substances, or fails to comply with a direction given by the Engineer pursuant to GC 34.5, then the Contractor shall:
 - (a) pay all reasonable additional costs the Owner is required by Law to incur to deal with any Toxic or Hazardous Substances that have been disturbed or permitted to escape as a direct result of such failure; and

- (b) indemnify the Owner from any and all additional costs, expenses and damages that the Owner is required by Law to pay to any third party as a direct result of such failure.
- .12 The Contractor shall not bring to the Project Site any Toxic or Hazardous Substances and the Contractor shall indemnify the Owner from any costs, expenses and damages the Owner is required by Law to pay as a result of the Contractor bringing any Toxic or Hazardous Substances to the Project Site.
- .13 Nothing in GC 34 shall be interpreted to prohibit or prevent the Contractor from bringing to the Project Site any Toxic or Hazardous Substances such as fuel oil, or other materials that the Contractor is specifically, or by necessary and reasonable implication, permitted or required to bring onto the Project Site in order to perform the Work as required by the Contract Documents.
- .14 In the event that Toxic or Hazardous Substances are used or placed in the Work or onto the Project Site by the Contractor, or any Person for whom the Contractor is responsible at Law, the Contractor shall take the necessary steps to ensure that no Person suffers injury, sickness, or death, and that no property is damaged or destroyed as a result of exposure to, or the presence of, such Toxic or Hazardous Substances.

PART 7 PAYMENT AND ALLOWANCES

GC 35. GENERAL PROVISIONS RELATING TO PAYMENT

- .1 Payments shall be made to the Contractor in accordance with this PART 7 PAYMENT AND ALLOWANCES and, as applicable, Section 00 52 00 - Contract Agreement.
- .2 No payment by the Owner under this Contract, or partial or entire use or occupancy of the Work by the Owner shall constitute an acceptance of any portion of the Work which is not in accordance with the requirements of the Contract.

GC 36. FINANCIAL INFORMATION REQUIRED OF THE CONTRACTOR

- .1 At the request of the Owner, from time to time, the Contractor shall provide to the Owner, in writing, such financial or corporate information as may be reasonably required by the Owner, to establish or confirm the ability of the Contractor to perform its obligations pursuant to this Contract.
- .2 The Contractor shall keep the Owner apprised of any material or significant changes in the ownership or financial position of the Contractor which take place or are to take place during the term of this Contract or which may in any manner adversely impact on the Contractor's ability to perform its obligations in a timely, competent or complete manner.

GC 37. PROGRESS PAYMENTS

- .1 Within five (5) Business Days after the end of a calendar month the Engineer shall prepare and issue to the Owner a Payment Certificate for the period ending the last calendar day of the month.

- .2 The Payment Certificate shall set out as of the end of last calendar day of the preceding month:
 - (a) the total value of the Work completed and the Materials incorporated into the Work;
 - (b) the total Quantities, or the percent complete for each pay item;
 - (c) all holdback amounts if any;
 - (d) the total amount owing by the Owner to the Contractor;
 - (e) any liquidated damages or other deductions; and
 - (f) set offs permitted by the Contract Documents.
- .3 The Engineer shall not finalize a Payment Certificate without consulting with the Superintendent about the Quantities and amounts to be included in a Payment Certificate.
- .4 The period referred to in GC 37.1 for the issuance of the Payment Certificate may be extended by any time that the Contractor takes to provide the consultation to the Engineer, or to provide any supporting documentation the Engineer requires to finalize the Payment Certificate.
- .5 If the Engineer does not agree with the Superintendent regarding any aspect of the Payment Certificate then the Engineer shall without delay:
 - (a) prior to issuing the Payment Certificate, fully advise the Superintendent of the reasons for the disagreement; and then
 - (b) issue the Payment Certificate to the Owner, with a copy to the Contractor, in the amounts the Engineer determines are correct.
- .6 The Contractor shall provide to the Engineer all documentation as required by the Contract Documents in support of the completed portion of the Work and Materials covered by the Payment Certificate including inspection reports, invoices, weigh tickets and daily Force Account records.
- .7 If requested in writing by the Engineer the Contractor shall, as a precondition to the issuance of the Payment Certificate, provide a sworn declaration in a form acceptable to the Engineer that all amounts relating to the Work, due and owing to third parties, including all Subcontractors and Suppliers, as of the end of the month previous to that covered by the Payment Certificate, have been paid.
- .8 Except for materials or products which are identified in the Contract Documents as being "Supply Only", payments shall not be made for materials or products purchased by the Contractor but not fully incorporated into the Work at the Project Site.
- .9 Subject to GC 44 WITHHOLDING OF PAYMENT AND SET OFF, the Owner shall make payment to the Contractor of amounts due by the Owner no later than twenty (20) Business Days after the receipt by the Owner of the Payment Certificate as issued by the Engineer.

- .10 All Payment Certificates issued by the Engineer shall be to the best of the Engineer's knowledge, information, and belief.
- .11 The monthly progress Payment Certificates shall not bind the Owner or Engineer in any manner in the preparation of subsequent Payment Certificates or the final progress Payment Certificate, but shall be construed and held to be approximate only. By issuing any Payment Certificate, the Engineer does not assume any of the responsibility of the Contractor with respect to the correctness or completeness of the Work, including the Contractor's responsibility to ensure that the Work has been completed in accordance with the Contract Documents.

GC 38. PROGRESS PAYMENT HOLDBACKS

- .1 The Owner shall:
 - (a) hold back 10%, or other percentage as required by the Lien Act, of any amounts net of value-added taxes due to the Contractor, including those amounts due for payment for Work performed after Substantial Performance of the Work; and
 - (b) if the Project Site is a highway, Indian reserve or other lands that cannot be liened, then, notwithstanding that a lien cannot be registered against the Project Site, hold back the percentage that would have been required if the Lien Act did apply of any amounts due to the Contractor as a lien holdback, on the same conditions as though such holdback was a requirement of the Lien Act, including making payment from such holdback directly to Subcontractors.
- .2 In addition to other holdbacks as provided by the Contract Documents, the Owner may hold back from payments otherwise due to the Contractor amounts as determined by the Engineer pursuant to GC 44 WITHHOLDING OF PAYMENT AND SET OFF, on account of deficient or defective Work already paid for. This holdback may be held, without interest, until such deficiency or defect is remedied.
- .3 If after Substantial Performance of the Work is achieved the Contractor is unable to complete any portion of the Work because of climatic or other conditions beyond the Contractor's reasonable control then the Owner may hold back from payments otherwise due to the Contractor the amount, as estimated by the Engineer, by which the cost to have others complete the Work exceeds the Contract Prices for such completion work.
- .4 The Contractor shall assist the Owner to establish a holdback account pursuant to the Lien Act, if required to be established under the Lien Act, at a savings institution acceptable to the Owner, including preparing and completing any and all documents and forms as the savings institution may require. Any Notice issued by the Contractor upon the Owner's failure to pay into the holdback account the amount the Owner is required to retain under the Lien Act shall be given in writing to the Engineer.

GC 39. QUANTITIES

- .1 The estimate of Quantities shown in the Section 00 41 00 - Bid Form serves only to provide a basis for comparing bids and no representations have been made by either Owner or Engineer that the actual Quantities will even approximately correspond therewith.

- .2 The Owner has the right to increase or decrease the Quantities in any or all items and to eliminate items entirely from the Work.
- .3 Where there is a discrepancy between the measurement or calculations made by or for the Contractor to establish the Quantities and the measurement or calculations made by the Engineer to establish the Quantities, the Quantities shall be deemed to be the measurement made by the Engineer.
- .4 Where the Quantities are disputed by the Contractor, upon request of the Contractor, the Parties will exchange their data, surveys and other information as the same relates to the measurements and calculations.
- .5 If after reviewing the Engineer's data, surveys and other information the Contractor still disputes the Quantities, the Contractor may dispute the Quantities by providing Notice to the Engineer, within ten (10) Business Days of the Engineer providing its data, surveys and other information to the Contractor, stating:
 - (a) that it disagrees with the Quantities; and
 - (b) its measurements and calculation of the Quantities.
- .6 If Notice is provided by the Contractor as set out in GC 39.5, the Parties shall take the necessary steps to have the Dispute resolved in accordance with PART 12 DISPUTE RESOLUTION. In the event that the Contractor does not provide Notice to the Engineer as set out in GC 39.5, the Contractor shall be deemed to have waived all of its rights to dispute the Quantities.

GC 40. SUBSTANTIAL PERFORMANCE OF THE WORK

- .1 The Engineer shall be the payment certifier responsible for payment certification as required by the Lien Act for the Contractor. The Contractor shall be the Person responsible for payment certification as required by the Lien Act for all Subcontractors.
- .2 When the Contractor considers that it has achieved Substantial Performance of the Work, the Contractor shall prepare and submit to the Engineer:
 - (a) a written application from the Contractor for a Certificate of Substantial Performance; and
 - (b) written confirmation that upon payment in the amount applied for, that the Contractor has no further Claim against the Owner for the Work, for any reason, except to the extent of any Claims for which the Contractor has previously provided Notice to the Owner and the Engineer.
- .3 The Engineer will, no later than ten (10) Business Days after the receipt of a written application from the Contractor for a Certificate of Substantial Performance make an inspection and assessment of the Work to verify the validity of the application. The Engineer will prepare and issue a comprehensive list of items to be completed or corrected, and either:
 - (a) issue the Certificate of Substantial Performance, or

- (b) if the Engineer determines that Substantial Performance of the Work has not been achieved, consult with the Contractor and advise the Contractor of the Work required to achieve Substantial Performance of the Work.
- .4 Failure to include an item on the comprehensive list of items described in GC 40.3 does not alter the responsibility of the Contractor to complete the Work or remedy, correct or rectify any Deficiencies.
- .5 If the Engineer determines that Substantial Performance of the Work has not been achieved, the Owner may deduct the cost of the inspection and assessment by the Engineer from payments otherwise due to the Contractor.
- .6 The Contractor may, after performing the required Work, re-apply for the Certificate of Substantial Performance, and the provisions of GC 40 shall apply to the re-application.
- .7 The Engineer shall include the date of Substantial Performance of the Work in the Certificate of Substantial Performance.
- .8 The Contractor shall promptly post a copy of the Certificate of Substantial Performance at a prominent and visible location at the Project Site.

GC 41. RELEASE OF MAJOR LIEN FUND HOLDBACK

- .1 Upon the expiry of the statutory time for filing liens under the Lien Act, the Contractor shall submit the following documents to the Engineer:
 - (a) an application for payment of the holdback amount;
 - (b) a sworn declaration in a form acceptable to the Engineer to state that all accounts for labour, subcontracts, Materials, Construction Equipment, and other indebtedness which may have been incurred by the Contractor in the Substantial Performance of the Work and for which the Owner might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute; and
 - (c) documents satisfactory to the Engineer showing compliance with the applicable Workers Compensation Legislation at the Project Site including payments due thereunder.
- .2 After the receipt of an application for payment from the Contractor and the accompanying documents as provided in GC 41.1, the Engineer will issue a Payment Certificate for payment of the holdback amount.
- .3 The Owner shall pay any lien holdback as required by the Lien Act, or on such other date as required by Law, but the Owner may set off from the holdback payment the amounts for any Deficiencies or filed liens as provided in GC 44 WITHHOLDING OF PAYMENT AND SET OFF.

GC 42. TOTAL PERFORMANCE OF THE WORK AND FINAL PAYMENT

- .1 When the Contractor considers that it has achieved Total Performance of the Work, the Contractor shall prepare and submit to the Engineer:
 - (a) a written application from the Contractor for a Certificate of Total Performance; and
 - (b) written confirmation that upon payment in the amount applied for, that the Contractor has no further Claim against the Owner for the Work, for any reason, except to the extent of any Claims for which the Contractor has previously provided Notice to the Owner and the Engineer.
- .2 The Engineer will, no later than ten (10) Business Days after the receipt of a written application from the Contractor for a Certificate of Total Performance make an inspection and assessment of the Work to verify the validity of the application, and either:
 - (a) issue the Certificate of Total Performance, or
 - (b) if the Engineer determines that Total Performance of the Work has not been achieved, the Engineer will prepare and issue a comprehensive list of items to be completed or corrected to achieve Total Performance of the Work.
- .3 Failure to include an item on the comprehensive list of items described in GC 42.2(b) does not alter the responsibility of the Contractor to complete the Work or remedy, correct or rectify any Deficiencies.
- .4 If the Engineer determines that Total Performance of the Work has not been achieved, the Owner may deduct the cost of the inspection and assessment by the Engineer from payments otherwise due to the Contractor.
- .5 The Contractor may, after performing the required Work, re-apply for the Certificate of Total Performance, and the provisions of GC 42 shall apply to the re-application.
- .6 The Engineer shall include the date of Total Performance of the Work in the Certificate of Total Performance.
- .7 No later than ten (10) Business Days after issuance of the Certificate of Total Performance, the Engineer shall issue to the Contractor, a draft Payment Certificate for final payment, for the Contractor's review and agreement. If after reviewing the Engineer's Payment Certificate the Contractor disputes the Quantities or the payment amount, the provisions of GC 39 QUANTITIES will apply.
- .8 If after reviewing the Engineer's Payment Certificate the Contractor agrees with the Quantities and the payment amount, then no later than five (5) Business Days after receipt from the Contractor of Notice that the Contractor agrees with the Payment Certificate for final payment, the Engineer shall issue to the Owner, a Payment Certificate for final payment in the amount that the Engineer determines to be properly due.
- .9 Subject to GC 44 WITHHOLDING OF PAYMENT AND SET OFF, the Owner shall make payment to the Contractor of amounts certified as due by the Engineer, no later than twenty (20)

Business Days after receipt of the Engineer's Payment Certificate for final payment and attainment of all of the following conditions:

- (a) Total Performance of the Work has been achieved by the Contractor, verified by the Engineer and approved by the Owner;
- (b) the period designated for the release of holdback pursuant to the Lien Act from the date of Substantial Performance of the Work has expired;
- (c) no liens have been registered arising from the Work;
- (d) there are no claims that have been made against the Owner by any Person other than the Contractor, arising from the performance of the Work.

GC 43. RELEASE OF MINOR LIEN FUND HOLDBACK

- .1 Upon the expiry of the statutory time for filing liens under the Lien Act, the Contractor shall submit the following documents to the Engineer:
 - (a) an application for payment of the holdback amount;
 - (b) a sworn declaration in a form acceptable to the Engineer to state that all accounts for labour, subcontracts, Materials, Construction Equipment, and other indebtedness which may have been incurred by the Contractor in the Total Performance of the Work and for which the Owner might in any way be held responsible have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute; and
 - (c) documents satisfactory to the Engineer showing compliance with the applicable Workers Compensation Legislation at the Project Site including payments due thereunder.
- .2 After the receipt of an application for payment from the Contractor and the accompanying documents as provided in GC 43.1, the Engineer will issue a Payment Certificate for payment of the holdback amount.
- .3 The Owner shall pay any lien holdback as required by the Lien Act, or on such other date as required by Law, but the Owner may set off from the holdback payment the amounts for any Deficiencies or filed liens as provided in GC 44 WITHHOLDING OF PAYMENT AND SET OFF.

GC 44. WITHHOLDING OF PAYMENT AND SET OFF

- .1 Subject to GC 44.2, if for any reason there are any Deficiencies, any portion of the Work that is not performed or there is any claim by a third party made against the Owner arising from the Work, the Owner may withhold from payment to the Contractor such amounts as the Engineer determines are sufficient and reasonable to cover the cost of rectification, completion or resolution, until the Deficiencies are rectified, the Work is completed or such claim is resolved.
- .2 The cost of rectifying Deficiencies or completing Work not performed shall be estimated by the Engineer and a value equivalent to twice that amount shall be withheld from any payment.

Subject to any other right the Owner may have, the holdback amount shall be paid to the Contractor after proper rectification of all the Deficiencies and completion of all Work.

- .3 In preparing the estimate referred to in GC 44.2, the Engineer shall not be bound by the Contractor's unit prices and shall estimate the cost of rectifying Deficiencies or completing Work using his sole judgement of the influence of prevailing circumstances.
- .4 Notwithstanding any other provision of this Contract, the Owner shall be entitled to withhold and set-off against any monies otherwise due and payable to the Contractor under this Contract, any sums which the Owner is permitted to withhold either pursuant to this Contract or to any other agreement between the Owner and the Contractor, howsoever arising.

GC 45. PROGRESSIVE RELEASE OF HOLDBACK TO SUBCONTRACTORS AND SUPPLIERS

- .1 Where provided by the Lien Act and if the Contractor has certified that the work of a Subcontractor or Supplier is substantially or totally performed, upon application by the Contractor accompanied by the documents listed in GC 45.2 and expiry of the statutory time for filing liens under the Lien Act the Owner shall pay the Contractor the holdback amount retained for such subcontract work, or for the Materials supplied by such Supplier.
- .2 Applications to the Engineer by the Contractor for progressive release of holdback to Subcontractors or Suppliers shall be accompanied by the following documents:
 - (a) A Certificate of Substantial or Total Performance of the subcontract work or supply contract, as the case may be, prepared by the Contractor in a form acceptable to the Engineer;
 - (b) a sworn declaration in a form acceptable to the Engineer to state that all accounts for labour, subcontracts, Materials, Construction Equipment, and other indebtedness which may have been incurred by the Subcontractor or Supplier, as the case may be, in the Substantial or Total Performance of the subcontract work, or the supply contract, as the case may be, and for which the Owner or Contractor might in any way be held responsible, have been paid in full, except for amounts properly retained as a holdback or as an identified amount in dispute;
 - (c) documents satisfactory to the Engineer showing compliance by the Subcontractor or Supplier, as the case may be, with the applicable Workers Compensation Legislation at the Project Site including payments due thereunder; and
 - (d) written confirmation that upon payment in the amount applied for, that the Subcontractor or Supplier, as the case may be, has no further Claim against the Contractor for subcontract work or Materials for any reason, except to the extent of any claims for which the Subcontractor or Supplier has previously provided Notice to the Contractor.
- .3 After the receipt of an application for payment from the Contractor and the accompanying documents as provided in GC 45.2, the Engineer will issue a Payment Certificate for payment of the holdback amount.

- .4 The Owner shall pay any lien holdback as required by the Lien Act, or on such other date as required by Law, or twenty (20) Business Days after receipt of the documents listed in GC 45.2 that are satisfactory to the Engineer, whichever is the latest.
- .5 Progressive release of holdback to Subcontractors and Suppliers as provided for in GC 45 shall not affect the Warranty Period. The Warranty Period for the Work shall commence as provided for in GC 63 WARRANTY.

PART 8 TAXES AND DUTIES

GC 46. RESPONSIBILITY FOR TAXES AND DUTIES

- .1 The Contract Price includes all customs duties and taxes, except Goods and Services Tax (GST) or Harmonized Sales Tax (HST) or provincial sales taxes (PST), in effect at the time of the execution of this Contract.
- .2 The Contractor shall be responsible to pay all taxes.
- .3 The amount of GST, HST or PST payable by the Owner on goods and services provided under this Contract is in addition to the Contract Price and is to be shown on a separate line on Payment Certificates.
- .4 If the Owner is exempt from GST, HST or PST, a Certificate of Exemption will be issued to the Contractor following issuance of the Notice of Award.
- .5 The Contract Price shall include any tax rebates which may be applicable under current legislation. Upon request by the Contractor, the Owner shall provide certificates, in support of the Contractor's rebate submission to a Governmental Authority. The Owner shall not be liable to compensate the Contractor for any tax rebates that are denied by Governmental Authorities.
- .6 In the event that new or additional duties or taxes in respect of the Work are applicable or required by the Law after this Contract is executed, the Contract Price shall be adjusted to include such new or additional taxes and duties, if applicable.

PART 9 TIMELY CONSTRUCTION

GC 47. DELAY

- .1 Subject to the limitations and requirements expressly stated in GC 47, and the Contractor's obligation to mitigate the impact of any delay, if the Contractor is delayed in the performance of the Work:
 - (a) due to an action or omission of the Owner, the Engineer or any Person for whom the Owner is responsible at Law;
 - (b) by a "stop work" or similar order issued by a court or Governmental Authority, and providing that such order was not issued as the result of an act or fault of the Contractor or any Person for whom the Contractor is responsible at Law;

- (c) where Changes to the Work are made as provided for in PART 11 CHANGES AND CONCEALED OR UNKNOWN CONDITIONS;
- (d) where the Work is suspended or delayed in commencement as provided for in GC 23 SUSPENSION OF WORK BY OWNER;
- (e) where the Work is delayed on account of the Owner not providing the Project Site, or not obtaining easements or rights-of-way;
- (f) 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 fault or negligence of the Contractor or any Person for whom the Contractor is responsible at Law;
- (g) where the Work is delayed on account of Abnormal Weather;
- (h) where the Engineer causes delay in providing Drawings or necessary information;
- (i) where, in the opinion of the Engineer, the Contractor is entitled to an extension of Contract Time;
- (j) where strikes, lockouts, or labour disputes prevent or substantially interfere with the progress of the Work,

then provided the Engineer determines that there is no concurrent delay that has been caused by the Contractor or any Person for whom the Contractor is responsible at Law, the Contract Time shall be extended for such reasonable time as is appropriate to account for the delay directly associated with the causes set out above, but not including concurrent delays caused by the Contractor or any Person for whom the Contractor is responsible at Law, as the Engineer, in the first instance, determines, or as may be subsequently determined in accordance with PART 12 DISPUTE RESOLUTION.

- .2 No extension of the Contract Time shall be made and no adjustment in the Contract Price shall be made for any delay except for a delay described in GC 47.1 and then only if the Contractor provides Notice, in accordance with GC 47.4, of such a Claim to the Engineer within five (5) Business Days after the occurrence of the event which has caused the delay.
- .3 Except as expressly provided within these General Conditions, the granting of an extension of Contract Time pursuant to GC 47 shall not give the Contractor grounds to make any Claims whatsoever for additional payment, except on the grounds set out in GC 47.1 items (b), (c), (d) or (e).
- .4 The Notice prescribed by GC 47.2 must:
 - (a) contain sufficient detail to provide the Engineer with the opportunity to identify the cause of the delay and to take steps to mitigate the impact of such delay;
 - (b) be provided by the Contractor to the Engineer with respect to each and every event of delay; and

- (c) be provided as a separate Notice.
- .5 Knowledge by the Owner or the Engineer of any delay, or the impact of any delay, shall not constitute a waiver of the requirement for the Contractor to provide Notice in accordance with GC 47.2.
- .6 The failure to provide separate express Notice in strict compliance with GC 47 shall be deemed to be prejudicial to the Owner and shall prohibit the Contractor from claiming, or being entitled to, any Claim for adjustment to the Contract Time or Contract Price with respect to such delay or any impact of such delay.
- .7 In the event of a delay the Contractor shall take all reasonable measures to minimize the effects and the costs of the delay and this obligation shall be taken into account in the determination of the Contractor's entitlement to an extension of the Contract Time and reimbursement of delay costs, if any.
- .8 The Owner shall not be liable for any penalties or claims by third parties incurred or suffered by the Contractor and under no circumstances shall the Owner be liable for Consequential Damages, as a result of delay pursuant to GC 47.
- .9 If the Contractor is delayed in the performance of the Work by its own acts or omissions or those of its Personnel or Subcontractors, then the Contractor will not be entitled to any time extension or additional payment as a result of such delay.
- .10 No extension of Contract Time shall be made and no adjustment in the Contract Price shall be made for any delay Claim that is based on the concept of the cumulative effect of multiple Changes.

GC 48. LATE COMPLETION

- .1 The Contractor acknowledges that if the Contractor fails to complete the Work within the Contract Time or fails to meet a specified Milestone Date for any part of the Work, the Owner will incur additional administrative and overhead costs and will be required to pay additional compensation to the Engineer (collectively "Additional Overhead"). The Contractor agrees that in the event the Contractor fails to complete the Work within the Contract Time or fails to meet a specified Milestone Date for any part of the Work, the Owner may deduct from any monies owing to the Contractor for the Work, as a genuine pre-estimate of the Owner's Additional Overhead, the amount specified in the Supplementary Conditions for each Working Day the Work or any portion of the Work remains incomplete after the applicable Contract Time or Milestone Date.
- .2 The rights set out in GC 48.1 are in addition to any other rights the Owner may have and are in no way exclusive. The Contractor acknowledges that in the event no amount for Additional Overhead is specified in the Supplementary Conditions the Owner may seek to recover from the Contractor any loss and damages suffered or incurred in respect of Additional Overhead, in addition to any other claim the Owner may have at law.
- .3 No bonus will be allowed by the Owner for completion of the Work in less than the Contract Time.

PART 10 TERMINATION

GC 49. OWNER'S RIGHT TO TERMINATE FOR DEFAULT

- .1 If the Contractor is unable to pay its lawful debts as they come due, is adjudged bankrupt, makes a proposal pursuant to the *Companies' Creditors Arrangement Act*, commits or threatens to do any act of bankruptcy, commits or seeks to liquidate or is involved in any similar action under any Law relating to bankruptcy or insolvency, the Owner may, without prejudice to any other right or remedy it has, terminate this Contract by giving the Contractor, trustee, monitor or receiver Notice that this Contract will be terminated immediately and that the applicable provisions of GC 49 apply.
- .2 If the Contractor neglects to proceed with, undertake or complete any aspect of the Work promptly or properly, or otherwise fails to comply with the requirements of this Contract, the Owner may, without prejudice to any other right or remedy the Owner may have, give Notice to the Contractor that the Contractor is in default of the Contractor's contractual obligations and instruct the Contractor to correct the default within five (5) Business Days immediately following the receipt of the Notice.
- .3 If the default cannot be corrected within the five (5) Business Days specified, the Contractor shall be in compliance with the Owner's instructions if the Contractor:
 - (a) commences the correction of the default in a manner acceptable to the Owner, within a different time agreed to by the Owner;
 - (b) provides the Owner with a written plan and schedule acceptable to the Owner for such correction; and
 - (c) corrects the default in accordance with such schedule.
- .4 If the Contractor fails to correct the default in accordance with GC 49.2 or as subsequently agreed upon pursuant to GC 49.3, without prejudice to any other right or remedy the Owner may have, the Owner may, without further Notice to the Contractor, do one or both of the following:
 - (a) immediately correct such default and deduct the cost thereof, including any costs incurred by the Owner, from any payment then or thereafter due to the Contractor, provided that the Engineer has certified such cost as due to the Owner; or
 - (b) immediately terminate the Work, in whole or in part, or terminate this Contract, in whole or in part.
- .5 In the event of default under GC 49, the Owner shall have the option, to be exercised in its absolute discretion, to terminate the right of the Contractor to perform all or any part or parts of the Work and permit the Contractor to continue to perform the rest of the Work.
- .6 If the Owner terminates the Work, in whole or in part, or terminates this Contract, in whole or in part, whether pursuant to GC 49.1, GC 49.4 or GC 49.5, or otherwise:
 - (a) the Owner shall be entitled to take possession of the Work and Materials, and use the Construction Equipment and Temporary Work at the Project Site, subject to the rights of

- third parties, and finish the Work by whatever method the Owner may consider proper or expedient;
- (b) the Owner shall be entitled to withhold further payment to the Contractor until the total cost of construction of the Work and all backcharges to the Contractor are known; and
 - (c) in addition to any other amount that may be owing under this Contract, the Contractor shall be liable to the Owner for the amount by which the following items added together exceed the Contract Price:
 - (i) the total cost of construction of the Work;
 - (ii) a reasonable allowance or amount, as determined by the Engineer, to cover the cost of Warranty Work;
 - (iii) a reasonable allowance or amount, as determined by the Engineer, to compensate the Engineer;
 - (iv) the costs and expenses both external and internal and including actual legal fees, disbursements and taxes incurred by the Owner for its additional services related to the termination of the Work, in whole or in part, or termination of this Contract, in whole or in part.
- .7 In the event that the Owner terminates the Work in part or terminates this Contract in part, the Owner shall be entitled to apply GC 49.6 with an appropriate adjustment for the portion of the Work involved and the portion of the Contract Price attributable to that portion of the Work.
- .8 The Owner shall not be liable for those costs incurred by the Contractor as a result of the termination.
- .9 The Owner shall not be liable for any penalties or claims by third parties incurred or suffered by the Contractor and under no circumstances shall be liable for Consequential Damages as a result of termination pursuant to GC 49 and the Contractor shall indemnify and hold the Owner and its Personnel, including the Engineer, harmless from and against any such penalties or claims.

GC 50. CONTRACTOR'S RIGHT TO TERMINATE FOR DEFAULT

- .1 If the Owner is adjudged bankrupt, makes a proposal pursuant to the *Companies' Creditors Arrangement Act*, commits or threatens to do any act of bankruptcy, commits or seeks to liquidate or is involved in any similar action under any Law relating to bankruptcy or insolvency, the Contractor may, without prejudice to any other right or remedy it has, terminate this Contract by giving the Owner, trustee, monitor or receiver Notice that this Contract will be terminated immediately and that the applicable provisions of GC 50 apply.
- .2 If the Work is stopped or otherwise delayed for a period of forty-five (45) Business Days or more as provided for in GC 23 SUSPENSION OF WORK BY OWNER or under an order or decision of a court or decision of another Governmental Authority, and providing that such order was not issued as the result of an act or fault of the Contractor or any Person for whom the Contractor is responsible at Law, the Contractor may terminate the Work without prejudice to any other right or remedy the Contractor may have, by giving the Owner Notice five (5) Business Days prior to such termination. The Contractor shall not be permitted to terminate the Contract when only a portion of the Work that is incomplete is delayed or suspended until forty-five (45) Business days after the Work, except for that portion which is suspended or delayed, is substantially completed.

- .3 The Contractor shall provide Notice to the Owner, with a copy to the Engineer, if the Owner is in default of its contractual obligations to pay the Contractor when due the amounts certified by the Engineer or awarded by a court of competent jurisdiction. The Notice shall state that if the default is not corrected in the thirty (30) Business Days immediately following the receipt of the Notice, the Contractor may, without prejudice to any other right or remedy it may have, stop the Work or terminate this Contract.
- .4 If the Contractor terminates this Contract under the conditions set out in GC 50.1 or GC 50.2, the Contractor shall be entitled to be paid for all of the Work that has been properly performed in accordance with this Contract to the date of termination and which has not been paid for or reimbursed to that date, and such other costs and expenses that the Contractor may have sustained as a direct result of the Owner's default which the Engineer considers to be reasonable and which are supported by auditable documentation, but shall not be entitled to any claims for Consequential Damages.
- .5 The Owner shall not be liable for any penalties or claims incurred or suffered by the Contractor and under no circumstances shall be liable for Consequential Damages as a result of termination pursuant to GC 50 and the Contractor shall indemnify and hold the Owner and its Personnel, including the Engineer, harmless from and against any such penalties or claims.

GC 51. TERMINATION FOR CONVENIENCE

- .1 The Owner, in its sole discretion, shall have the right, which may be exercised at any time, to terminate all or a portion of the Work or this Contract, without reason or cause, by giving not less than twenty (20) Business Days' Notice to the Contractor.
- .2 If the Work or this Contract is terminated by the Owner pursuant to GC 51.1, the Contractor shall be entitled to:
 - (a) the portion of the Contract Price owed but unpaid to the date of termination, computed in accordance with this Contract; and
 - (b) reasonable costs incurred by the Contractor in terminating the Work or this Contract, including the cost of materials that cannot reasonably be returned to their Supplier and any return-to-supplier costs.
- .3 If the Work or this Contract is terminated by the Owner pursuant to GC 51, the Owner shall not be liable to the Contractor for any claims or Consequential Damages or any amounts other than as stated in GC 51.2, as applicable, except as expressly provided for herein, and the Contractor shall indemnify and hold harmless the Owner, its Personnel, including the Engineer, from any such claims for amounts not provided for in GC 51.

GC 52. OBLIGATIONS ON TERMINATION

- .1 If the Owner terminates the Work, in whole or in part, or terminates this Contract, in whole or in part, whether pursuant to GC 49.1, GC 49.4 or GC 49.5 OWNER'S RIGHT TO TERMINATE FOR DEFAULT, or otherwise, the Contractor shall:
 - (a) subject always to considerations of safety and of the environment, immediately discontinue performance of the Work, except to the extent as may be necessary to carry

- out such discontinuance, and ensure that its operations and activities are brought to an orderly conclusion and that demobilization occurs in a proper and careful fashion with due attention being given to public safety and the protection of the Project and the Work;
- (b) comply in full with the Owner's instructions regarding the termination;
 - (c) take such steps as may be necessary or desirable to minimize the costs to the Owner associated with the termination;
 - (d) promptly deliver to the Owner all of the deliverables and the Owner's Confidential Information and intellectual property, including the originals and all copies and all other documents required by the Owner;
 - (e) take all steps required by the Owner, to assign to and fully vest in the Owner the rights and benefits of the Contractor under all subcontracts with its Subcontractors and any licenses, warranties or guarantees for the Project; and
 - (f) assign to the Owner, or its nominee, as directed, rights and titles relating to all Materials for which the Contractor has been paid or will be paid through the termination process.
- .2 The Contractor's obligations as to quality, correction, and warranty of the Work performed by the Contractor up to the date of termination shall continue in force after such termination. If Substantial Performance of the Work has not been reached by the date of termination, the Warranty Period shall nevertheless be deemed to commence from the date of Substantial Performance of the Work.
- .3 Notwithstanding any other provision of this Contract, termination of this Contract in any manner by the Owner shall not limit, affect or invalidate in any manner:
- (a) those provisions of this Contract for the benefit of the Owner which, expressly or by implication, are to operate or have effect after termination;
 - (b) any right of action the Owner may have as at the date of termination; or
 - (c) any other right or remedy the Owner may have as a consequence of the Contractor's default and the resulting termination of this Contract.

PART 11 CHANGES AND CONCEALED OR UNKNOWN CONDITIONS

GC 53. CHANGES

- .1 The Owner, through the Engineer, without invalidating this Contract, may make Changes at any time.
- .2 The Contractor shall not perform a Change without a written Change Order or Change Directive signed by the Owner and issued by the Engineer.
- .3 The Contractor shall advise the Engineer of the effect a Contemplated Change Notice will have on the Contract Price and the Contract Time within five (5) Business Days of receipt of the Contemplated Change Notice, or within such other time period as may be agreed by the Parties.

- .4 Where both additions and deletions are involved in a Change Order all calculations for profits and overhead shall be determined on a net basis for that Change Order.
- .5 The Owner shall make the final determination as to whether any Change is to be implemented.
- .6 It is intended in all matters related to Changes that the Owner, the Engineer and the Contractor shall act promptly so as not to adversely impact the Construction Schedule.
- .7 No further claim for change in Contract Time, Contract Price or for delay, extended schedule, direct, indirect or impact of costs, or other such claims, shall be accepted as having resulted from a Change Order after it has been accepted by the Owner.

GC 54. CONTEMPLATED CHANGE NOTICES AND CHANGE ORDERS

- .1 When a Change is proposed or required, the Engineer shall provide a Contemplated Change Notice describing the proposed Change to the Contractor. If, due to exceptional circumstances, a Contemplated Change Notice cannot be issued by the Engineer, the Owner or the Engineer may issue a Change Directive as provided by GC 55 CHANGE DIRECTIVES.
- .2 The method of determining the value of a Change shall be decided by the Engineer. The value of the Change shall be determined by one or more of the following methods:
 - (a) by unit prices or combinations of unit prices found in the "Schedule of Quantities and Prices" in Section 00 41 00 - Bid 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; and
 - (d) on a Force Account basis as specified in GC 56 FORCE ACCOUNT WORK.
- .3 Within five (5) Business Days of receipt of the Contemplated Change Notice, or within such other time period as may be agreed by the Parties, the Contractor shall present, in a form acceptable to the Engineer, a method of proposed adjustment or an amount of proposed adjustment to the Contract Price, if any, and the adjustment in Contract Time, if any, for the proposed Change.
- .4 Any written quotation for a Change submitted by the Contractor shall be interpreted:
 - (a) to represent the total adjustment to the Contract Price;
 - (b) to represent the total adjustment to the Contract Time;
 - (c) to include compensation for all costs related to the Change, including but not limited to costs for direct, indirect, office, overhead, surety, insurance and all other costs, mark-ups and profits; and
 - (d) to have considered all effects on the Contract Time and if there is no mention of Contract Time adjustment in the quotation to mean that the Contractor will implement and

complete the Change without any adjustment to the Contract Time, in which case the Change will not extend the Contract Time or entitle the Contractor to additional compensation or damages of any nature whatsoever for any scheduling issues or acceleration.

- .5 In the case of Changes proposed to be paid for in whole or in part by lump sum, the Contractor shall include a cost breakdown to substantiate or justify the Contract Price adjustment, in addition to any other documentation the Engineer or the Owner may require.
- .6 In the case of Changes to be paid for in whole or in part by unit rates or Force Account plus a fixed or percentage fee, the form of presentation of costs and methods of measurement shall be agreed to by the Engineer and the Contractor before proceeding with the Change. The Contractor shall keep accurate documentation of Quantities and costs for Changes, and present an account of the cost of the Change to the Engineer.
- .7 When the Engineer and the Owner agree to adjustments to the Contract Price or the Contract Time, or both, and the method to be used to determine the adjustments, a Change Order signed by the Engineer, the Owner and the Contractor shall be issued revising the Contract Price or the Contract Time, or both, as applicable. The value of Work performed as the result of a Change Order shall be included in Payment Certificate.
- .8 Administration of Changes to be paid for in whole or in part by Force Account plus a fixed or percentage fee, shall be in the manner set out in GC 56 FORCE ACCOUNT.
- .9 The Owner reserves the right to withdraw any Contemplated Change Notice without additional compensation to the Contractor if such withdrawal occurs prior to issuance of the Change Order.

GC 55. CHANGE DIRECTIVES

- .1 If the Owner requires the Contractor to proceed with a Change prior to the Owner and the Contractor agreeing upon the adjustment in Contract Price and Contract Time, the Owner, through the Engineer, may issue a Change Directive.
- .2 Upon receipt of a Change Directive, the Contractor shall proceed promptly with the Change and, in the case of an emergency identified in a Change Directive, proceed immediately with the Change.
- .3 An adjustment in the Contract Price for a Change carried out by way of a Change Directive shall be determined on the basis of Force Account in accordance with GC 56 FORCE ACCOUNT WORK.
- .4 If the method of valuation, measurement or corresponding increase or decrease in the Contract Price and Contract Time cannot be promptly agreed upon then, the Engineer in the first instance, shall determine the method of valuation, measurement and corresponding increase or decrease in the Contract Price and the Contract Time subject to final determination in the manner set out in PART 12 DISPUTE RESOLUTION.
- .5 In the case of a Dispute in the valuation of a Change Directive, and pending final determination of such value, the Engineer shall certify the value of Work performed in relation to the Change

Directive in accordance with the Engineer's evaluation of the Change Directive, and shall include that amount in a progress Payment Certificate.

- .6 If, at any time after the start of the Work directed by a Change Directive, the Owner and the Contractor reach agreement on the adjustment to the Contract Price and to the Contract Time, such agreement shall be recorded in a Change Order.

GC 56. FORCE ACCOUNT WORK

- .1 Compensation for Work done on a Force Account basis, authorized by a Change Order or Change Directive issued by the Engineer, shall be calculated as follows:
- (a) Labour - All classifications of labour not priced separately in the Bid Form will be paid for at rates actually paid by the Contractor. A payroll assessment of thirty percent (30%) of the hourly wage will be allowed to cover all costs including pension, holiday pay, payroll administration, insurance and similar benefits. Small tool allowance will be at the rate of four percent (4%) of gross cost of labour. The Contractor will be allowed a further ten percent (10%) mark-up on the total of the foregoing as the allowance for overhead and a further ten percent (10%) mark-up on the resulting subtotal as allowance for profit.
 - (b) Construction Equipment - The rates for equipment, vehicles and power tools shall include operator's wages, all maintenance and operating costs and Contractor's profit. No additional mark-up of Construction Equipment charges shall be allowed.
 - (c) Materials supplied by the Contractor shall be paid for at Supplier's invoice price plus an additional payment of ten percent (10%) of cost to cover handling and indirect overhead costs, plus ten percent (10%) of all costs including indirect overhead as profit.
 - (d) Construction Equipment rentals - The allowance to the Contractor for profit, superintendence, and all other expense related shall be ten percent (10%) of the rental agency's invoice to the Contractor for the rental of tools and miscellaneous equipment.
 - (e) For subcontract Work, the allowance to the Contractor for profit, superintendence, and all other expenses shall be ten percent (10%) of the Subcontractor's invoice for such Work performed.
- .2 In the event that, in its sole discretion, Engineer deems that, any or all prices and rates for Force Account that are included in the Bid Form are not fair and reasonable compared with normal industry standards, Engineer may order recalculation of any or all prices and rates based on the Contractor's actual costs, as provided for in GC 56.1 items (a) and (b).
- .3 For the purposes of calculating Force Account rates as provided for in GC 56.1 items (a) to (e), upon request by Engineer, Contractor shall submit a detailed and verifiable statement of actual cost of labour, Construction Equipment, Materials and subcontracted Work. Pending receipt of such statements, Engineer shall apply normal industry-standard Force Account rates discounted by 20% to facilitate inclusion of interim payments for Force Account in Payment Certificates, on an ongoing basis.

- .4 Subcontractor's Force Account invoices to the Contractor shall be calculated and submitted for review as described in GC 56.1 items (a) to (e), unless otherwise instructed by the Engineer.
- .5 On a daily basis, the Contractor shall keep an accurate, complete and up-to-date record in a form satisfactory to the Engineer, showing on a shift-by-shift basis, all Contractor and Subcontractor labour, Construction Equipment and Materials to be paid by Force Account. Daily Force Account records shall be submitted by the Contractor to the Engineer for review within one (1) Business Day of the subject Work being performed. The submission to the Engineer or countersignature by the Engineer of daily Force Account records shall not at any time be deemed to be an admission that the Work is properly chargeable to Force Account.
- .6 The Owner shall not be liable to pay for any Work based on Force Account for which the daily Force Account records were not prepared and submitted in accordance with GC 56.5.

GC 57. CONCEALED OR UNKNOWN CONDITIONS

- .1 Subject to GC 57.2, should one Party discover conditions at the Project Site which:
 - (a) are subsurface or otherwise inaccessible and concealed physical conditions, which existed before the commencement of the Work, and which differ materially from those reasonably inferable from or indicated in the Contract Documents or studies, reports and other site data referenced therein; and
 - (b) materially affect the cost of the Work or the time required to perform the Work, then the discovering Party shall provide Notice to the other Party within one (1) Business Day of discovering such conditions and, in any case, before such conditions are disturbed.
- .2 Physical conditions which are not visible but which are a logical extension, or part of a visible physical condition, and physical conditions which can be reasonably accessed for observation, shall not be considered as concealed for the purposes of GC 57.
- .3 The Engineer shall promptly investigate and make a determination as to whether the conditions fit within the parameters described in GC 57.1.
- .4 If the determination is that the conditions:
 - (a) fit within the parameters described in GC 57.1 and the performance of the Work with such conditions being present requires a Change that increases or decreases the Contract Price or the Contract Time, or both, then a Change Order or a Change Directive, as applicable, shall be issued to deal with the consequences of the conditions; or
 - (b) do not fit within the parameters described in GC 57.1 or do fit within the parameters described in GC 57.1 but do not cause an increase or decrease in the Contract Price or Contract Time, or both, the Engineer shall provide Notice of such determination to both the Owner and the Contractor.
- .5 If either Party wishes to make a Claim that the Contract Time or Contract Price should be adjusted because of concealed or unknown conditions then such Party shall give the other Party and the Engineer Notice of such Claim immediately after that Party first becomes aware of the

concealed or unknown condition. No adjustment of Contract Price or Contract Time shall be allowed for any Work undertaken prior to the delivery of such Notice.

- .6 If either Party gives Notice of concealed or unknown conditions pursuant to GC 57.1, then as part of the Work the Contractor shall keep daily records in accordance with the requirements of GC 58 CLAIMS.

PART 12 DISPUTE RESOLUTION

GC 58. CLAIMS

- .1 If the Contractor intends to make a Claim for an extension of Contract Time or for an increase to the Contract Price, or if the Owner intends to make a Claim against the Contractor for a credit to the Contract Price, the Party that intends to make the Claim shall give timely Notice in writing of intent to Claim to the other Party and to the Engineer.
- .2 Upon commencement of the event or series of events giving rise to a Claim, the Party intending to make the Claim shall:
- (a) take all reasonable measures to mitigate any delay, loss or expense which may be incurred as a result of such event or series of events, and
 - (b) keep such records as may be necessary to support the Claim.
- .3 The Party giving Notice of intent to make a Claim shall submit to the Engineer a detailed account of the amount claimed and the grounds upon which the Claim is based, within a reasonable time.
- .4 Where the event or series of events giving rise to the Claim has a continuing effect, the detailed account submitted pursuant to GC 58.3 shall be considered to be an interim account and the Party making the Claim shall, at such intervals as the Engineer may reasonably require, submit further interim accounts giving the accumulated amount of the Claim and any further grounds upon which it is based. The Party making the Claim shall submit a final account after the end of the effects resulting from the event or series of events.
- .5 The Engineer's findings, with respect to a Claim made by either Party, will be given by Notice in writing to both Parties within thirty (30) Business Days after receipt of the Claim by the Engineer, or within such other time period as may be agreed by the Parties.
- .6 If such finding is not acceptable to either Party, the Claim shall be settled in accordance with this PART 12 DISPUTE RESOLUTION.

GC 59. APPLICABLE TO ALL DISPUTES

- .1 In the event of a Dispute, the Contractor shall abide by the Engineer's decision with respect to the Dispute, proceed diligently with the Work without prejudice to the Contractor's right to advance any Claim it may wish to assert with respect to the Dispute and track all costs and impacts associated therewith.

- .2 The Contractor shall not delay the Work or any portion of the Work, nor shall there be any extension of Contract Time solely on account of any Dispute Resolution pursuant to this PART 12 – DISPUTE RESOLUTION.
- .3 Disputes between the Parties relating to or arising out of the Contract shall be settled in accordance with PART 12 DISPUTE RESOLUTION. No legal action shall be taken or maintained without these provisions having been complied with, except to the extent that such legal action is necessary to:
 - (a) preserve a right or commence a Claim that would otherwise be barred by statute or another agreement if such legal action is not commenced or maintained; or
 - (b) obtain injunctive relief.

GC 60. NEGOTIATION

- .1 A Party seeking resolution of a Dispute shall commence the negotiation process by serving a Notice requiring negotiation of the Dispute on the other Party and the Engineer. The date of delivery, or deemed date of delivery, as the case may be, is referred to in PART 12 DISPUTE RESOLUTION as the “Negotiation Notice Date”. The Notice shall describe the Dispute and reference any time or money claimed and reference all of the provisions of the Contract that are relied on in relation to the Dispute.
- .2 The Parties shall meet in person for the purpose of negotiating a resolution of the Dispute within fifteen (15) Business Days of the Negotiation Notice Date. Failure to meet within this time period means that, subject to the Parties otherwise agreeing, the negotiation will be deemed complete and either Party can immediately commence mediation in accordance with GC 61 MEDIATION.
- .3 Each of the Parties shall discuss the Dispute in a professional and amicable manner and negotiate in good faith. The Parties agree to use all reasonable efforts to resolve any Dispute, whether arising during the existence of this Contract or at any time after the expiration or termination of this Contract, which touches upon the validity, construction, meaning, performance or effect of this Contract or the rights or liabilities of the Parties or any matter arising out of, or in connection with this Contract.
- .4 Disputes that are resolved by negotiation shall be formally concluded with a binding agreement between the Owner and the Contractor, executed within thirty (30) Business Days of the Negotiation Notice Date, stating the details of the resolution. Disputes that are not fully concluded in this manner will proceed to mediation, or otherwise, pursuant to GC 60.6.
- .5 All meetings and communications during the negotiation are without prejudice and cannot be used in evidence in any proceeding. The Parties shall treat the negotiation as confidential and neither of the Parties shall disclose any part of the negotiation to any third party, except for the sole purpose of dealing with the Dispute.
- .6 In the event that the Parties cannot resolve the Dispute within thirty (30) Business Days of the Negotiation Notice Date, then, subject to the Parties otherwise agreeing, the Parties shall participate in mediation in accordance with GC 61 MEDIATION.

GC 61. MEDIATION

- .1 If the negotiation process provided for in GC 60 NEGOTIATION is initiated but a Dispute is not resolved within thirty (30) Business Days from the Negotiation Notice Date or the negotiation is deemed complete pursuant to GC 60.2 NEGOTIATION either Party is entitled by Notice to the other Party to call for the appointment of an individual to act as a mediator. The date of delivery, or deemed date of delivery, as the case may be, is referred to in GC 61 as the “Mediation Notice Date”.
- .2 Within fifteen (15) Business Days of the Mediation Notice Date, the Parties shall jointly nominate a mediator. The cost of the mediator shall be shared equally between the Parties. The mediator will be instructed to render invoices at monthly intervals. The Owner shall fully pay the mediator for services rendered upon presentation of an invoice by the mediator and deduct the Contractor’s share from payments otherwise due to the Contractor. In the event that there are no payments due to the Contractor, the Owner shall invoice the Contractor for the Contractor’s share of the cost of the mediator.
- .3 The Parties shall submit their positions relating to the Dispute in writing to the mediator and afford to the mediator access to all Records, documents and information the mediator may reasonably request. The Parties shall meet with the mediator at such reasonable times as may be required and shall, as facilitated by the mediator, negotiate in good faith to resolve the Dispute. All meetings and communications with or involving the mediator are without prejudice and cannot be used in evidence in any proceeding. The Parties shall treat the mediation as confidential and neither of the Parties shall disclose any part of the mediation to any third party, except for the sole purpose of dealing with the Dispute.
- .4 If the Dispute has not been resolved within forty (40) Business Days of the Mediation Notice Date then, subject to the Parties otherwise agreeing, the mediation shall be deemed to have been concluded.
- .5 Once the mediation is concluded, or deemed to be concluded, any Dispute not settled may be litigated in accordance with the Law.
- .6 If a mediator is not appointed within fifteen (15) Business Days of the Mediation Notice Date, the non-cooperating Party will be deemed to have agreed to arbitration by a sole arbitrator and the Party who gave the Notice to appoint a mediator may initiate arbitration proceedings pursuant to the ADR Institute of Canada Inc. ADRI Arbitration Rules in effect at the date the arbitration proceedings are initiated. The arbitration shall be conducted in the jurisdiction of the Project Site.

PART 13 INDEMNIFICATIONS AND WARRANTY

GC 62. INDEMNIFICATIONS

- .1 The Contractor shall at all times and without limitation, be fully liable for, and shall indemnify and save harmless the Owner and its Personnel, including the Engineer, from and against all liabilities, losses, injuries, costs, damages, legal fees and disbursements on a solicitor and own client basis, disbursements, fines, penalties, expenses, all manner of actions, causes of action, claims, demands and proceedings, all of whatever nature and kind, which any of the Owner and its Personnel, including the Engineer, may sustain, pay or incur or which may be brought or made

against all or any of them, and whether or not incurred, in connection with any action or other proceedings or claims or demands made by third parties, relating to, or resulting from or arising out of all or any of the following:

- (a) the misconduct, negligent action or negligent failure to act, as the case may be, of the Contractor or any of those Persons for whom the Contractor is responsible at Law (including, without limitation, any of its Personnel or Subcontractors);
 - (b) the costs of repairs, clean-up or restoration paid by the Owner and any fines levied against the Owner or the Contractor;
 - (c) any breach, violation or non-performance of any representation, warranty, obligation, covenant, condition or agreement in this Contract set forth and contained on the part of the Contractor to be fulfilled, kept, observed or performed, as the case may be;
 - (d) any damages to third parties caused by, resulting at any time from, arising out of or in consequence of the misconduct, negligent action or failure to act of the Contractor or any of those Persons for whom the Contractor is responsible at Law (including, without limitation, any of its Personnel or Subcontractors);
 - (e) any damages, costs, fines, expenses and penalties that the Owner is required to pay on account of the Contractor performing the Work in breach of any Workers Compensation Legislation order or regulation; or
 - (f) any damages, costs, fines, expenses and penalties arising out of or as a result of the Contractor's failure, or the failure of any Person for whom the Contractor is responsible at Law, to comply with the requirements of GC 34 TOXIC OR HAZARDOUS SUBSTANCES.
- .2 The provisions in GC 62 are in addition to and shall not prejudice any other rights of the Owner at Law or in equity.
- .3 The Owner shall indemnify and hold harmless the Contractor and its Personnel from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of the Contractor's performance of the Contract which are attributable to a lack of or defect in title to the Project Site.
- .4 If the Owner performs work at the Project Site at the same time as the Contractor is performing the Work, then the Owner shall indemnify and hold harmless the Contractor and its Personnel from and against claims, demands, losses, costs, damages, actions, suits or proceedings by third parties that arise out of or are attributable to, any act or omission or alleged act or omission of the Owner and its Personnel in the performance of that work.
- .5 If it becomes necessary for the Owner or its Personnel, including the Engineer, to take or to become involved in any action, including but not limited to legal proceedings, to enforce any term of this Contract, the Contractor shall be liable for and will pay to the Owner and its Personnel, including the Engineer, all costs, including but not limited to legal fees and disbursements on a solicitor and own client basis, incurred by the Owner and its Personnel, including the Engineer, in relation to the action to enforce any term of this Contract.

GC 63. WARRANTY

- .1 The Contractor warrants that the Work, including all workmanship, labour, Materials and equipment supplied by the Contractor, either directly or indirectly, and incorporated into the Work, shall comply in all respects with this Contract and shall be free from Deficiencies.
- .2 Subject to GC 63.3, the Warranty Period with regard to the Work shall be the longer of:
 - (a) one year from the date of Substantial Performance of the Work, for any Materials or portions of the Work which are supplied or completed before Substantial Performance of the Work is attained, unless a longer period is specified in the Contract Documents for such Materials or portions of the Work;
 - (b) one year from the date of Total Performance of the Work, for any Materials or portions of the Work which are supplied or completed after Substantial Performance of the Work is attained, unless a longer period is specified in the Contract Documents for such Materials or portions of the Work;
 - (c) one year from the date of Total Performance of the Work if some Work is excluded from the Substantial Performance of the Work assessment, where permitted by the Lien Act in effect at the Project Site, because a portion of the Work cannot be completed expeditiously for reasons beyond the control of the Contractor; and
 - (d) where a period longer than that described in GC 63.2(a) or GC 63.2(b) is specified in the Contract Documents, then that period specified in the Contract Documents shall apply from the date specified in the Contract Documents or, if no date is specified, from the date of Total Performance of the Work.
- .3 Where Warranty Work is performed, regardless of the initial Warranty Period, the Warranty Period shall recommence for that Warranty Work for the same period as initially contemplated commencing on the date of completion of the Warranty Work.
- .4 The Contractor shall promptly perform the Warranty Work, at the Contractor's expense, for all Deficiencies which appear prior to and during the Warranty Period for which the Contractor is provided Notice by the Owner or the Engineer no later than thirty (30) Business Days after the end of the Warranty Period.
- .5 All Warranty Work carried out by the Contractor shall be performed during periods of time acceptable to the Owner.
- .6 The Contractor shall ensure that any Warranty Work which is of an emergency nature, as reasonably determined by the Owner, is performed immediately upon receipt of Notice from the Owner or the Engineer.

PART 14 CONFIDENTIALITY AND FREEDOM OF INFORMATION

GC 64. CONFIDENTIALITY

- .1 The Contractor shall:
 - (a) hold, and shall take all reasonable steps to ensure that any Person employed, engaged or contracted by it holds all Confidential Information in strict confidence;
 - (b) not use, and shall take reasonable steps to ensure that any Person employed, engaged or contracted by it does not use any Confidential Information other than to perform the Work;
 - (c) not disclose, and shall take reasonable steps to ensure that any Person employed, engaged or contracted by it does not disclose, any Confidential Information to anyone other than those Persons engaged to perform the Work and then only to the extent that such Confidential Information is directly required to be disclosed in order to properly perform the Work; and
 - (d) not disclose, and shall take reasonable steps to ensure that any Person employed, engaged or contracted by it does not disclose any Confidential Information to any third party at any time during or subsequent to the duration of this Contract.
- .2 The obligations set forth in GC 64.1 apply to any and all Confidential Information except that which:
 - (a) is required to be disclosed by applicable Law; or
 - (b) subject to the applicable Law, is in the public domain or is provided to its financial and legal advisors in confidence.
- .3 The Contractor agrees that it shall not include any reference to the Owner, the Work or the Project in any advertisement, public announcement or statement, or promotional materials without the prior written consent being obtained from the Owner.

PART 15 INTELLECTUAL PROPERTY AND TITLE TO THE WORK

GC 65. INTELLECTUAL PROPERTY

- .1 The Contract Documents and models provided by the Engineer in any format are to be used only with respect to the Project and are not to be used for other work and are not to be copied or altered in any manner without the prior written authorization of the Engineer and the Owner.
- .2 The Contractor shall indemnify and hold harmless the Owner, its Personnel, agents and consultants, including the Engineer, from any and all claims arising out of or as a result of an infringement or an alleged infringement of a copyright, or a trademark, patent or invention used or incorporated into the Work by the Contractor, the Subcontractors, or any Person for whom the Contractor is responsible for at Law.

- .3 Subject to any limitations of liability expressly provided for in this Contract and any Law, the Owner shall, to the extent it can provide an indemnity in accordance with the Law, indemnify the Contractor against claims arising out of or as a result of an infringement or an alleged infringement of a patent relating to a model, plan, equipment or design which was provided to the Contractor by the Owner as part of the Contract Documents.

GC 66. BUILDERS LIENS AND TITLE TO THE WORK

- .1 The Contractor shall remove or cause to be removed all affidavits of claim of lien, claims of lien or liens filed or registered against the lands and premises on which the Work is being performed or has been 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. Upon receiving satisfactory security for its costs and a suitable indemnity, the Owner will authorize the Contractor to apply to the Court in the name of the Owner to have the affidavits of claim of lien, claims of lien or liens removed from the title to the lands upon payment into Court.
- .2 Notwithstanding anything elsewhere contained in the Contract Documents, the Contractor shall indemnify and hold harmless the Owner against and from all demands, damages, costs, losses and actions arising in any way out of claims of lien or liens which arise out of anything done or to be done under the Contract.
- .3 The obligations imposed on the Contractor by the provisions of GC 66 shall not extend to claims of lien or liens properly filed by the Contractor himself.
- .4 The Contractor warrants that title to all of the Work and other matters or things produced for the benefit of the Owner shall be free of all claims.
- .5 Title to all Materials shall, unless otherwise agreed in writing, vest in the Owner absolutely upon delivery to the Project Site or upon payment therefore, whichever shall first happen. All Materials shall remain at the risk of the Contractor until incorporated in the Work and Total Performance of the Work is achieved. Title to any Materials which are rejected by the Engineer or are ordered by him to be removed from the Project Site for any reason shall revert in the Contractor immediately upon receipt of Notice of rejection or order for removal.
- .6 The Contractor warrants that Materials delivered to the Project Site shall:
- (a) not be removed from the Project Site or changed except with the prior written authorization of the Owner; and
 - (b) at all times be kept secure.

GC 67. RECORDS

- .1 The Contractor shall:
- (a) maintain full Records of the estimated and actual costs of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto. The Contractor shall maintain daily Records of the time, materials and

equipment employed on the Work. Daily Records shall allocate the time, materials and equipment spent on each activity performed in a day to a description of that activity;

- (b) preserve the Records for the Work during the term of the Contract and for a period of at least 3 years after Total Performance of the Work;
- (c) make all Records and material referred to in GC 67.1(a) available to audit and inspection by the Owner and by Persons acting on behalf of the Owner when requested;
- (d) allow any of the Persons referred to in GC 67.1(c) to make copies of and to take extracts from any of the Records and material referred to in GC 67.1(a); and
- (e) provide any Person referred to in GC 67.1(c) with information that may be required from time to time in connection with such Records and material.

END OF DOCUMENT

MODIFICATIONS TO GENERAL CONDITIONS

The General Conditions are hereby revised as follows:

GC 1 DEFINITIONS

Replace “Contract Price” with the following:

"**Contract Price**" means, if the Contract is on the basis of a stipulated or lump sum, the lump sum price stated in Section 00 42 00 – Proposal Form, as may be adjusted by Change Orders or Change Directives. If the Contract calls for payments on a unit price basis whether including lump sums or not, Contract Price shall mean the product of the units of Work actually performed and the appropriate unit prices plus the total of the lump sums prices all as stated in Section 00 42 00 – Proposal Form, and all as may be adjusted by Change Orders or Change Directives.

GC 2 INTERPRETATION AND GENERAL PROVISIONS

Replace the word “bid” with “Proposal”

GC 4 PRECEDENCE OF DOCUMENT FOR INTERPRETATION

Replace the word “Bid” with “Proposal” and “Bidder” with “Proponent”

GC 27 SUPERINTENDENT AND KEY PERSONNEL

Replace the word “Bidder” with “Proponent”. Delete phrase “Section 00 45 13” where it appears.

GC 39 QUANTITIES

Replace “bid” with “Proposal”

GC 54 CONTEMPLATED CHANGE NOTICES AND CHANGE ORDERS

Delete “00 41 00 – Bid Form” and Replace with “00 42 00 – Proposal Form”

GC 56 FORCE ACCOUNT WORK

Replace “Bid” with “Proposal”

GC 21. LAYOUT OF THE WORK

Delete GC 21 LAYOUT OF THE WORK in its entirety and replace with:

GC 21. LAYOUT OF THE WORK

- .1 The Engineer shall establish reference points for construction and lay out the Work as necessary for the Contractor to proceed with the Work.

- .2 The Contractor shall Supply the Engineer with all stakes, batter boards, straight edges, and other materials, with the exception of technical instruments and apparatus, required by the Engineer to set out lines and levels for the Work.
- .3 The Contractor shall Supply the Engineer with competent worker(s), as required, to assist in the setting of lines and levels for the work.

GC 37. PROGRESS PAYMENTS

Add the following to GC 37.2:

- (g) The total value of Materials stored at the site awaiting incorporation into the Work.

Delete GC 37.8 in its entirety and replace with:

- .8 The Contractor shall provide Supplier's invoice, or Subcontractor's invoice supported by their supplier's invoice, to establish the value of Materials to be included in the Payment Certificate as provided for in GC 37.2 (g). The Engineer shall not include the value of any Materials stored away from the Project Site or of any Materials stored on the site for which supporting documents have not been received from the Contractor in any Payment Certificate. The Engineer shall not delay finalization of the Payment Certificate pending receipt from the Contractor of supporting documents to establish the value of Materials stored on site.

Delete GC 37.9 in its entirety and replace with:

- .9 Subject to GC 44 WITHHOLDING OF PAYMENT AND SET OFF, the Owner shall make payment to the Contractor of amounts due by the Owner no later than [] Business Days after the receipt by the Owner of the Payment Certificate as issued by the Engineer.

GC 47. DELAY

Delete GC 47.4 (c) in its entirety and replace with the following:

- (c) be supported by a Contemporaneous Period Analysis; and
- (d) be provided as a separate Notice.

GC 48. LATE COMPLETION

Add GC 48.4 as follows:

- .4 The pre-estimate of the Owner's additional costs pursuant to GC 48.1 shall be \$500per Working Day.

GC 56. FORCE ACCOUNT WORK

Delete GC 56.1 (b) in its entirety and replace with the following:

- (b) Equipment - The rates for equipment, vehicles, and power tools shall include operator's wages and fringe and other benefits, all maintenance and operating costs. Compensation

will be paid at the rates listed in the latest edition of The Province of British Columbia, B.C. Government “Blue Book”, Equipment Rental Rates.

GC 63. WARRANTY

Delete all references to one (1) year Warranty Period and replace with two (2) year Warranty Period.

ADDITIONAL GENERAL CONDITIONS

The following General Conditions are hereby added:

GC68. OCCUPATIONAL HEALTH AND SAFETY

Contractor shall comply with the provisions of the Occupational Health and Safety Act, SA 2017 c O-2.1, and amendments thereto and regulations thereunder or any successive legislation, and shall at all times ensure that all subcontractors at the Site shall comply with the requirements of the said Act and regulations thereunder. Contractor shall be the general representative and agent to Owner for the purposes of insuring compliance with safety regulations for both itself and subcontractors. Contractor shall bring to the attention of subcontractors the provisions of the Occupational Health and Safety Act and regulations thereunder.

For the purposes of the project, Contractor is assigned the role of Prime Contractor for the Site and is responsible for ensuring compliance with the Occupational Health and Safety Act by all employers and employees on the Site.

Contractor shall have either full certification in the Alberta Labour approved “Certificate of Recognition” (C.O.R.) Program appropriate to their industry or a Temporary Letter of Certification (T.L.C.) issued by the Alberta Construction Safety Association or other appropriate industry association.

Add the following:

GC69. CANADIAN ANTI-SPAM LEGISLATION

- .1** In accordance with Canadian anti-spam legislation, each Party consents to contacting the other Party and its personnel through electronic messages relating to the Project. Following completion of the Project, either Party may withdraw consent by contacting the other Party.

Add the following:

GC70. COVID-19 PANDEMIC

- 1. COVID-19 PANDEMIC** – The Contractor and the Owner acknowledge the presence of the COVID-19 virus in Canada, and other jurisdictions forming part of the supply chain for materials and labour required for the Project (the “**COVID-19 Pandemic**”).

2. **KNOWN IMPACTS** – The consequences and impacts of the COVID-19 Pandemic existing as of the date of this Agreement including, without restriction:
- (a) orders, directives and recommendations of any Government Authority issued up to and including the date of this Agreement, and respecting public health or other requirements related to response to and prevention of infection by the COVID-19 virus;
 - (b) impacts to availability of labour or Materials required in order to carry out the Work, arising from the COVID-19 Pandemic;
 - (c) any the impacts of self-isolation/quarantine or regulated quarantine as regulated by the Province;
- (the “**Known Impacts**”), are known to the Contractor and to the Owner, have been accounted for by the Contractor within the Construction Schedule, as well as the Contract Price.
3. Without restricting any of the foregoing, and notwithstanding anything contained within the Construction Contract, the Contractor and the Owner covenant and agree as follows:
- (a) **Known Impacts** – the Contractor shall not be entitled to any Claims for changes to the Contract Schedule, or Claims for compensation, due to any Known Impacts;
 - (b) **No Reimbursement** – the Contractor shall not be entitled to any reimbursement of any costs, damages, losses and expenses incurred by the Contractor necessitated by a suspension or delay under GC 23 SUSPENSION OF WORK BY OWNER, where the suspension is due to a compliance with any order, directive or recommendation of any Government Authority related to the COVID-19 Pandemic, and/or due to any Known Impacts of the COVID-19 Pandemic;
 - (c) **No Suspension** – notwithstanding anything contained within GC 23 SUSPENSION OF WORK BY OWNER, a suspension of the Work because of a compliance with any order, directive or recommendation of any Government Authority related to the COVID-19 Pandemic, and/or because of any Known Impacts of the COVID-19 Pandemic, whether ordered by the Owner or the Engineer or not, shall not be deemed to be a suspension of the Work within the meaning of GC 23 SUSPENSION OF WORK BY OWNER;
 - (d) **Delay** – in the event that a “stop work” or similar order is issued by a court of Governmental Authority as a result of the COVID-19 Pandemic and provided that such order was not issued as the result of an act of fault of the Contractor or any Person for whom the Contractor is responsible at Law, the Owner may, acting reasonably but at its sole and absolute discretion, may extend the Contract Time by the number of Business Days from the date of an issuance of any stop work order to the issuance of a notice to proceed. , other than the foregoing and notwithstanding anything contained within GC 47 DELAY, no extension of the Contract Time shall be made and no adjustment in the Contract Price shall be made for any delay caused by a compliance with any order, directive or recommendation of any Government Authority related to the COVID-19 Pandemic, and/or caused by any Known Impacts of the COVID-19 Pandemic, whether ordered by the Owner or the Engineer or not, shall not be deemed to be a suspension of the Work within the meaning of GC 23 SUSPENSION OF WORK BY OWNER;
 - (e) **No Claims from Extensions Granted** – notwithstanding anything contained within GC 47 DELAY or GC 73.3(d) Delay, unless otherwise agreed to by the Owner, the granting of an

- extension of the Contract Time due to compliance with any order, directive or recommendation of any Government Authority related to the COVID-19 Pandemic, and/or due to any Known Impacts of the COVID-19 Pandemic, shall not give the Contractor grounds to make any Claims whatsoever for additional payment;
- (f) **No Cumulative Effect** – notwithstanding anything contained within GC 47 DELAY, no extension of Contract Time shall be made and no adjustment in the Contract Price shall be made for any delay Claim that is based on the concept of the cumulative effect of orders, directives or recommendations of any Government Authority related to the COVID-19 Pandemic, and/or due to any Known Impacts of the COVID-19 Pandemic;
- (g) **Self-Isolation/Quarantine** – the Contractor shall not be entitled to any Claims for changes to the Contract Time, or Claims for compensation, due to any requirement that an employee of the Contractor or any Subcontractor are required to self-isolate or quarantine as a result of diagnosis or potential diagnosis as being COVID-19 positive;
- (h) **Contractor Termination** – the Contractor shall not be entitled to terminate this Agreement pursuant to GC 50 CONTRACTOR’S RIGHT TO TERMINATE FOR DEFAULT, and/or GC 23 SUSPENSION OF WORK BY OWNER, in the event that Work is stopped or delayed pursuant to GC 23 SUSPENSION OF WORK BY OWNER, where the suspension is due to an order, directive or recommendation of any Government Authority related to the COVID-19 Pandemic, and/or due to any Known Impacts of the COVID-19 Pandemic;
- (i) **Claims** – any Claims for adjustment in the Contract Price that is based on the impact of orders, directives or recommendations of any Government Authority related to the COVID-19 Pandemic, and/or due to any Known Impacts of the COVID-19 Pandemic, shall be net of any and all compensation schemes, support programs, or other financial aids made available by any Government Authority, and any and all entitlements of the Contractor and any Subcontractor, together with their respective employees, under any such compensation schemes, support programs, or other financial aids; and
- (j) **Mitigation** – notwithstanding anything contained within the Construction Contract, the Contractor’s mitigation plan respecting the Known Impacts from the COVID-19 Pandemic will include the following:
- (i) _____
- (ii) _____
- (iii) _____

GC 71, MATERIALS, EQUIPMENT AND WORKMANSHIP

Add GC 4.5 as follows:

Under the provisions of the Collective Agreement Article 31.02 (b) (between the City and C.U.P.E. Local 118) contracted employees engaged by the City of Port Alberni are to “receive wages and conditions of employment at least equal to the terms” of the current C.U.P.E Collective Agreement. Contractor’s shall list all current wage rates in the “Contractor’s Questionnaire” included in this tender package.

The City may request a random check of wages paid to employees. Failure to adhere to the confirmed wage rates may be considered to be a breach of contract.

The City may withhold funds equal to the value of wages not paid and require confirmation that the situation has been rectified.

Fill out Contractor's Questionnaire at the end of this Section.

END OF DOCUMENT

Without limiting any of Contractor's obligations or liabilities under the Contract Documents, Contractor shall, and shall cause its Subcontractors to, obtain and continuously carry, while Work is being performed and, unless otherwise specified in this Section, while any remedial or warranty work is being undertaken, at Contractor's own expense and cost, the following insurance coverage with minimum limits not less than those stated:

Commercial General Liability Insurance

Commercial General Liability Insurance, in a form acceptable to Owner, with limits of not less than \$5,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof.

Commercial General Liability policy shall include the following:

- a. Additional Insured: Owner and Engineer are added as additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract.
- b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
- c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
- d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
- e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
- f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
- g. Employees must be included as Additional Insured.
- h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
- i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
- j. Notice of Cancellation: The Insurer will provide the Owner thirty (30) days written notice of policy cancellation.
- k. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
- l. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
- m. All Risks Tenants Legal Liability - to protect the Contractor for liabilities arising out of its occupancy of leased premises.
- n. Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

Automobile Insurance (Owned and Non-Owned)

Automobile Liability Insurance in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence., covering death and damage to property, effective for all licensed vehicles owned, leased, rented or used by Contractor.

The policy shall include the following:

- a. Third Party Liability - \$2,000,000 Minimum Limit per Accident or Occurrence
- b. Accident Benefits - all jurisdictional statutes
- c. Uninsured Motorist Protection
- d. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation

Contractors' Equipment Insurance

"All-Risk" Contractors' Equipment Insurance to the full insurable value of construction machinery and equipment used by Contractor in the performance of Work, including boiler insurance for temporary boilers and pressure vessels as applicable.

Builders Risk Insurance

"All-Risks" Course of Construction Insurance in the joint names of Contractor, Owner and Engineer, with the subcontractors as unnamed insureds, insuring not less than one hundred and ten percent (110%) of the sum of the amount of the Contract Price and the full value of materials provided by the Owner for incorporation into Work, with a deductible not exceeding \$5000.00. Such coverage to contain sublimits for materials in transit and materials stored at unnamed locations. Builders Risk Insurance shall be obtained and carried until Total Performance of the Work.

Unmanned Aerial Vehicle Liability Insurance

Unmanned aerial vehicle liability insurance with respect to owned or non-owned aircraft (if used directly or indirectly in the performance of the Work), shall have limits of not less than \$5,000,000 per occurrence or accident for bodily injury, death and damage to property or such amounts as required by applicable laws or regulations.

[Aircraft and Watercraft Liability Insurance]

[Aircraft and Watercraft Liability Insurance with respect to owned and non-owned aircraft and watercraft, if used directly or indirectly in the performance of Work, with coverage limits of not less than \$3,000,000.00 inclusive per occurrence for bodily injury, death and damage to property, including loss of use thereof and limits of not less than \$3,000,000 for aircraft passenger hazard.]

All policies of insurance shall be in a form acceptable to Owner and shall not allow subrogation claims by the insurer against Owner or Engineer.

All policies of insurance that Contractor is required to obtain will be considered as primary insurances in relation to insurances held by Owner or Engineer without any right of contribution from any policies of insurance held by Owner or Engineer.

All policies of insurance shall provide that at least 30 days prior written notice be given to Owner in the event of cancellation or amendment restricting coverage.

Prior to commencing Work, Contractor shall provide Owner with Certificates of Insurance in a form acceptable to Owner, and with a letter from the insurer stating that the insurance provided complies with the requirements of the Contract.

Deductibles, if any, which are applicable to the insurance specified herein, shall be borne by Contractor.

The specified limits of insurance and coverages in no way define or limit the obligation of Contractor to indemnify Owner in the event of loss.

Owner makes no representation or warranty with respect to the extent or adequacy of the insurance protection afforded by the insurance policies that are specified in this section. Contractor shall be fully responsible to determine additional insurance coverages that may be necessary and advisable for protection of Contractor or to fulfil Contractor's obligations under this Contract.

END OF DOCUMENT

Part 1 General

1.1 SUMMARY OF WORK

.1 Requirements Included

- .1 Title and description of work: The work involves removal of all sludge from the former municipal wastewater lagoon, sludge on-site dewatering, and deposition of the dewatered sludge to specified site.
- .2 Contract method: combination of lump sum and unit price items.
- .3 Owner's occupancy: The adjacent municipal lagoon is in operation, and Owner's staff will require access to the site throughout the Work.

.2 Drawings and Specifications Furnished

- .1 Owner will provide three (3) copies of 11x17 drawings and specifications to Contractor.
- .2 Additional copies of drawings and specifications are available upon request at an additional cost.
- .3 Maintain at Site one complete set of drawings and specifications. Make available to Engineer at any time.

1.2 PROJECT COORDINATION

- .1 Coordinate progress of the Work, progress schedules, submittals, use of site, temporary utilities, construction facilities and controls.

1.3 HOURS OF WORK

- .1 Perform Work in conformity with all municipal bylaws with respect to noise control, hours of work, night work and holiday work.
- .2 Obtain written permission of Engineer before undertaking holiday work or night work.

1.4 RELICS AND ANTIQUITIES

- .1 Relics and antiquities and items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found on site or in buildings to be demolished, remain property of Owner. Protect such articles and request directives from Engineer.
- .2 Notify Engineer immediately if evidence of archaeological finds is encountered and await Engineer's written instructions before proceeding with work in area.

1.5 CUTTING AND PATCHING

.1 Approvals

- .1 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of any element of Project.

- .2 Integrity of weather-exposed or moisture-resistant elements.
- .3 Efficiency, maintenance, or safety of any operational element.
- .4 Visual qualities of sight-exposed elements.
- .5 Work of Owner or separate contractor.
- .2 Inspection
 - .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
 - .2 After uncovering, inspect conditions affecting performance of work.
 - .3 Beginning of cutting or patching means acceptance of existing conditions.
- .3 Execution
 - .1 Perform cutting, fitting, and patching including excavation and fill, to complete the Work.
 - .2 Remove and replace defective and non-conforming work.
 - .3 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical work.
 - .4 Perform Work to avoid damage to other work.
 - .5 Prepare proper surfaces to receive patching and finishing.
 - .6 Perform cutting and patching for weather-exposed and moisture-resistant elements and sight-exposed surfaces equivalent to original or better.
 - .7 Cut rigid materials using power saw or core drill. Pneumatic or impact tools not allowed.
 - .8 Restore work with new products in accordance with Contract Documents.
 - .9 Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - .10 Refinish surfaces to match adjacent finishes; for continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

1.6 FIELD ENGINEERING

- .1 Survey Requirements
 - .1 Provide qualified surveyor, acceptable to Owner.
 - .2 Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
 - .3 Establish two permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
 - .4 Establish lines and levels, locate and lay out, by instrumentation.
- .2 Records
 - .1 Maintain a complete, accurate log of control and survey work as it progresses.
 - .2 Upon completion of foundations and major site improvements, prepare certified survey showing dimensions, locations, angles and elevations of Work.
- .3 Subsurface Conditions

- .1 Promptly notify Engineer in writing if subsurface conditions at Place of the Work differ materially from those indicated in Contract Documents, or reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should Engineer determine that conditions do differ materially, instructions will be issued for changes in the Work as provided in the contract procedures for Changes in the Work.

1.7 PROJECT MEETINGS

- .1 Administrative
 - .1 Schedule and administer project progress meetings at call of Engineer.
 - .2 Distribute written notice of each meeting four days in advance of meeting date to Engineer and Owner.
 - .3 Provide physical space and make arrangements for meetings.
 - .4 Record minutes. Include significant proceedings and decisions. Identify 'action by' parties.
 - .5 Reproduce and distribute copies of minutes within three days after each meeting and transmit to meeting participants.

1.8 SUBMITTALS

- .1 Administrative
 - .1 Submit to Engineer for review the submittals listed. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in Work.
 - .2 Work affected by submittal shall not proceed until review is complete.
 - .3 Review submittals prior to submission to Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and Contract Documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and will be considered rejected.
 - .4 Verify that field measurements and affected adjacent Work are coordinated.
 - .5 Adjustments made on submittals by Engineer are not intended to change the scope of work. If adjustments affect the value of Work, state such in writing to Engineer prior to proceeding with the work.
- .2 Shop Drawings and Product Data
 - .1 The term "Shop Drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
 - .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of Work.
 - .3 Make changes in shop drawings as Engineer may require.
 - .4 Contractor's responsibility for errors and omissions in submission is not relieved by Engineer's review of submittals.

- .5 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Engineer's review.
- .6 Keep one reviewed copy of each submission on Site.
- .7 Detail all shop drawings using the metric system. Prepare to a drafting standard equivalent to that of Contract drawings.
- .8 Engineer will supply a Shop Drawing Review Stamp. Stamp all transparencies and copies of shop drawings submitted for review.
- .9 Fill in the following information on the Shop Drawing Review Stamp on each shop drawing prior to submitting the drawing to the Engineer:
 - .1 Associated Engineering Job. No. -- "2017-2972"
 - .2 Drawing Number.
 - .3 Date of submission.
- .10 Maintain a complete Shop Drawing Record showing the review status of all shop drawings on the work. Provide Engineer with a copy of this record on a monthly basis or as requested by Engineer.
- .11 Submit shop drawings to Engineer for review with a Transmittal Form as provided by Engineer or in a form acceptable to Engineer. Type or print the appropriate information on the form to fully describe the drawings being sent for review. Retain a photocopy of the form for filing and record purposes before drawings are sent to Engineer.
- .12 Transmittal form or shop drawing stamp to be signed by Contractor's authorized representative certifying approval of submission, verification of field measurements and compliance with Contract Documents.
- .13 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as Engineer may reasonably request where shop drawings will not be prepared due to standardized manufacture of product.
- .14 Submit electronic files of shop drawings for each requirement requested in specification Sections and as Engineer may reasonably request.
- .15 During review, Engineer will mark drawings to indicate review status:
 - .1 "REVIEWED" - Make and distribute additional copies as required for execution of the Work.
 - .2 "REVISE & RESUBMIT" - Make the necessary revisions and resubmit revised drawings for review. Show the drawing number of the first such revised drawing and show the latest revision number applicable to the drawing by adding a suffix to the drawing number as - "REV. 1", "REV. 2", etc.
 - .3 "NOT REVIEWED" - This notation indicates that Engineer has not reviewed the drawing. It may also be used in combination with the notation to revise and resubmit the drawing where Engineer lacks sufficient information to complete the review and requires resubmission of the drawing for review after revision.
 - .4 Drawings will be marked "REVIEWED" together with the notation "REVISE & RESUBMIT" when Engineer requires resubmission of a revised drawing showing corrections made as a result of Engineer's notations on the shop drawings. This procedure will not relieve

Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of Contract.

- .16 Use only those shop drawings on the work that bear the "REVIEWED" notation.
- .17 Do not revise shop drawings marked "REVIEWED" unless resubmitted to Engineer for further review.
- .18 Determine which shop drawings have, in addition to those drawings specifically mentioned in Contract, design elements requiring the seal of a Professional Engineer registered in the Province or Territory where Work is located, in accordance with the applicable provincial or federal engineering acts or other governing legislation. Seal such drawings before submitting them for review. Submit for review engineering calculations signed by the registered Professional Engineer responsible for the shop drawing design elements.
- .19 Review by Engineer is for the sole purpose of ascertaining conformance with the general design concept. This review does not mean that Engineer approves the detail design inherent in the shop drawings, responsibility for which remains with Contractor, and such review does not relieve Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of Contract Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job-site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the work of all sub-trades.

.3 Samples

- .1 Submit for review, samples in duplicate as requested in respective specification Sections.
- .2 Deliver samples prepaid to Engineer's business address.

.4 Record Drawings

- .1 After award of Contract, Engineer will provide a set of drawings for purpose of maintaining record drawings. During progress of the work, accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Engineer.
- .2 Record locations of concealed components of mechanical and electrical services.
- .3 Identify drawings as "Project Record Copy". Maintain in good condition, keep continuously updated and make available for inspection on site by Engineer.
- .4 On completion of Work and prior to final inspection, submit record documents to Engineer.

1.9 SCHEDULE

.1 Schedules Required

- .1 Construction Progress Schedule.
- .2 Submittal Schedule for Shop Drawings, Product Data and Samples.
- .3 Cash Allowance Schedule for purchasing products.

.2 Format

- .1 Prepare schedule in form of horizontal bar chart.

- .2 Provide separate bar for each trade or operation.
- .3 Provide horizontal time scale identifying first work day of each week.
- .4 Format for listings: Chronological order of start of each item of work.
- .3 Submission
 - .1 Submit initial schedules within ten (10) business days after award of Notice to Proceed.
 - .2 Submit one electronic copy to be retained by Engineer.
 - .3 Engineer will review schedule and return reviewed copy within ten (10) days after receipt.
 - .4 Resubmit finalized schedule within seven (7) days after return of reviewed copy.

1.10 QUALITY CONTROL

- .1 Inspection
 - .1 Owner and Engineer shall have access to Work.
 - .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Engineer instructions, or law of Place of Work.
 - .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .2 Independent Inspection Agencies
 - .1 Independent Inspection/Testing Agencies will be engaged by Owner for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Owner.
 - .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Reports
 - .1 Submit inspection and test reports promptly to Engineer.
 - .2 Provide copies to Subcontractor of work being inspected/tested.

1.11 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- .1 Installation/Removal
 - .1 Provide construction facilities and temporary controls in order to execute Work expeditiously.
 - .2 Remove from site all such work after use.
- .2 Hoarding
 - .1 Erect hoarding around equipment and laydown areas to protect public, workers, public and private property from injury or damage.
 - .2 Provide hoarding with chain link fence 2 m high, protecting public and private property from injury or damage. Provide lockable gates within hoarding for access to site by workers and vehicles.

- .3 Dust Tight Screens
 - .1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
 - .2 Maintain and relocate protection until such Work is complete.
- .4 Dewatering
 - .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.
- .5 Site Storage/Loading
 - .1 Confine the Work and operations of employees to limits indicated by Contract Documents. Do not unreasonably encumber premises with Products.
 - .2 Do not load or permit to be loaded any part of the Work with a weight or force that will endanger the Work.
- .6 Sanitary Facilities
 - .1 Provide sufficient sanitary facilities for workers in accordance with local health authorities.
 - .2 Post notices and take such precautions as required by local health authorities.
 - .3 Keep area and premises in sanitary condition.
 - .4 Disinfect facilities frequently.
 - .5 Remove contaminated soil and material and replace with fresh, clean material.
 - .6 Dispose of sanitary wastes, in accordance with the applicable regulations, and subject to approval of Engineer.
 - .7 Provide all sanitary supplies required for use by Contractor's work force and staff of Engineer.
 - .8 Prohibit the committing of nuisance. Promptly discharge any employee violating such provision.
- .7 Water Supply
 - .1 A 50 mm water connection is available at the Municipal Lagoon (location as shown on site layout drawing) for Contractor use. Water is also available at the fire hydrant near the screen building, adjacent to the laydown area as shown on site layout drawings.
 - .2 Contractor is responsible for providing hose/piping connections required to location required.
- .8 Temporary Heating
 - .1 Provide temporary heating required, including attendance, maintenance and fuel.
 - .2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders not permitted.
 - .3 Maintain temperatures of minimum 10°C in areas where construction is in progress, unless indicated otherwise in specifications.
 - .4 Ventilate heated areas and keep building free of exhaust or combustion gases.
- .9 Temporary Power

- .1 Arrange, pay for, and maintain temporary electrical power supply in accordance with governing regulations and ordinances.
- .2 Install temporary facilities for power such as pole lines and underground cables to approval of local power supply authority.
- .3 Locate temporary power at designated location, or at an acceptable location subject to approval of Engineer.
- .4 An electrical supply is available from the screening building for temporary power required during the Work for temporary lighting and operating of power tools, to maximum supply of 120 volts 15 amps.
- .5 Contractor responsible for providing temporary power required in excess of power available from screening building. Additional temporary electrical power supply must be provided by the contractor via temporary hydro connection or generator. The generator must meet the following conditions:
 - .1 The generator will have an integral acoustic enclosure and suitable silencer for residential neighbourhoods
 - .2 The generator shall be equipped with a double walled fuel tank that is CSA or ULC approved
- .10 Equipment/Tool/Materials Storage
 - .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
 - .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.
- .11 Project Cleanliness
 - .1 Maintain the Work in tidy condition, free from accumulation of waste products and debris.
 - .2 Remove waste material and debris from site and deposit in waste container at end of each working day.
 - .3 Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
- .12 Truck Cleaning
 - .1 Cleaning of trucks shall be sufficient to prevent deposition of sludge on public roads during transport.
 - .2 Suitable processes for cleaning include brush cleaning and truck washing. Any wastewater produced in the cleaning process must be diverted to the Catalyst or municipal lagoon.

1.12 WEIGH SCALE

- .1 Contractor will provide a commercially available truck scale, accurate to a minimum of $\pm 1\%$, and capable to weighing all trucks used for transport when filled with dewatered sludge cake.
- .2 The supplier of the truck scale must provide a scale that is deemed legal for trade by Measurement Canada. A foundation for the scale must be installed, at the contractor's cost, as specified by the supplier.

- .3 Truck scale calibrations should be conducted by a qualified company that possesses a Measurement Canada Accreditation Certificate to perform inspections pursuant to The Weights and Measures Act. The frequency of calibrations should be conducted on a monthly basis or as recommended by the scale supplier.
- .4 Truck scale to be supplied with a means of recording weights to allow Owner and Engineer to track empty and full weights of the trucks as they enter and leave the site.

1.13 BASIC PRODUCT REQUIREMENTS

- .1 Product and Material Quality
 - .1 Products, materials, equipment and articles (referred to as Products throughout specifications) incorporated in Work shall be new, not damaged or defective, and conforming with specifications for purpose intended. If requested, furnish evidence as to type, source and quality of Products provided.
 - .2 Defective Products, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective Products at own expense and be responsible for delays and expenses caused by rejection.
- .2 Storage, Handling and Protection
 - .1 Handle and store Products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
 - .2 Store packaged or bundled Products in original and undamaged condition with manufacturer's seals and labels intact.
 - .3 Store products subject to damage from weather in weatherproof enclosures.
- .3 Manufacturer's Instructions
 - .1 Unless otherwise indicated in specifications, install or erect Products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with Products. Obtain written instructions directly from manufacturers.
 - .2 Notify Engineer in writing, of conflicts between specifications and manufacturer's instructions, so that Engineer may establish course of action.
 - .3 Improper installation or erection of Products, due to failure in complying with these requirements, authorizes Engineer to require removal and reinstallation at no increase in Contract Amount.
- .4 Workmanship
 - .1 Execute Work by workers experienced and skilled in respective duties for which they are employed. Immediately notify Engineer if required Work is such as to make it impractical to produce required results.
 - .2 Do not employ any unfit person or anyone unskilled in their required duties. Engineer reserves the right to require the dismissal from site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.

1.14 PROJECT CLOSEOUT

- .1 Final Cleaning

- .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste materials and debris from site at regularly scheduled times or dispose of as directed by Engineer. Do not burn waste materials on site, unless approved by Engineer.
- .3 Leave work broom clean before inspection process commences.
- .4 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .5 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls.
- .6 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .7 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.
- .8 Broom clean and wash exterior walks, steps and surfaces.
- .9 Remove dirt and other disfigurations from exterior surfaces.
- .2 Documents
 - .1 Collect reviewed submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers.
 - .2 Submit material prior to final Application for Payment.
 - .3 Submit operation and maintenance data, record drawings.
 - .4 Provide warranties and bonds fully executed and notarized.
 - .5 Execute transition of Performance and Labour and Materials Payment Bond(s) to warranty period requirements.
 - .6 Submit a final statement of accounting giving total adjusted Contract Amount, previous payments, and monies remaining due.
 - .7 Engineer will issue a final change order reflecting approved adjustments to Contract Amount not previously made.
- .3 Inspection/Takeover Procedures
 - .1 Prior to application for Certificate of Total Performance, carefully inspect the Work and ensure it is complete, that all construction deficiencies are complete, defects are corrected and building is clean and in condition for occupancy. Notify Engineer, in writing, of completion of the Work and request an inspection.
 - .2 During Engineer inspection, a list of deficiencies and defects will be tabulated. Correct same.
 - .3 Make application for Certificate of Total Performance. Refer to Section 00 72 00 - General Conditions for specifics of application.

Part 2 Products

Not Used

Part 3 Execution

Not Used

END OF SECTION

Part 1 General

1.1 MEASUREMENT FOR PAYMENT

- .1 For lump sum price item, Engineer will calculate payment based on tendered price and Engineer's estimate of percentage of work item completed.
- .2 For each unit price item, Engineer will calculate payment based on tendered unit price and Engineer's determination of units of work item completed.
- .3 Method of measurement to be used is detailed in the section of the specification covering each work item.
- .4 Where a method of measurement for payment for a work item is not specified, payment for that item will be deemed to be included in another pay item or other pay items.
- .5 Mobilization and Demobilization
 - .1 Payment of up to 50% of this item on mobilization to site. Remaining 50% will be paid at completion of Contract after removal of equipment and cleanup of work areas to the satisfaction of Engineer.
- .6 Initial Sludge Survey
 - .1 Payment for this item to include all equipment and labour required to complete the sludge survey. Payment on this item upon submission of survey report.
- .7 Site Preparation
 - .1 This payment item includes all work required to prepare work areas for desludging and dewatering activities, including but not limited to equipment laydown and containment areas.

1.2 DESLUDGING, DEWATERING, TRANSPORT AND DEPOSITION

- .1 Payment for sludge extraction, processing and placement will be made on a per dry tonne processed basis. All operations, incidentals and sundry items including, but not limited to, power supply, dredging, pumping, mixing, chemical supply/addition/ metering, dewatering, membranes, pumping decant back to lagoons, hauling sludge, placing sludge or any other operation undertaken in the sludge extraction, processing and placement are included in this item including transfer of dewatered sludge from lagoon site to landfill. No distinction will be made for simple dredged sludge, or processed or dewatered sludge.
- .2 Owner's representative on site will test and measure amounts processed and provide all such test results, information or additional samples as required by the Engineer or the Owner.
- .3 Owner's representative on site will measure dewatered sludge cake's solids percentage using a moisture content analyzer, and use these results for payment certification.
- .4 Owner's representative will provide tabulated test results together with processed quantities on the Desludging Record of Quantity Measurements attached to these

Specifications, and acknowledge the veracity of the report by signing the declaration on that form.

- .5 Measurement and sampling will be through dredged liquid before dewatering or/and sludge cake after dewatering, actual approach will be sole decision of the City.
 - .1 Dredged Liquid
 - .1 Contractor to provide and use electromagnetic type flowmeter of a model acceptable to the Engineer. Calibrate flow meter onsite using a third party prior to commencing work, provide calibration report to the Engineer.
 - .2 Measure and record totalized flow every hour on the hour, complete a minimum of one TSS measurement per hour, collect and label a duplicate sample for every sample taken, the duplicates may be used by the City and the Engineer for measurement verification. Perform additional random sampling and testing as directed by the Engineer up to five (5) additional samples per day.
 - .3 If the Contractor fails to conduct or report the testing stipulated for two or fewer consecutive hours then the lowest recorded reading for that day will be used to determine unrecorded quantity.
 - .4 If the Contractor fails to conduct or report the testing stipulated for three or more consecutive hours then the quantity for that period shall be recorded as zero and no payment shall be made for that period.
 - .5 Quantity will be calculated by combining the TSS measurement with the totalized flow for each hour.
 - .2 Measurement and sampling of sludge cake after dewatering, actual approach will be sole decision of the Owner.
 - .1 Measure and record each truck load. Provide a scale on site for truck load measurement. Weight of dewatered sludge cake will be calculated by subtracting weight of empty truck from the weight of filled truck.
 - .2 Three samples of the sludge cake will be taken from each truck load by the Owner's rep. One from the front end, one from the middle, and one from the back. The samples collected shall be mixed thoroughly for moisture content test.
 - .3 Duplicate sample for each truck load for verification by the Contractor may be conducted.
 - .4 Total weight of dry solids will be calculated by multiplying the % Solids measurement with the weight for each load.
- .6 Quantity Dispute
 - .1 If the Contractor's duplicate verification sample measurements are not in accordance with the Owner's then the lower of the two values will be used to establish payment.
- .7 If the Contractor disputes the Owner's values then the Contractor may choose to have the sample analyzed at a certified third-party laboratory. Whichever of the two original sample results is closest to the third party result will be taken as correct and the generator of the incorrect result must pay the cost of the third-party test.

1.3 PROGRESS PAYMENTS

- .1 Payment for work will be processed monthly, in accordance with GC 7.

1.4 CHANGES

- .1 Refer to GC 7.

Part 2 Products
Not Used.

Part 3 Execution
Not Used.

END OF SECTION

Part 1 General

1.1 INSTALLATION/REMOVAL

- .1 Provide lockable temporary field offices and sheds as required during construction in locations directed by Engineer.
- .2 Remove promptly from Site all such facilities after use.

1.2 CONTRACTOR'S SITE OFFICE

- .1 Provide office heated to 22°C, lighted to 750 Lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table and telephone, pay telephone not acceptable.

1.3 SITE DOCUMENTS

- .1 Maintain the following documents and materials on-site, in Contractor's Site Office, at all times:
 - .1 Contract Documents including Drawings.
 - .2 Work Orders and Change Orders.
 - .3 Shop Drawings.
 - .4 Delivery Schedules.
 - .5 Progress Estimates.
 - .6 As-Built Drawings.
- .2 Maintain documents in order and make available for viewing by Engineer at all times.

1.4 ENGINEER'S SITE OFFICE

- .1 Provide temporary office for Engineer.
- .2 Inside dimensions minimum 3.6 m long x 3 m wide x 2.4 m high, with floor 0.3 m above grade, complete with 4 x 50% opening windows and one lockable door.
- .3 Insulate building and provide electric heating system to maintain 22°C inside temperature at -20°C outside temperature.
- .4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood.
- .5 Install electrical lighting system to provide minimum 750 lx using surface mounted, shielded commercial fixtures with 10% upward light component.
- .6 Arrange and pay for internet connection in Engineer's office for Engineer's exclusive use. Provide private washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory and mirror and maintain supply of paper towels and toilet tissue.

.7 Equip office with 1 x 2 m table, one (1) chair.

.8 Maintain in clean condition.

1.5 STORAGE SHEDS

.1 Provide adequate weathertight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.

.2 Provided heated storage structures where required.

.3 Maintain storage sheds in a neat, clean condition.

1.6 FIRST AID FACILITIES

.1 Provide and maintain on Site, in a clean orderly condition, completely equipped First-Aid facilities readily accessible at all times to Contractor's employees. Facilities and staffing to be in accordance with OH&S Legislation.

1.7 LOCATION OF OFFICE AND EQUIPMENT

.1 Locate site offices, storage sheds, all equipment and solids handling areas within the areas shown on the drawings in Appendix A.

Part 2 Products

Not Used

Part 3 Execution

Not Used

END OF SECTION

Part 1 General

1.1 SUBMITTALS

- .1 Make submittals in accordance with Section 01 10 00 1.8 - Submittals.
- .2 Submit site specific Health and Safety Program: Within fourteen (14) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Program must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 Submit Construction Safety Checklists after completion.
- .4 Submit copies of all reports or directives issued by Federal and/or Provincial health and safety inspector(s).
- .5 Submit copies of incident and accident reports.
- .6 Submit on site Contingency and Emergency Response Plan: Address standard operating procedures to be implemented during emergency situations.
- .7 Submit Material Safety Data Sheets (MSDS).
- .8 Submit personnel training requirements including names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.
- .9 Submit, and post at the Work site, the emergency numbers for police, fire and ambulance for the locale of the Work, as well as the names and after hours numbers for key site personnel related to health, safety or security of the site.

1.2 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.
- .2 Submit hazard assessment report to Engineer.

1.3 MEETINGS

- .1 Attend health and safety pre construction meeting.
- .2 Arrange for "tool box" safety meetings and submit reports.

1.4 REGULATORY REQUIREMENTS

- .1 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.

1.5 GENERAL REQUIREMENTS

- .1 Develop written site specific Health and Safety Program based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Program must address project specifications.
- .2 Correct deficiencies and re submit Health and Safety Program when so requested by Engineer.

1.6 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial, and local statutes, regulations, and ordinances, and with site specific Health and Safety Program.

1.7 COMPLIANCE REQUIREMENTS

- .1 Comply with OH&S Legislation.

1.8 UNFORSEEN HAZARDS

- .1 Should any unforeseen or peculiar safety related factor, hazard, or condition become evident during performance of Work, immediately stop work and follow procedures in place for employee's right to refuse work in accordance with the OH&S Legislation. Advise Engineer verbally and in writing.

1.9 CORRECTION OF NON COMPLIANCE

- .1 Immediately address health and safety non compliance issues identified by Engineer or designated safety inspector.
- .2 Provide Engineer with written report of action taken to correct non compliance of health and safety issues identified.
- .3 Be aware that Engineer may stop Work if non compliance of health and safety regulations is not corrected.

1.10 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.
- .2 Stop Work when necessary or advisable for reasons of health and safety.
- .3 Be aware that Engineer or designated safety inspector may stop Work when deemed necessary or advisable for reasons of health and safety.

Part 2 **Products**
Not Used.

Part 3 **Execution**
Not Used.

END OF SECTION

Part 1 General

1.1 SCOPE OF WORK

- .1 Conduct sludge survey in lagoon. Survey will estimate volume of sludge remaining in the lagoon, including quantity of sludge that may be removed via direct excavation and transport to disposal.
- .2 Direct excavation and transport of a portion of the sludge to disposal site. The lagoon is no longer in operation, and the water level is currently low. A portion of the sludge may have dried sufficiently to allow direct excavation and hauling to the disposal site. Owner's preference is to remove as much sludge as possible using this method.
- .3 Hydraulic removal of remaining sludge in lagoon.
- .4 Dewatering of sludge to a minimum average dry solids content of 25% by weight.
- .5 Disposal of liquid generated from dewatering process back to adjacent operating municipal lagoon or return to the former municipal lagoon.
- .6 Transportation and deposit of the dewatered sludge cake at appointed landfill. Address of the appointed landfill is as below:
 - .1 Address of appointed landfill: Alberni Valley Landfill : 7080 McCoy Lake Rd, Port Alberni, BC.

1.2 CONSTRUCTION LAGOON SLUDGE PROFILING SURVEY

- .1 Retain specialist lagoon survey services and prepare a detailed survey report to profile the existing sludge blanket depth and to estimate the sludge solids content and volume for dewatering. The sludge profiling survey report will describe the proposed methodologies and the provide the following parameters to estimate sludge handling quantities:
 - .1 Measure the geodetic lagoon bottom elevation, sludge blanket depth, and collect sludge samples from the entire lagoon, reasonably spaced, at sufficient quantity of samples to estimate of sludge quantities. Alternative methodologies for sampling location number and mesh as approved by the Engineer.
 - .2 Develop a geographical overview figure specifying the location of lagoon sampling locations in terms of unique sampling point identifiers and GPS coordinates.
 - .3 Analyze the solids content and density of each sludge sample.
 - .4 Provide the geodetic elevation of liquid level assumed constant over the survey duration.
 - .5 Provide a table of sludge sampling results correlating sampling point identifiers with results for lagoon bottom elevation, sludge depth, liquid level, and solids
 - .6 Generate a geographic contour model for computation of the overall average sludge density and sludge volume relative to the contoured bottom of the lagoon.
 - .7 Provide an estimate for the remaining sludge content for dewatering in terms of volume and BDT.
 - .8 Conduct total metals analysis on the sludge and include results in survey report.

- .2 Provide the lagoon liquid level proposed for conducted survey to the Engineer for review prior to pump down of lagoon. This proposed level is to be lowered to a depth facilitating operation of dredging equipment in the lagoon, but deep enough to avoid disturbance of the sludge blanket due to operation of the floating survey vessel at the liquid level surface.

1.3 ACCESS TO THE SITE

- .1 Not creating any damage to the existing road and structures during the work. Keep existing roads in good travelling condition acceptable to the Owner, and correct all damage as the result from Contractor's operations.
- .2 Produce no impact on estuary region during the work. Temporary structures and placement of equipment outside the designated laydown areas must be approved by the Engineer.
- .3 Clean up after each working day. Remove rubbish from the site at regular intervals and upon completion of the Work to maintain the site in a neat and orderly appearance.
- .4 Use water or calcium chloride, or both to keep dust down by to the satisfaction of the Owner.
- .5 Comply with the terms of access to landfill and the insurance requirement.

1.4 PERMITS, FEES, INSPECTION AND INSURANCE

- .1 Apply for, obtain, and pay for all permits, licenses, examination testing and fees to be required.
- .2 The Owner will carry out general visual inspections and will, if necessary, prepare a deficiency list for action by the Contractor, during and upon completion of the project. Correct all deficiencies prior to payment being issued for any further work.
- .3 The quality of the workmanship and materials shall be first class and the work shall present a neat and attractive appearance when finished.

1.5 EXISTING CONDITIONS AND CONTRACTOR RESPONSIBILITY – NO CHANGE TO UNIT PRICE

- .1 The lagoon is currently not in operation and will remain out of service.
- .2 An accurate estimate of the quantity of sludge remaining in the lagoon could not be previously obtained due to recent construction activities (including bypass pumping) that impacted the quantity and distribution of sludge in the lagoon. A March 2022 survey conducted by the Owner indicated the volume of sludge and wastewater remaining in the lagoon is approximately 36,000 m³.
- .3 A sludge profiling survey report was completed in 2013 to estimate the existing quantities for sludge solids content and volume collected in the City of Port Alberni Wastewater Lagoon. Subsequent to this survey, a partial desludging operation was undertaken in 2017, that removed approximately 240 bone dry tonnes (BDT) of sludge solids. This report is provided for reference only and is attached to the Contract Documents in Appendix C. The lagoon has been in continuous operation up to July 2022.
- .4 Sludge quantities listed in the proposal form are indicative only and will be used to compare proposals. The sludge profile survey conducted at the start of this work will

confirm the quantity of sludge remaining to be removed. Subsequent to the results of this survey, Engineer and Owner will work with Contractor to confirm the proportion of sludge removed by direct excavation versus hydraulic methods.

- .5 Incorporate sufficient flexibility into methodology to adapt to variations in the field.
- .6 The site layout and areas available for laydown are shown on the drawings included in Appendix A. Use of area outside of the laydown area only with approval by Owner.
- .7 Record drawings for the lagoon are included in Appendix B for information of proponents. Owner and Engineer cannot confirm the accuracy of record drawings, and all dimensions to be confirmed by Proponent in the field.

1.6 PROJECT MANAGEMENT PLAN

.1 Submission

- .1 Submit the Project Management Plan within ten (10) days of completion of sludge survey.
- .2 The purpose of the Project Management Plan is to provide updates to the work methodology contained in the Proponent's Proposal based on results of the sludge survey.
- .3 Copy will be returned within five (5) days with comments.
- .4 Revise content of document as required prior to final submission.
- .5 Do not proceed with work until Project Management Plan is approved.

.2 Format

- .1 Organize in clear, readable format.
- .2 Include drawings where appropriate.

.3 Contents

The Project Management Plan shall include, at a minimum a description of:

- .1 Activity sequence, identifying at least dredging, dewatering, deposition and environment mitigation measures to be required.
- .2 Complete site plan sketch indicating site, materials and equipment locations.
- .3 Dredging and dewatering method and location.
- .4 Methods of pre-dredge, post-dredge surveys, calibrations and test.
- .5 Polymer mixing and addition plan, if required, for dewatering.
- .6 Include plan to adapt to variable field conditions.
- .7 Measurement and testing procedure. Weight measurements, using a truck weigh scale, will be taken when trucks enter the site (empty) and leave the site (filled with dewatered sludge cake). Weigh data must be capable of being recorded digitally.
- .8 Alternate measurement procedure using solids content of pumped sludge and volumetric flow rate measurements, where applicable.
- .9 Schedule, include days of week and hours of work per day.

1.7 WORK CARRIED OUT IN WINTER

- .1 When work is to be carried out in freezing weather, heat all water and other such materials in compliance with the Owner's requirements and protect the work from damage by frost. Provide, at no additional cost, the necessary means of heating the materials and protecting the work.

1.8 RECORDS

- .1 Maintain summary or records of all meetings, records, memoranda, site inspection reports, analyses, weigh bills and other relevant documents.
- .2 Keep and maintain a hard cover daily log book with permanent pages on site. Make daily logbook available for review by the Owner at any time and submit to the Owner upon completion of work under this contract.
- .3 Record all quantities daily in the log book and provide back-up documentation, including but not limited to, landfill/hog fuel pile weigh bills, measurements and calculations, and electronically recorded materials quantity data.

1.9 SPILLS

- .1 Submit procedures for inspection and rapid cleanup of spills that may occur. Be prepared at all times to intercept, clean up and dispose of any spill that may occur. Keep all materials required for cleanup of spills readily accessible on the site.
- .2 Report forthwith any spills that cause or may cause any adverse effect to the environment or Owner property.
- .3 Provide Spills Plan and contact information prior to carrying out any works on the project.
- .4 Contact the manufacturer of the pollutant, if known, and ascertain the hazards involved, precautions required and best measures to be used in any clean up or mitigating action.
- .5 Take immediate action using any available resource to contain and mitigate the impact on the environment and or Owner property from any spill. No additional payment will be made to the contractor for the prevention, elimination, amelioration or remediation including cleanup of impacted areas.
- .6 Report immediately any spills causing damage to the environment to Spills Action Centre of the Ministry of the Environment and submit incident/accident reports.

1.10 CONTRACTOR OPERATIONS

- .1 The Contractor's operations shall in no way contribute to air, water, or land pollution, including such nuisances as odours, insects, noise, surface or groundwater contamination, or any other condition that would have a detrimental effect on the environment. Meet all local, provincial, and federal regulations for handling and disposal of the sludge material.
- .2 The Contractor shall be responsible and take necessary precautions to control and prevent nuisance odours from leaving the plant site during cleaning, sludge removal operations, hauling and all associated works.
- .3 Quality Assurance Submittals:
 - .1 Provide a Sludge Disposal Plan that includes, but is not limited to, the following:
 - .1 Removal methods.

- .2 Concentration methods.
- .3 Transportation methods.
- .4 Name of hauling contractor(s).
- .5 Copy of license for hauling contractor for proof of acceptability.
- .6 Disposal methods.
- .7 Equipment requirements.
- .8 Accidental spill cleanup plan.
- .9 Wet weather and winter operations.
- .10 Odour control provisions.

Part 2 Products

Not Used

Part 3 Execution

3.1 GENERAL REQUIREMENTS

- .1 Remove and dispose of all sludge accumulated in the lagoon.
- .2 Pay for all services, chemicals, water, electricity and any other temporary services required during the work period.
- .3 During the period of operation, make available to the site supervisory personnel, mechanics, electricians, and other workmen to attend to any adjustments, corrections or operations which may be required.
- .4 Provide all safety equipment required, including such equipment for the Owner and the Engineer.
- .5 Provide temporary facilities as required by Contract Documents and desludging operations.
- .6 Provide all necessary temporary pumps, piping, electrical wiring, controls, and labour during and subsequent to all activities as required.
- .7 Take mitigation measures to minimize impact on natural environment.
- .8 Utilize robust equipment that will not be permanently damaged by, and quickly cleared of ingested debris and/or vegetation.

3.2 MEASUREMENT AND PAYMENT

- .1 Refer to Section 01 27 00 for measurement and payment requirements.

3.3 LAGOON WATER LEVEL

- .1 Lagoon is currently not in service and water level is currently at a low level.

3.4 DREDGING

- .1 Work comprises dredging of one municipal wastewater lagoon which was operated by the City of Port Alberni measuring approximately 4.5 hectares area when full, located at 5600 Shoemaker Bay Rd.

- .2 Dredges or other floating plants to be employed on this Work, to be of Canadian registry, make or manufacturer, or, must receive certificate of qualification from Industry Canada, Marine Directorate and this certificate to be submitted upon request.
- .3 Marking
 - .1 Floating equipment with lights in accordance with International Rules of Road and maintain radio watch on board.
 - .2 Place and maintain buoys, ranges, markers and lights required to define work and disposal areas.
 - .3 Layout the Work from benchmarks established by the Contractor and approved by the Engineer. Be responsible for accuracy of the Work relative to established bench marks. Provide and maintain electronic position fixing and distance measuring equipment, laser transits and such other equipment as normally required for accurate dredging control.
 - .4 Establish and maintain water level gauges or tide boards in order that proper depth dredging can be determined. Locate gauges or tide boards so as to be clearly visible.
 - .5 Establish and maintain on-land targets for location and definition of designated dredge area limits. Targets to be suitable for control of dredging operations and locating soundings. Remove targets on completion of the Work.
- .4 Survey
 - .1 Submit method of post-dredge survey along with the Project Management Plan, and the method of calibration and test to the satisfaction of the Owner.
 - .2 Survey equipment and methods are to be such that they do not damage the existing lagoon and its aeration systems. Any damages and costs associated with repairing will be the responsibility of the Contractor.
 - .3 Conduct post-dredge survey upon completion of dredging. Survey will confirm if dredging is completed as specified and whether area can be considered cleared area.
 - .4 Record drawings from the original lagoon construction are provided in Appendix B for reference only. The Owner and Engineer cannot confirm the accuracy of the record drawings. All dimensions to be field confirmed by Contractor.
- .5 Do not damage lagoon base.
- .6 Control the speed of dredging to ensure the stability of the dikes and avoid damaging the subgrade material.
- .7 Remove material above specified grade depths, within limits indicated. Material removed below subgrade or outside specified area or side slope is not part of the Work.
- .8 Remove shoaling which occurs as a result of the Work at no expense to the Owner.
- .9 Remove infilling in dredge areas which occurs prior to acceptance by the Engineer.
- .10 Immediately notify the Engineer upon encountering object which might be classified as obstruction. By-pass object after clearly marking its location and continue to work.
- .11 Do not dredge material from areas lying within 0.5 m of existing structure unless authorized by Engineer.

- .12 Re-dredge unsatisfactory work and verify depths with additional sounding or sweeping to approval of Engineer.
- .13 Since the lagoon was taken out of operation, there has been significant vegetation growth on the sludge. Ensure dewatering methods and equipment can process this vegetation.
- .14 Although this is an general purpose municipal lagoon, the influent wastewater was not screened and over time obstructions such as sticks, chips, rocks or other large debris may be present in the sludge. Take necessary precautions to detect these obstructions and prevent them from clogging dredging equipment or otherwise impeding dredging progress.

3.5 DEWATERING

- .1 Contractor to specify in proposal the method of dewatering to be used. Use of any dewatering other than the specified will not be acceptable.
- .2 Contractor shall specify in Proposal, subcontractor, if applicable, to be used for dewatering. Use of any subcontractor other than the specified will not be acceptable.
- .3 Dewatering to meet specified minimum solids concentration. Determine chemical condition with polymer.
- .4 Submit complete work plan for dewatering for review by the Engineer and Owner in the Proposal, and update in Project Management Plan on completion of sludge survey. The work plan shall provide detailed procedure of dewatering complete with schedule, site plan, materials to be used, and layout drawings.
- .5 Mechanical Dewatering
 - .1 Whatever processes to achieve the specified minimum average dry solids content (by weight) of the dewatered sludge.
 - .2 Trailer mounted with polymer addition system included.
 - .3 Equipped with magnetic flowmeter for measurement.
 - .4 Dewatering machine to be able to recycle water to minimize the clean water consumption, if required.
 - .5 Contractor shall specify in Proposal what methods will be used to prevent any release of water to environment.
- .6 Geotube Dewatering
 - .1 The Contractor shall be responsible for the design and construction of the dewatering cells within the areas shown on the site layout.
 - .1 Provide site plan, dewatering containment cell and perimeter berm wall design, cell and containment grading, containment textile and membrane specifications and placement, Geotube® container layout, and illustration of maintained access roads for City Facility Operators.
 - .2 It is expected that the Contractor will work with retained dewatering specialists and Geotube® product representatives to refine layout per their recommendations. The results of the Sludge Profiling Survey Report will advise the number of Geotube® containers required.
 - .3 The dewatering containment cell and perimeter berm wall design to be British Columbia P.Eng. sealed.
 - .2 Temporary Liner

- .1 Temporary liner shall be reinforced polyethylene (PRE) and be delivered with QC testing certificate in accordance with the following minimum required properties:
 - .1 Thickness, minimum 0.30 mm
 - .2 Coating thickness, minimum 0.04 mm
 - .3 Mass per unit area, minimum 200 g/m²
 - .4 Tensile strength, ASTM D5034, minimum 800 N.
- .2 Handling and storage of the PRE liner shall avoid direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.
- .3 Place the PRE material by unrolling onto graded surface in orientation, manner and location indicated and anchor in a manner to resist movement for the duration of work.
- .4 Place the PRE material smooth and free of tension stress, folds, wrinkles and creases.
- .5 Place the prepared surface to underlay the entire geotube dewatering site and cover the perimeter containment berms.
- .6 Overlap and heat-bond each successive strip of the PRE material 600 mm over previously laid panel.
- .7 Protect installed PRE material from displacement, damage or deterioration before, during and after placement of material layers.
- .8 Remove damaged or deteriorated PRE material to the approval of the Engineer.
- .3 Geotubes
 - .1 Geotube material must be approved by the manufacturer for the intended use and be delivered with QC testing certificate in accordance with for the following properties:
 - .1 Wide Width Tensile Strength and Elongation as per ASTM D4595.
 - Tensile strength, minimum 150 kN/m
 - Elongation at break, 20%
 - Seam strength, 75 kN/m
 - .1 Mass per unit area as per ASTM D5261, minimum 1,000 g/m²
 - .2 Apparent opening size (AOS) as per ASTM D4751, maximum 0.600 mm
 - .3 Water flow rate as per ASTM D4491, minimum 810 l/m/m².
 - .2 Each geotube shall be fabricated with one or more filling ports located along the top centerline of the geotubes. The filling port shall be constructed as to prevent leakage from the feed line.
 - .3 Handling and storage of the geotubes shall avoid direct sunlight, ultraviolet rays, excessive heat, mud, dirt, dust, debris and rodents.
 - .4 Immediately prior to placing the geotubes, the Engineers shall inspect the prepared area, and no tubes shall be placed thereon until the area has been favorably reviewed and approved by the Engineer.
 - .5 Geotubes shall be placed within the limits shown on the drawings.
 - .6 Filling Process

- .1 Following the tube placement, filling with materials from the source shall be accomplished in accordance with approved plan. The discharge line of the dredge or pump shall be fitted with a valve or manifold system to allow for control of the rate of filling and pressure into the geotubes. It must also be fitted with a sampling port installed close to the first point of connection of the first geotube to enable sampling the material being pumped to ensure the proper flocculation. Before filling, the fill ports not being used for filling shall be closed according to the manufacturer's recommendation to prevent loss of material during filling of the geotube.
- .2 The dredge or pump discharge shall be free of protrusions that could tear the geotextile surface. The discharge pipe of the dredge or pump shall be above the fill port.
- .3 Upon filling the geotubes, the dredge or pump shall be disconnected from the tube in such a manner to prevent spillage. Effluent water shall be allowed to adequately drain away from the geotubes
- .4 After filling, allow geotubes to dewater. Pump water removed the geotubes back into the municipal lagoon.

3.6 MATERIAL DISPOSAL

- .1 6 mm screened pumpable liquid, containing no more than 350 mg/L suspended solids and 300 mg/L BOD, produced through dewatering may be returned to the adjacent municipal lagoon. The location and rate of return to the municipal lagoon shall be approved by the Owner. Storage of material to allow for uniform discharge and ensure not to exceed maximum return rate may be necessary. This cost shall be included in the Contract price and no additional allowance will be made.
- .2 Transport and deposit of the dewatered sludge at the appointed landfill.
- .3 Dewatered sludge transport and deposition at landfill operated by the Alberni-Clayoquot Regional District (ACRD). Engineer and Owner will coordinate requirements with the ACRD. Contractor to provide the following:
 - .1 Provide at a reasonable time prior to the delivery of any dewatered sludge to the landfill:
 - .1 A list of all subcontractors, agents and representatives who will be on the landfill location for purposes of conducting the deposition activities.
 - .2 A weekly shipping schedule, which schedule shall contain at a minimum the following information:
 - .1 Estimated numbers of deliveries per day.
 - .2 Estimated days of deliveries.
 - .3 Any other information as may be required by Owner from time to time.
 - .3 An updated list and/or revised schedule, as applicable, upon becoming aware of any expected change or actual change to the list or the shipping schedule.
 - .4 On a weekly basis, the volumes of sludge deposited at the landfill.
 - .5 Deposition activities:

- .1 Contractor is solely responsible for all activities associated with transporting and depositing dewatered sludge in the Landfill, including all costs and expenses associated herewith.
- .2 Obtain, maintain and comply with, at own expense, all necessary permits, approvals and authorization for itself, its agents, subcontractors, and representatives, as required by any government agency or other authority having jurisdiction over the deposition activities.
- .3 Meet and comply with the risk management applicable and insurance terms and conditions to be required.
- .4 Comply with and ensure agents, subcontractors, and representatives comply with, all applicable federal, provincial and municipal statutes, regulations, bylaws, rules, codes and standards and any other legally enforceable requirements of any kind whatsoever relating or applicable to the deposition activities, including without limitation:
 - .1 The Permits, as amended from time to time.
 - .2 the Transportation of Dangerous Goods Act, S.C. 1992, c.34, the Environmental Management Act, S.B.C. 2003, c.53, the Contaminated Sites Regulation under the *Environmental Management Act*, the Water Protection Act, R.S.B.C. 1996, c.484, the Workers Compensation Act, R.S.B.C. 1996, C.492, the Fisheries Act, R.S.C. 1985, c. F-14 and the Canadian Environmental Protection Act, S.C. 1999, c.33, the *Mines Act* R.S.B.C. 1996, c 293 and the *Health, Safety and Reclamation Code for Mines in British Columbia* (all as amended from time to time and together with all regulations promulgated and permits issued thereunder).
- .4 Comply with and ensure that agents, subcontractors and representatives comply with, Catalyst's safety, security and hours of use, rules for the landfill and associated mill site as published or communicated from time to time.
- .5 Truck traffic to and from the site shall be limited to daytime between the hours of 8 am to 3 pm for the duration of the project.
- .6 Access landfill from rear entrance gate located on Stirling Arm Rd.
- .7 Make concerted efforts to minimize complaints arising from any trucking operations associated with the transportation of sludge, and be solely responsible for handling, addressing, and promptly responding to all complaints including those concerning noise, safety, dust, hours of work, truck traffic and routing related to the transportation of sludge.
- .8 Contractor shall be solely responsible for the costs of transportation sludge and all permits, approvals and authorization related to the transportation of sludge.

Owner of Port Alberni Industrial Lagoon Desludging

Contract No.

Desludging Record of Quantity Measurements

Sheet # _____

Last Sample # _____

Date	Sample #	Sample Time	Truck ID	Truck Empty Weight (kg)	Truck Full Weight	Sludge Wet Weight	% Solids	Dry Tonnes	Time Record
Period Total (Dry Tonnes)									

I certify that these recorded quantities are fair and representative of the production accomplished during this reporting period and that there has been no intentional process manipulation, false recording of data, or other deliberate fraudulent act that could cause incorrect quantity measurement or reporting.

Name

Date

Owner of Port Alberni Industrial Lagoon Desludging

Contract No.

Desludging Record of Quantity Measurements

Sheet # _____

Last Sample # _____

Date	Sample #	Sample Time	Truck ID	Sample Weight (mg)	Mass of Solids (mg)	% Solids	Time Record

I certify that these recorded quantities are fair and representative of the production accomplished during this reporting period and that there has been no intentional process manipulation, false recording of data, or other deliberate fraudulent act that could cause incorrect quantity measurement or reporting.

Name

Date

END OF SECTION

APPENDIX A – SITE LAYOUT DRAWINGS

DRAWING INDEX				
SHEET	DWG NO.	TITLE	DESCRIPTION	REV
GENERAL				
1	2972-03-G-001			A
CIVIL				
2	2972-03-C-001	PLAN	SITE PLAN	A
3	2972-03-C-002	PLAN	LAYDOWN AREA PLAN	A

CITY OF PORT ALBERNI, B.C.

MUNICIPAL WASTEWATER

LAGOON DESLUDGING

PLOT DATE: 2022-05-20 9:00:36 AM
SAVE DATE: 2022-05-20 8:58:47 AM SAVED BY: SHEWANA
DWG PATH: q:\2017-2972-03_standard\2972-03-g-001.dwg



**Associated
Engineering**

#500 - 2889 East 12th Avenue, Vancouver, British Columbia, V5M 4T5
Ph: 604 293 1411 Fax: 604 291 6163
www.ae.ca



THE CITY OF
Port Alberni

CITY OF PORT ALBERNI

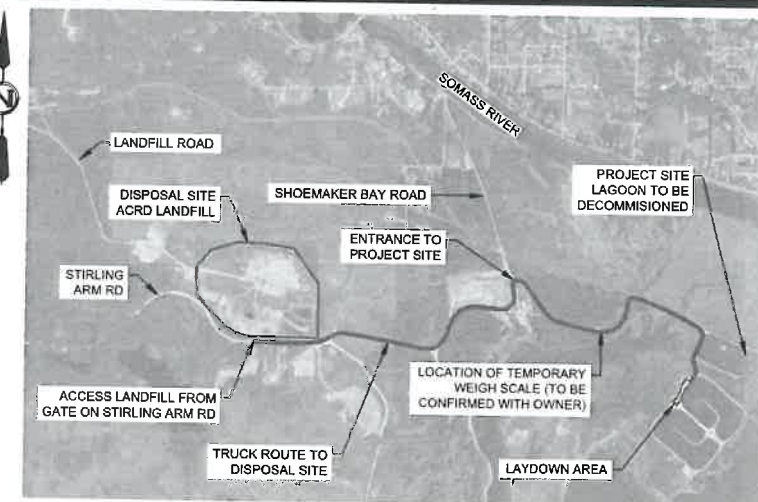
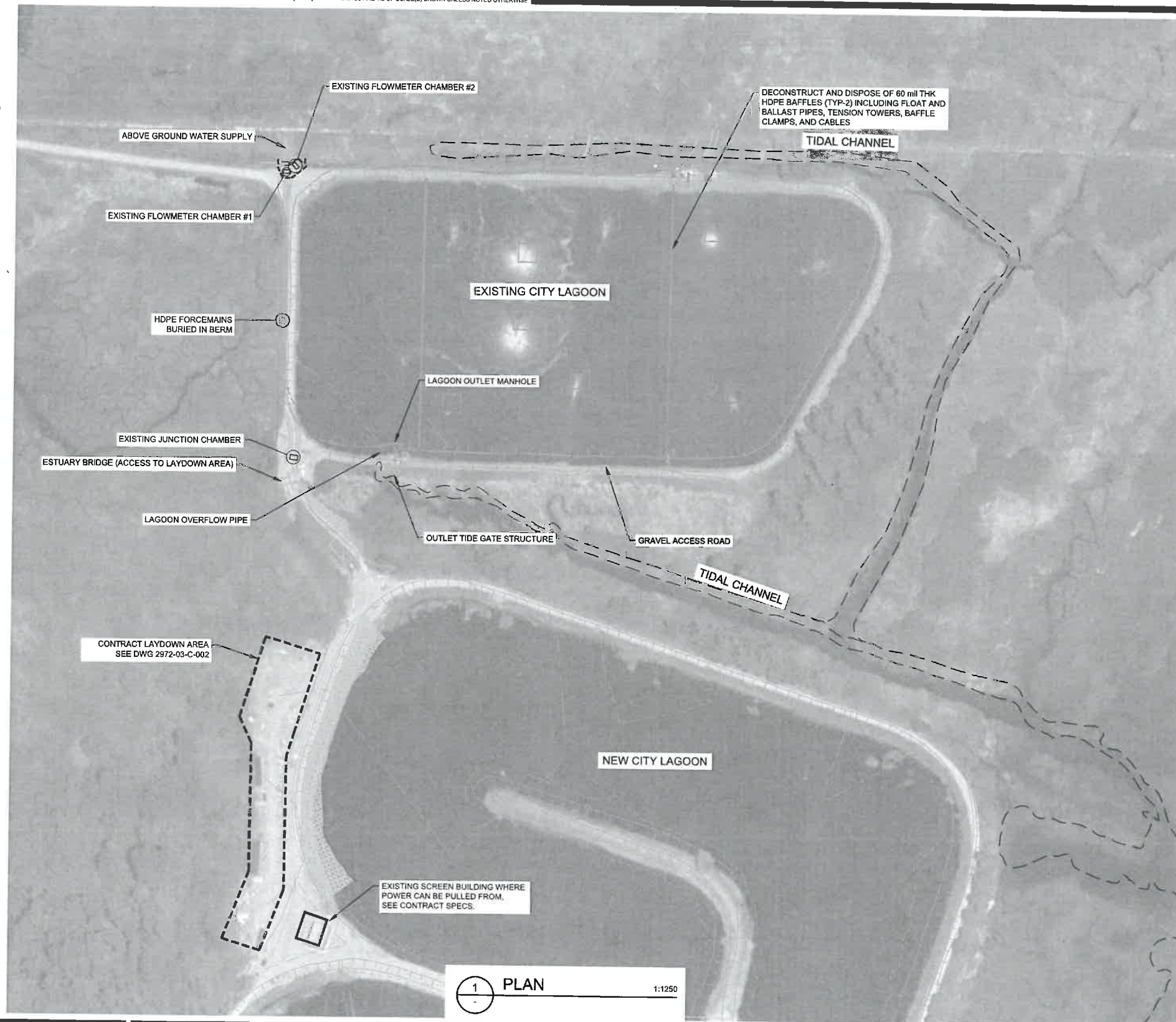
WASTEWATER LAGOON
MUNICIPAL WASTERWATER
LAGOON DESLUDGING
20172972-03

A	2022	MAY16	H. MASUDA	A. SHEWAN	ISSUED FOR RFP
REV	DATE	DESIGN	DRAWN	DESCRIPTION	

DRAWING		REVISION	SHEET
2972-03-G-001		A	1 / 3

IF NOT 50 mm ADJUST SCALES

SCALE(S) SHOWN ARE INTENDED FOR ANSI D (22X34) SIZE DRAWINGS, TABLOID (11X17) SIZE DRAWINGS ARE 1/2 OF SCALE(S) SHOWN UNLESS NOTED OTHERWISE



PLAN NTS
PROJECT LOCATION

GENERAL NOTES:

1. ALL DIMENSIONS ARE SHOWN IN METRES (m) UNLESS OTHERWISE NOTED.
2. ALL PIPE DIMENSIONS ARE SHOWN IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.
3. ORIGINAL GROUND AND EXISTING SITE FEATURES BASED ON BATHYMETRIC SURVEY COMPLETED BY GRANT LAND SURVEY, DATED SEPTEMBER 23, 2016 AND TOPOGRAPHIC SURVEY COMPLETED BY ASSOCIATED ENGINEERING, DATED NOVEMBER 3, 2017.
4. COORDINATES SHOWN IN LOCAL, GROUND COORDINATE SYSTEM, TO CONVERT TO UTM NAD 83 ZONE 10, SHIFT N: 5452594.841, E: 364495.260, SCALE FROM 0.0 BY 0.99981766.
5. ELEVATIONS ARE SHOWN IN METRIC GEODETIC DATUM DERIVED FROM ICM 87H341 ELEV 5.186 m.
6. ALL EXISTING UTILITY LOCATIONS TO BE CONFIRMED BY CONTRACTOR. ANTICIPATED LOCATIONS SHOWN.

Q:\2017-2972-03\civil\dwg\2972-03-c-001-002.dwg
DATE: 2022-05-20, Anthony Shewan



PERMIT TO PRACTICE
ASSOCIATED ENGINEERING (B.C.) LTD.
PERMIT NUMBER: 1000163
Engineers & Geoscientists BC

PROFESSIONAL
ENGINEER
C. G. DRUMPTON
May 20, 2022

REV	DATE	DESIGN	DRAWN	DESCRIPTION
A	2022MAY13	H. MASUDA	A. SHEWAN	ISSUED FOR REP

CITY OF PORT ALBERNI

WASTEWATER LAGOON
MUNICIPAL WASTEWATER
LAGOON DESLUDGING
20172972-03

SCALE: AS SHOWN

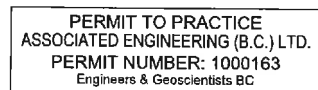
THE CITY OF
Port Alberni
CIVIL
PLAN
SITE PLAN

DRAWING	REVISION	SHEET
2972-03-C-001	A	2 / 3



GENERAL NOTES:

1. ALL DIMENSIONS ARE SHOWN IN METRES (m) UNLESS OTHERWISE NOTED.
2. ALL PIPE DIMENSIONS ARE SHOWN IN MILLIMETRES (mm) UNLESS OTHERWISE NOTED.
3. ORIGINAL GROUND AND EXISTING SITE FEATURES BASED ON BATHYMETRIC SURVEY COMPLETED BY GRANT LAND SURVEY, DATED SEPTEMBER 23, 2016 AND TOPOGRAPHIC SURVEY COMPLETED BY ASSOCIATED ENGINEERING, DATED NOVEMBER 3, 2017.
4. COORDINATES SHOWN IN LOCAL COORDINATE SYSTEM, TO CONVERT TO UTM NAD 83 ZONE 10, SHIFT N: 5452594.841, E: 364485.260, SCALE FROM 0.0 BY 0.99981743.
5. ELEVATIONS ARE SHOWN IN METRIC GEODETIC DATUM DERIVED FROM IGM 874341 ELEV 5.186 m.
6. ALL EXISTING UTILITY LOCATIONS TO BE CONFIRMED BY CONTRACTOR. ANTICIPATED LOCATIONS SHOWN.

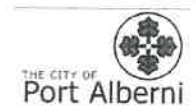


A	2022MAY13	H MASUDA	A SHEWAN	ISSUED FOR RFP
REV	DATE	DESIGN	DRAWN	DESCRIPTION

CITY OF PORT ALBERNI

WASTEWATER LAGOON
MUNICIPAL WASTERWATER
LAGOON DESLUDGING
20172972-03

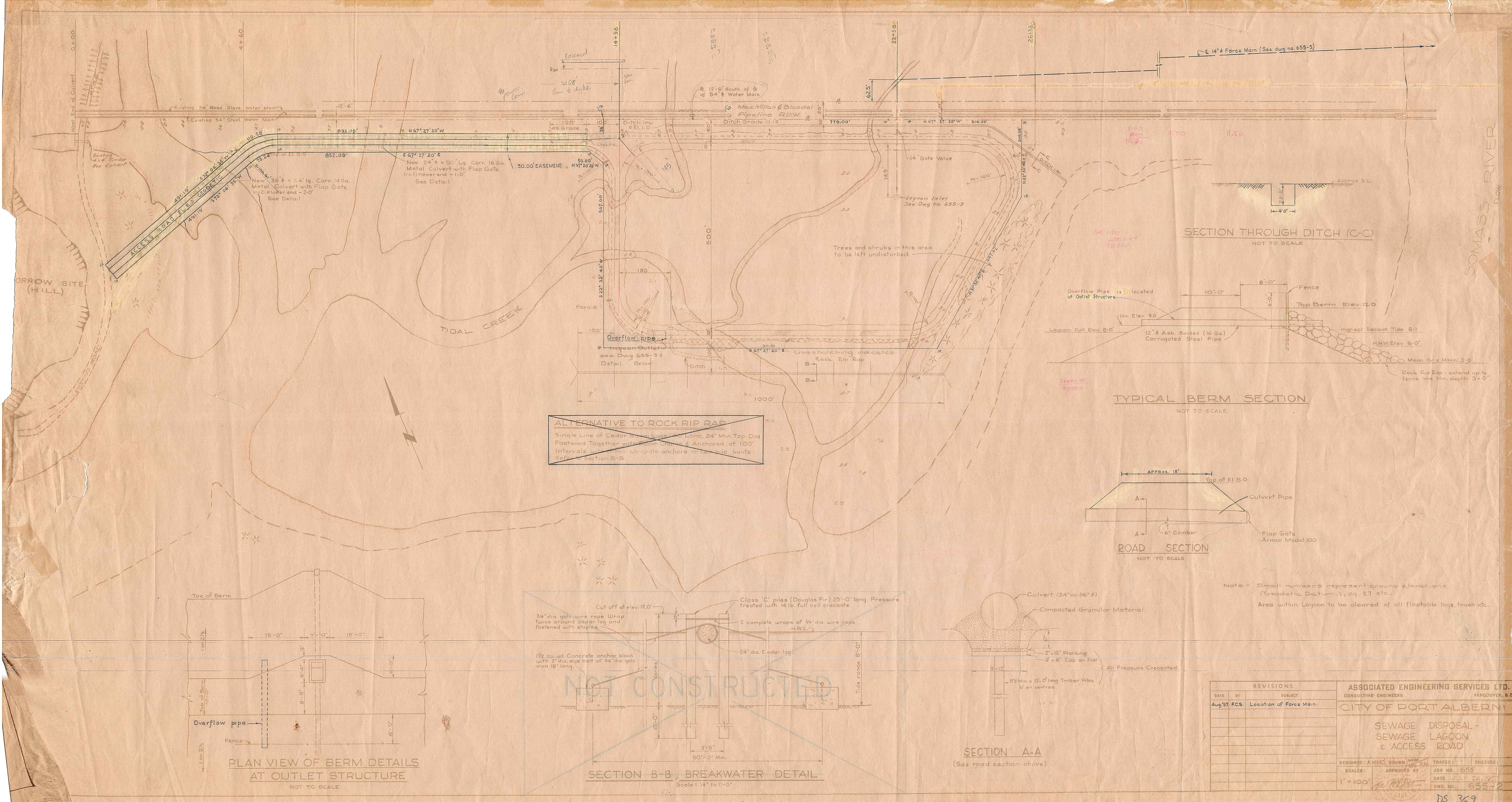
SCALE: AS SHOWN



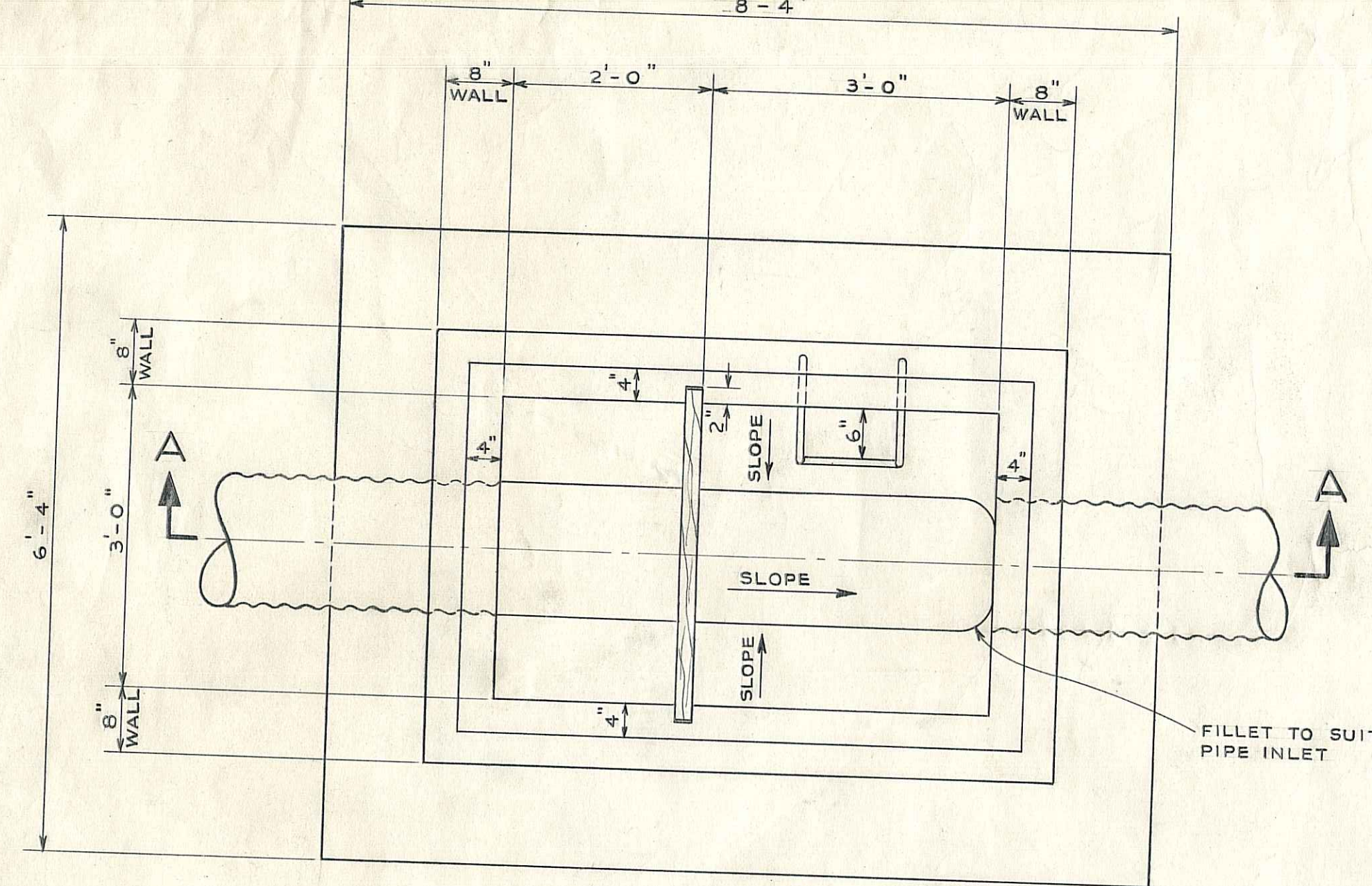
CIVIL
PLAN
LAYDOWN AREA PLAN

DRAWING	REVISION	SHEET
2972-03-C-002	A	3 / 3

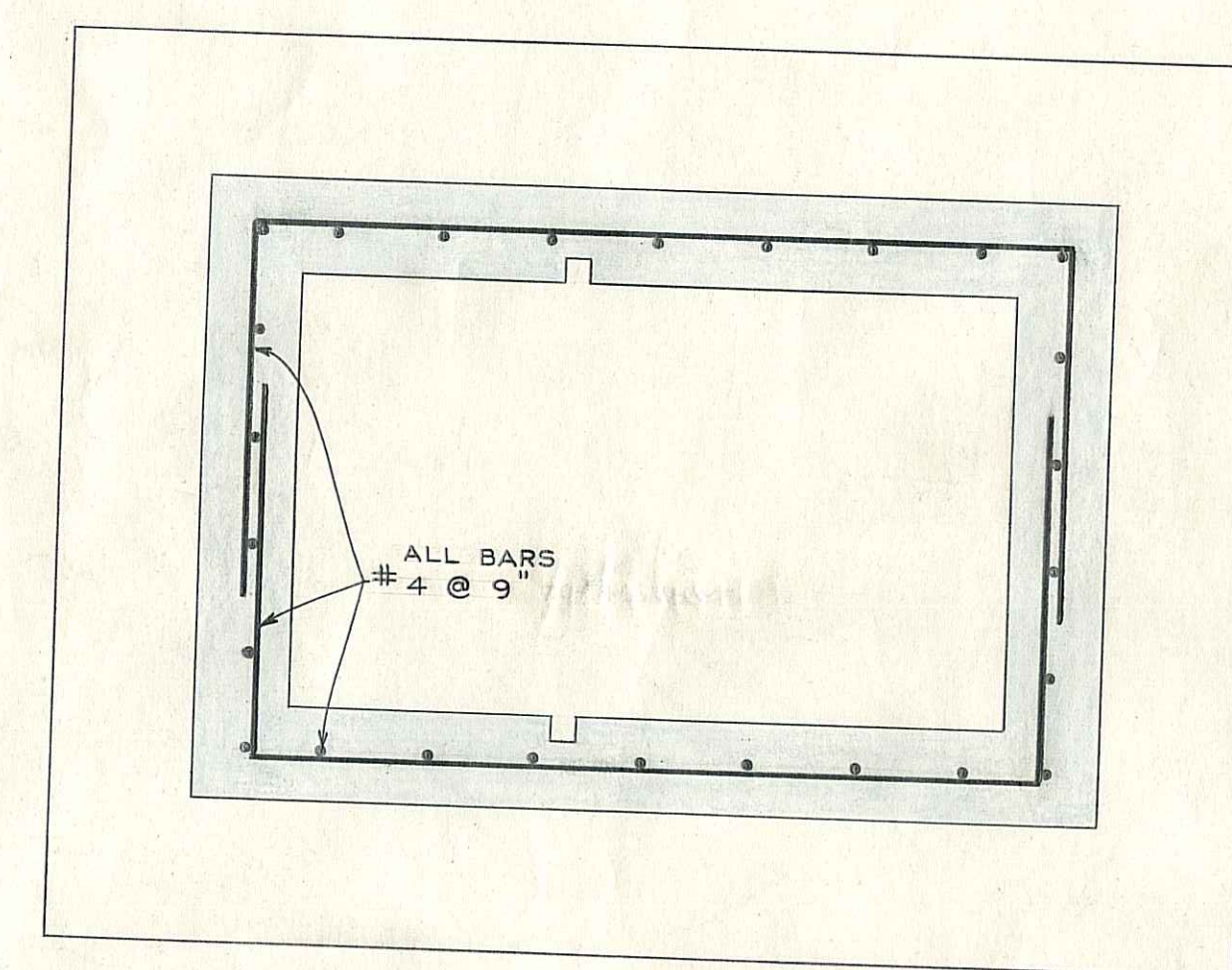
APPENDIX B – LAGOON RECORD DRAWINGS



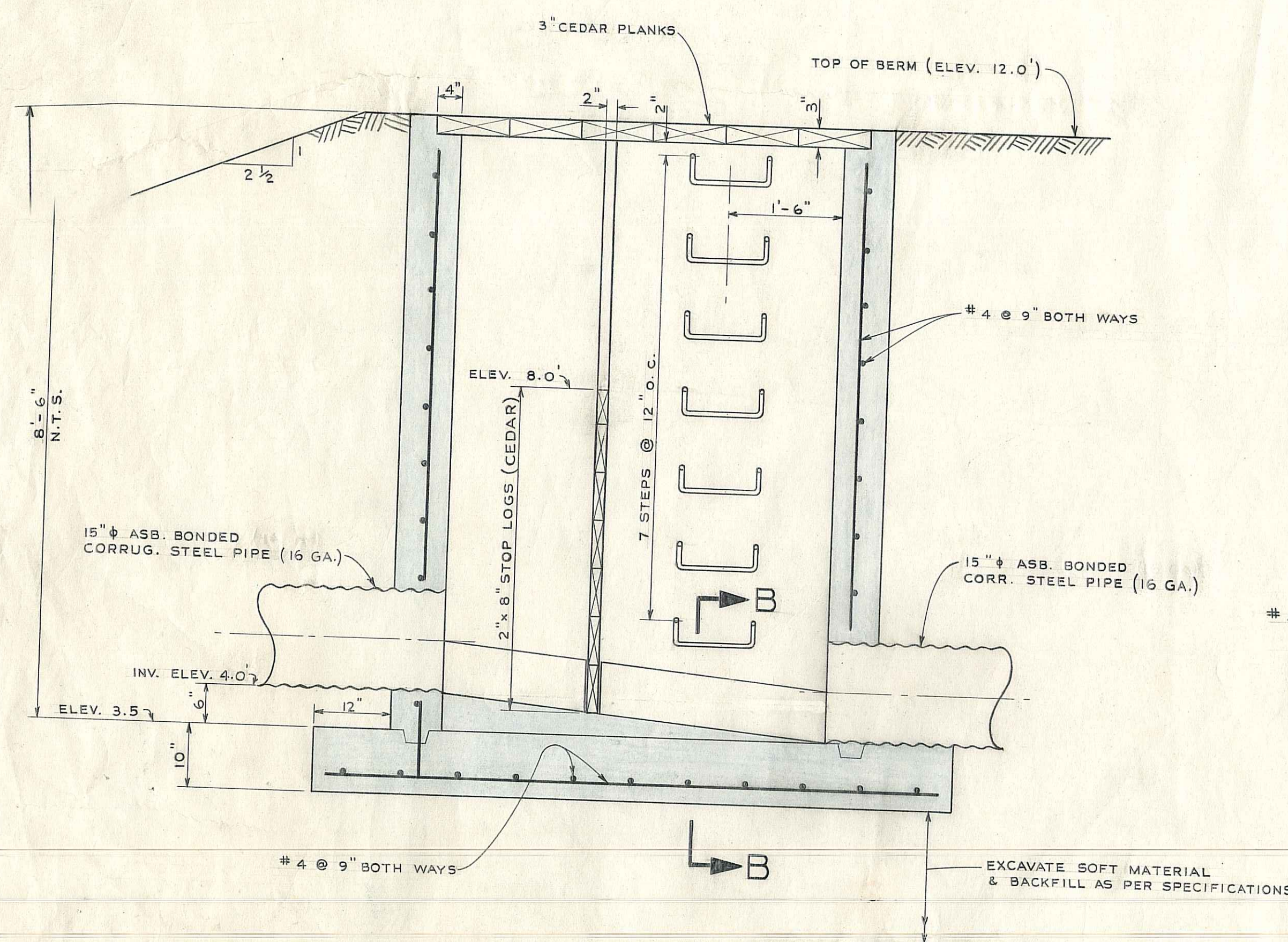
REVISIONS			ASSOCIATED ENGINEERING SERVICES LTD.	
			CONSULTING ENGINEERS	VANCOUVER, B.C.
DATE	BY	SUBJECT	CITY OF PORT ALBERNI	
Aug/57	FCS	Location of Force Main		
			SEWAGE DISPOSAL - LAGOON & ACCESS ROAD	
			DESIGNED: A.M.M.C. DRAWN: [Signature]	TRADED: [Signature] CHECKED: [Signature]
			APPROVED BY: [Signature]	JOB NO. 655
			DATE: JULY 24, 1957	DWG. NO. 655-2



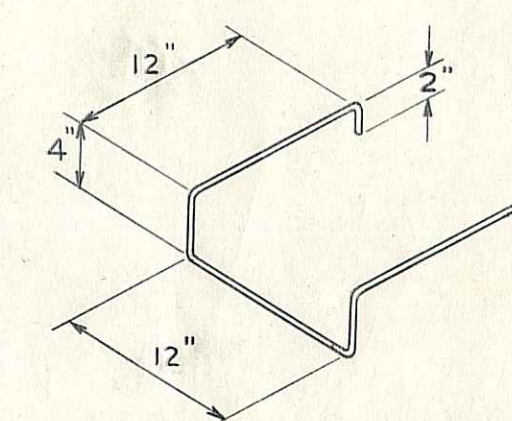
PLAN
SCALE: $\frac{3}{4}$ " = 1'-0"



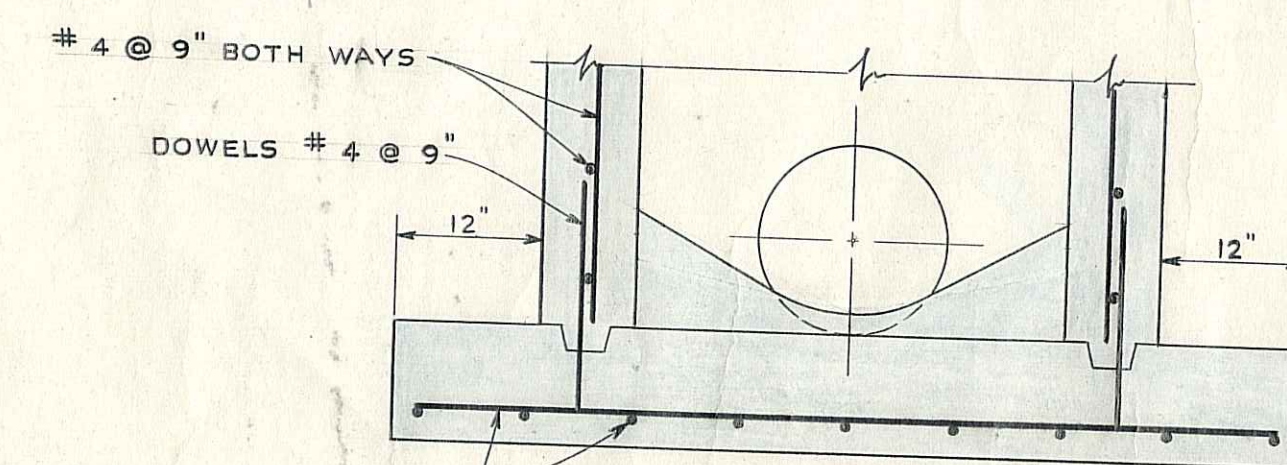
PLAN - WALL STEEL
SCALE: $\frac{3}{4}$ " = 1'-0"



SECTION A-A
SCALE: $\frac{3}{4}$ " = 1'-0"

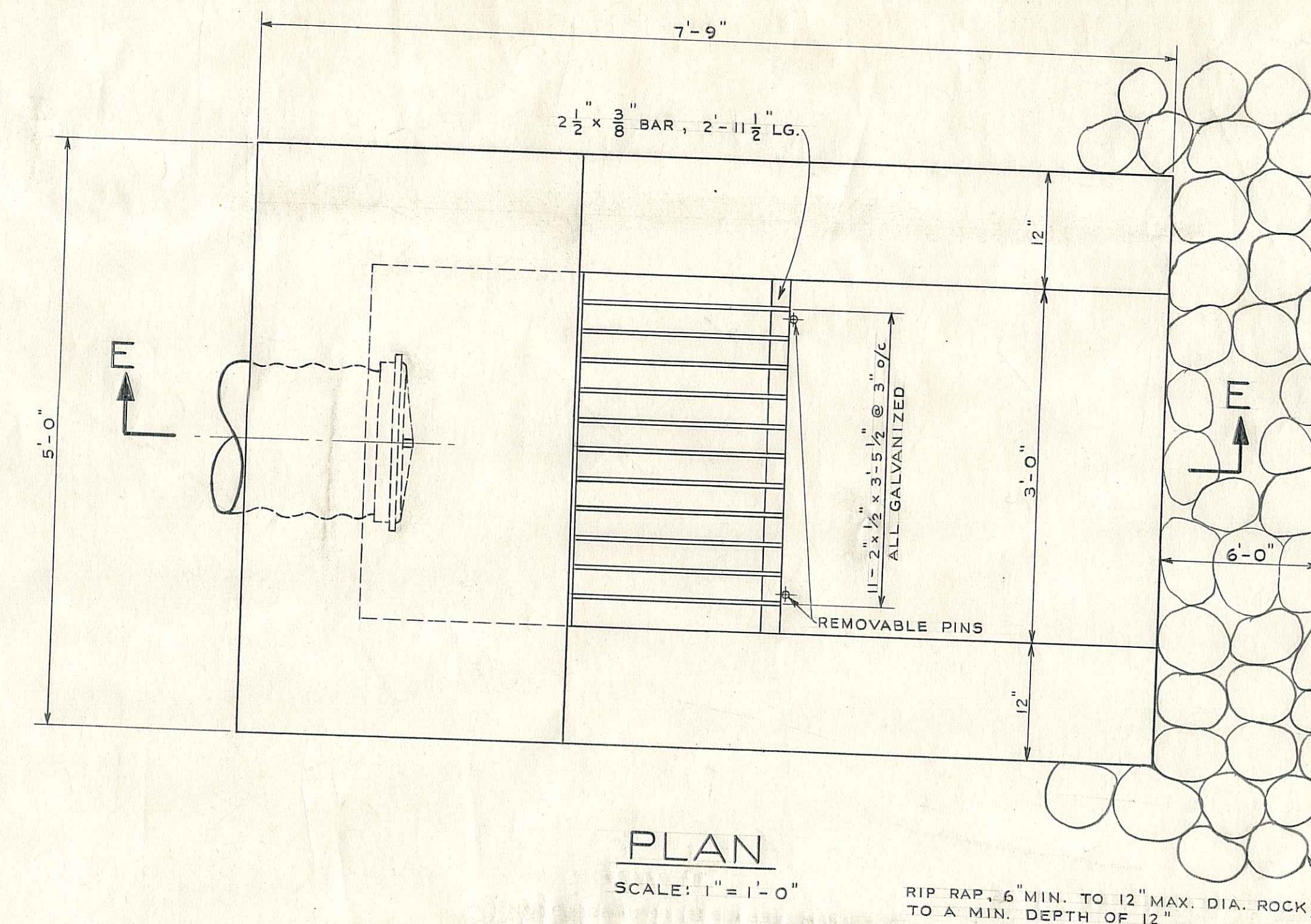


MANHOLE STEP
MAT'L: $\frac{3}{4}$ " M.S. (GALV.)



SECTION B-B
SCALE: $\frac{3}{4}$ " = 1'-0"

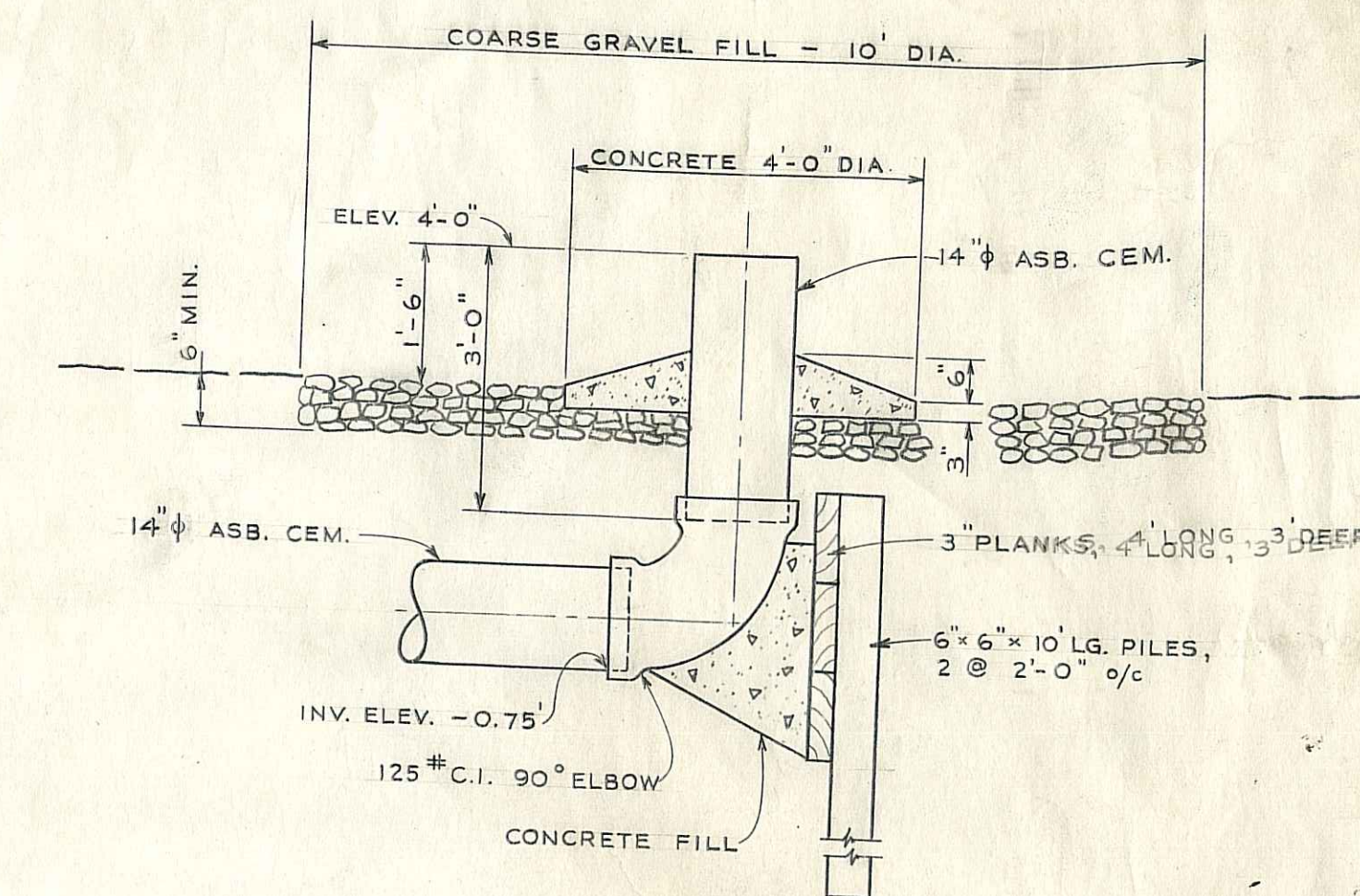
OUTLET MANHOLE
SCALE: $\frac{3}{4}$ " = 1'-0"



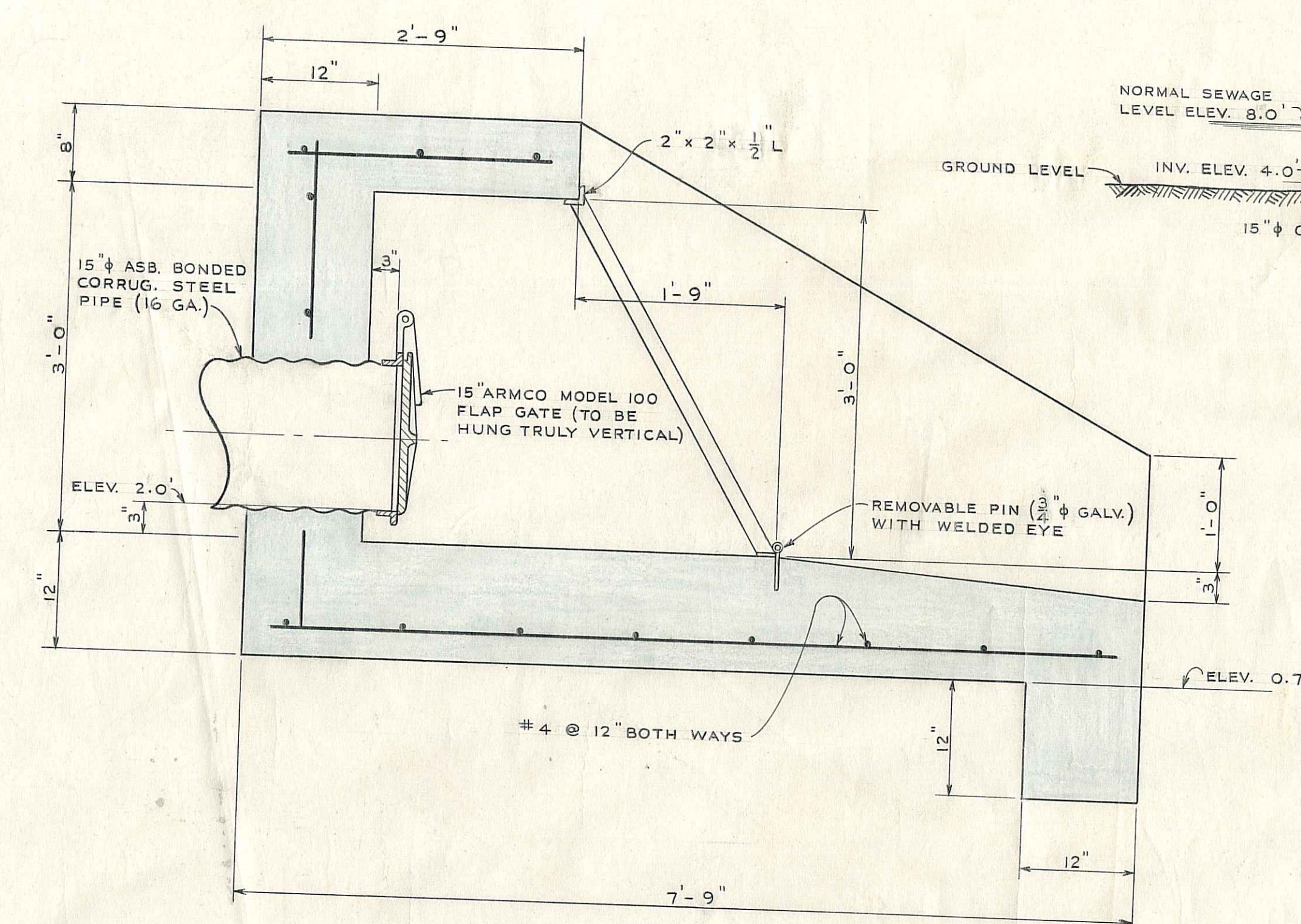
PLAN
SCALE: 1" = 1'-0"

RIP RAP, 6" MIN. TO 12" MAX. DIA. ROCK TO A MIN. DEPTH OF 12"

NOTE: REINFORCE SLABS & WALLS WITH #4 @ 12" BOTH WAYS

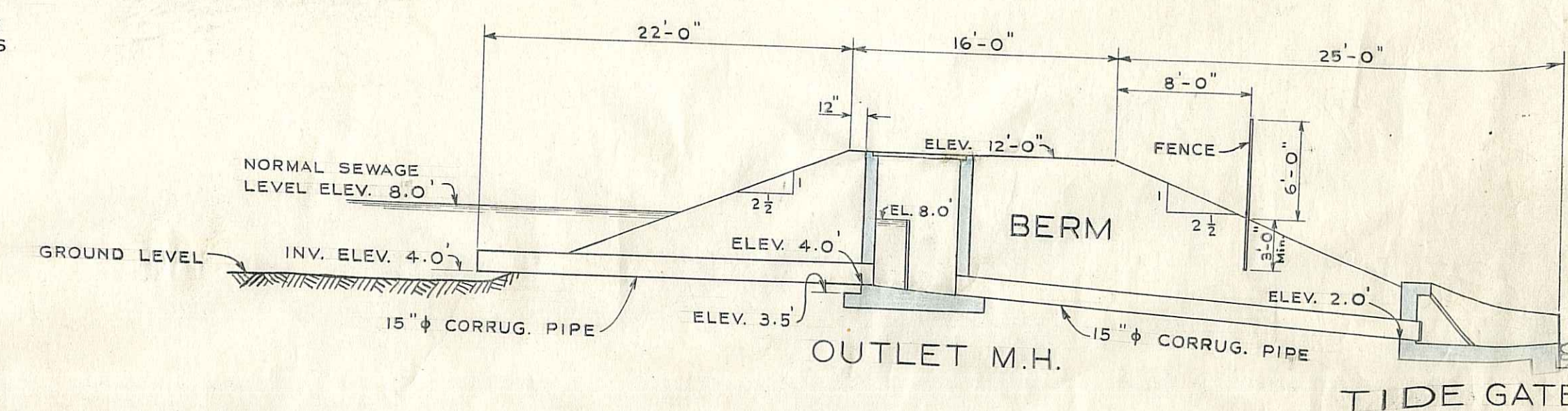


LAGOON INLET
SCALE: $\frac{1}{2}$ " = 1'-0"



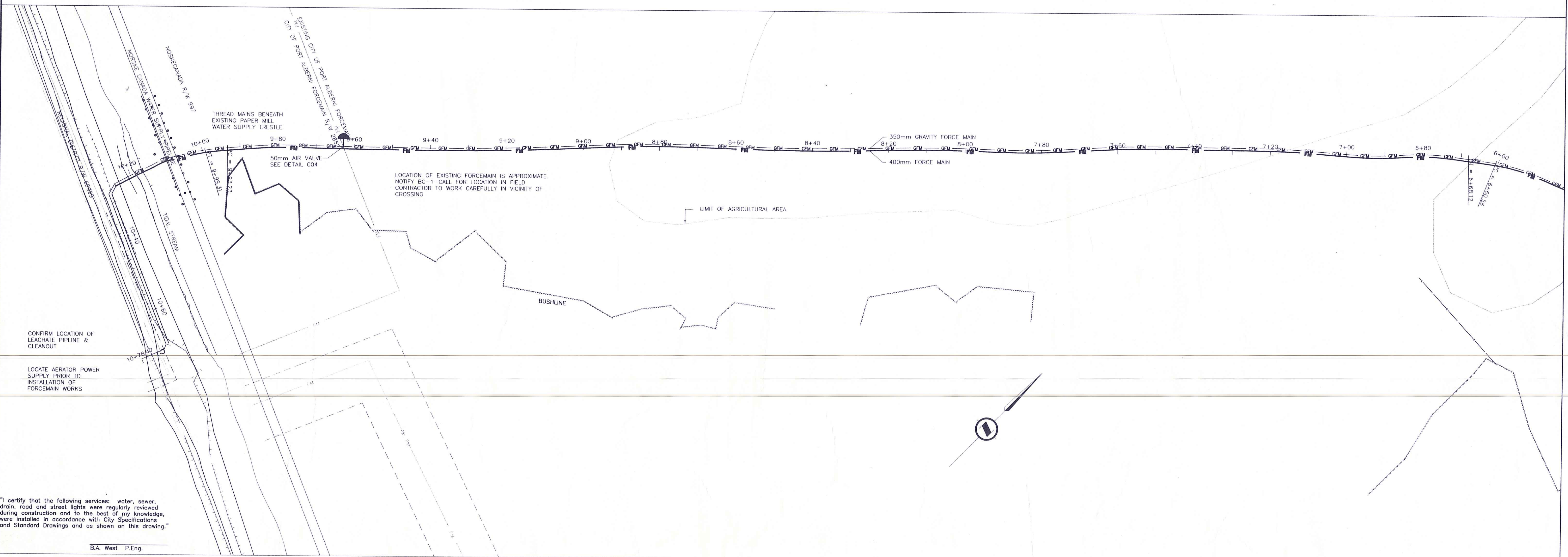
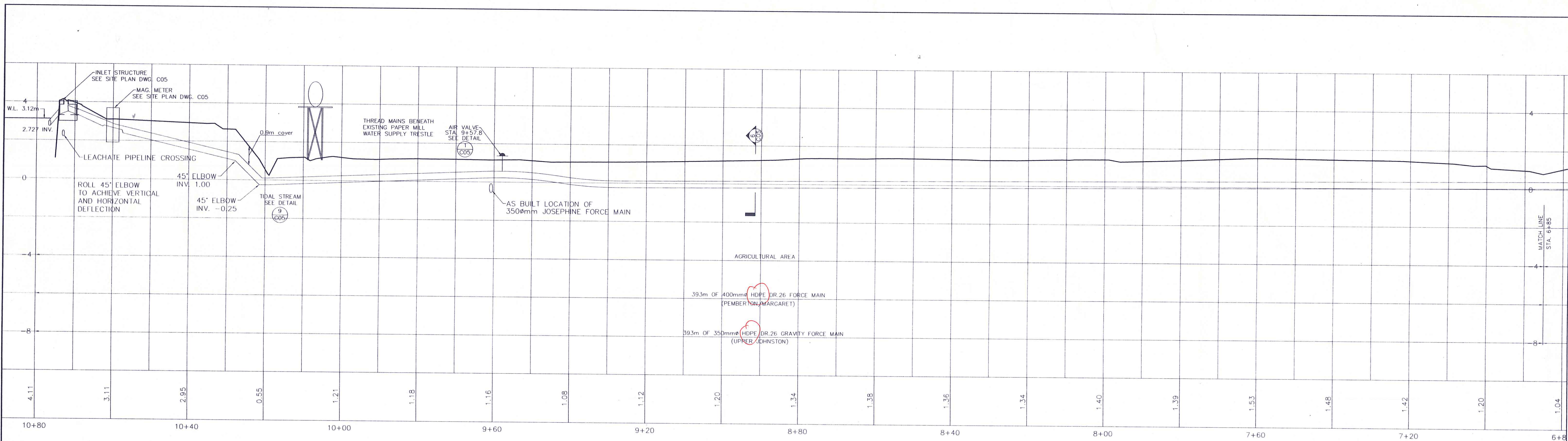
SECTION E-E
SCALE: 1" = 1'-0"

OUTLET TIDE GATE
SCALE: 1" = 1'-0"



OUTLET STRUCTURES
SCALE: $\frac{1}{8}$ " = 1'-0"

REVISIONS			ASSOCIATED ENGINEERING SERVICES LTD.	
DATE	BY	SUBJECT	CONSULTING ENGINEERS	INDUVER, B.C.
			CITY OF PORT ALBERNI B.C.	
			SEWAGE DISPOSAL LAGOON INLET & OUTLET STRUCTURES	
DESIGNED	AMC	DATE	1957	
SCALE	AS SHOWN	DATE	Aug 7, 1957	
			655-3	



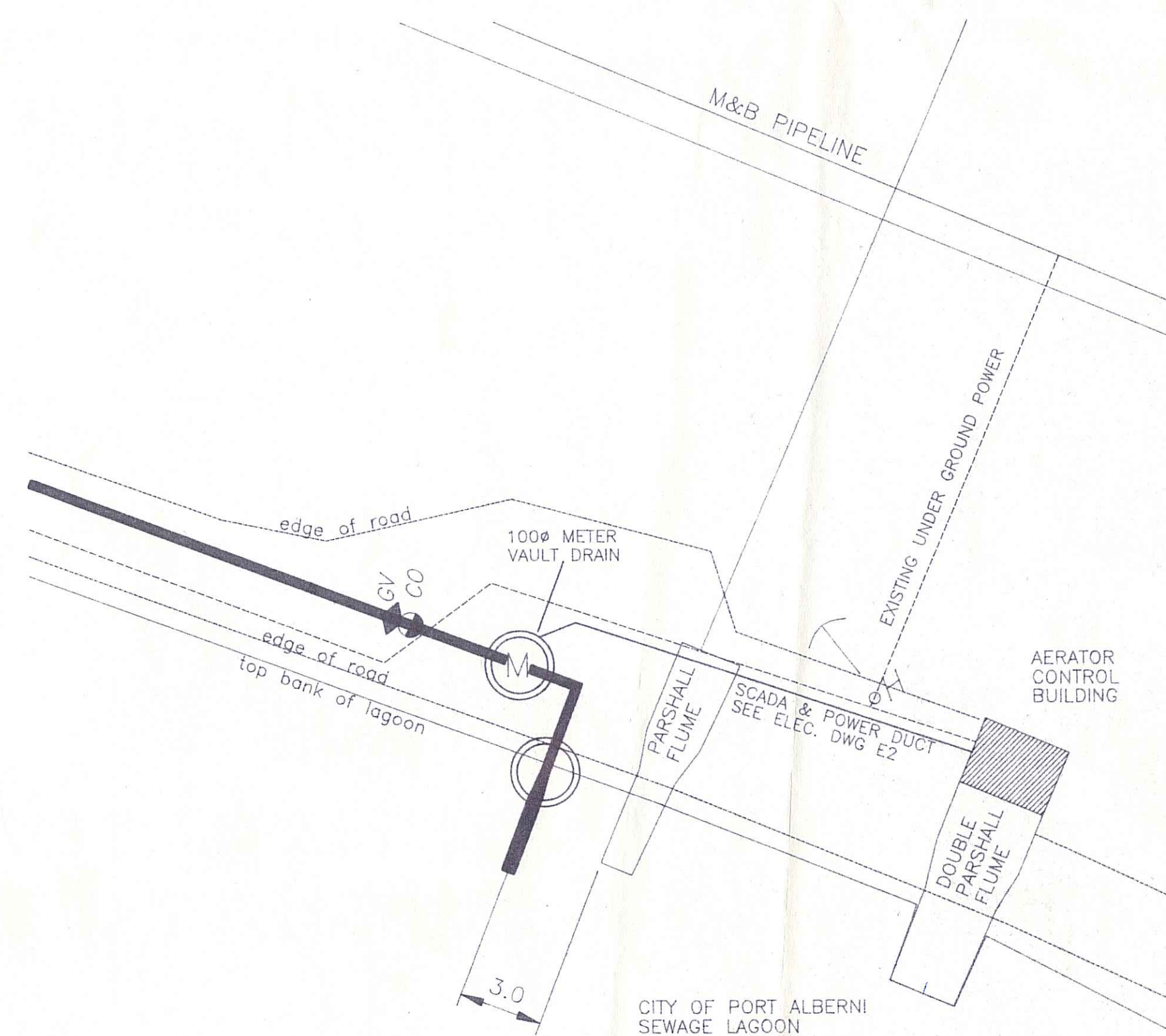
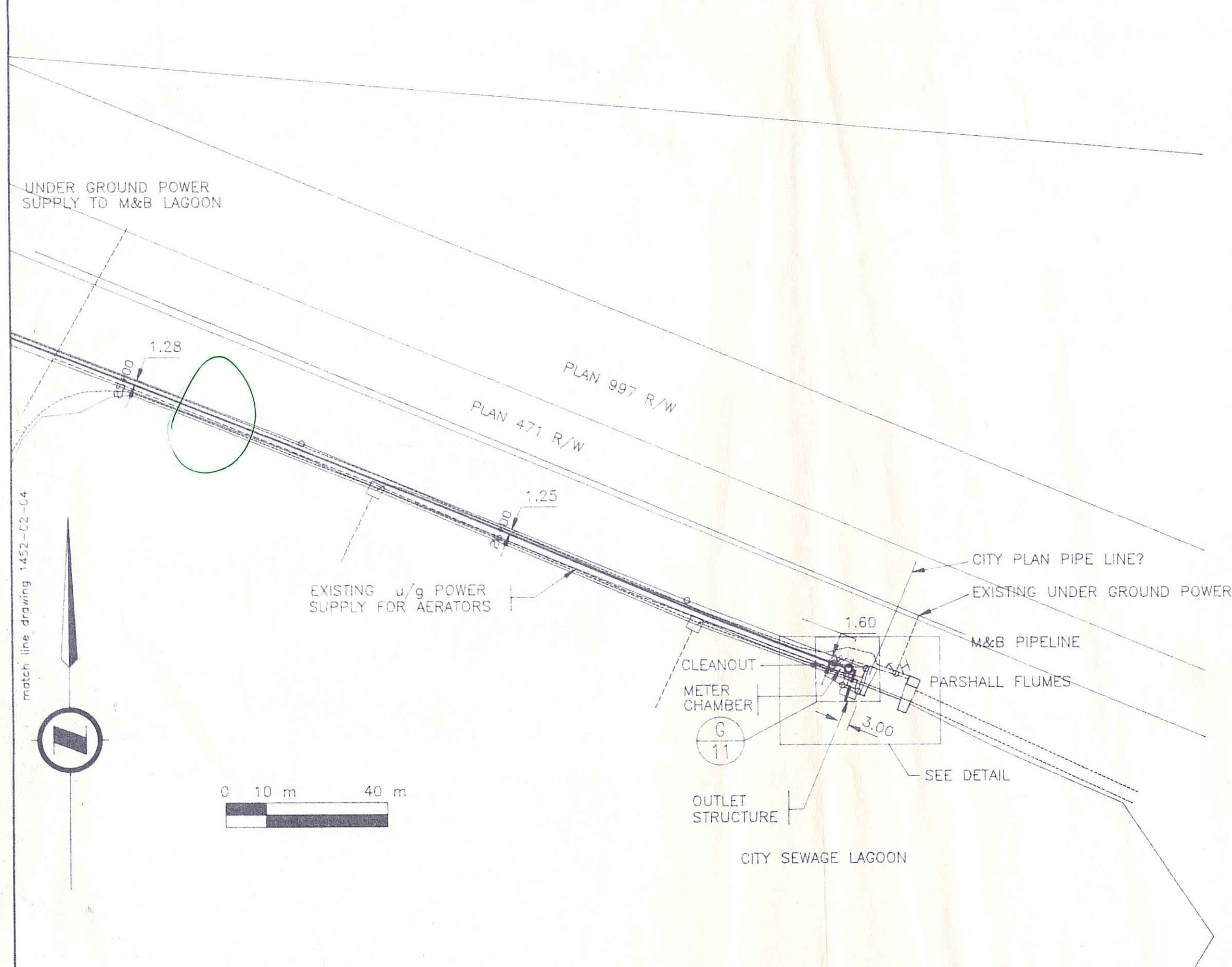
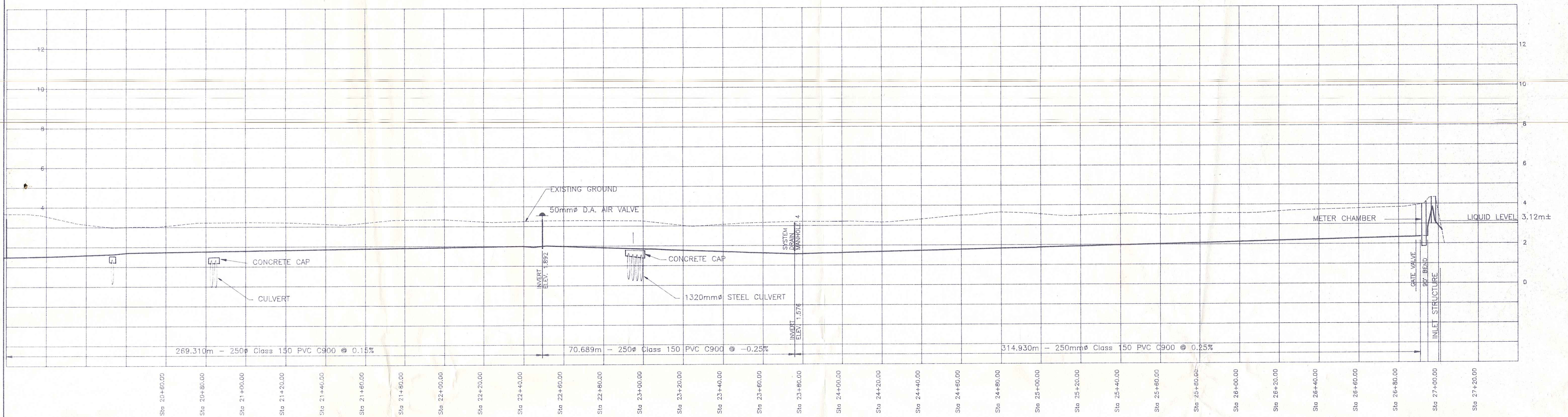
S:\1946 CPA North Port Sewage\Drawings\1946.dwg Dec 05, 2005 4:36:28pm

"I certify that the following services: water, sewer, drain, road and street lights were regularly reviewed during construction and to the best of my knowledge, were installed in accordance with City Specifications and Standard Drawings and as shown on this drawing."

B.A. West P.Eng.

EXISTING		LEGEND		DESIGN		THIS PLAN AND DESIGN ARE, AND AT ALL TIMES REMAIN THE EXCLUSIVE PROPERTY OF MCGILL & ASSOCIATES ENGINEERING LTD. AND CANNOT BE USED OR REPRODUCED WITHOUT WRITTEN CONSENT. THIS PLAN IS PREPARED FOR THE SOLE USE OF OUR CLIENT AND NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH MCGILL & ASSOCIATES ENGINEERING LTD. HAS NOT ENTERED INTO A CONTRACT. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE SHALL BE INFORMED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS.																CITY DWG: DF-862	
FORCEMAN		FORCEMAN		GRABBY FORCEMAN		TOE OF SLOPE		TOP OF BANK		MANHOLES		SAFETY		DMH								CITY OF PORT ALBERNI	
RIVER EDGE																						SHEET No.	
																						C03	
																						4 OF 6 REV. 1	
																						DRAWING No.	
																						1946-007-C03	

McGILL & ASSOCIATES ENGINEERING LTD.
5130 ARGYLE STREET
PORT ALBERNI, B.C., V9Y 1V2
telephone: (250) 724-3400 fax: (250) 724-4400
email: office@mcgilleng.com



Scale 1:150

EXISTING	LEGEND	DESIGN
• H • T	• H • T	• H • T
• CO	• CO	• CO
• D	• D	• D

REVISION	DESCRIPTION	DATE	BY
E	RECORD DRAWING	99/01/26	LJW
D	ISSUED FOR CONSTRUCTION	98/06/22	LJW
C	ISSUED FOR TENDER	98/05/14	LJW
B	GENERAL REVISION	98/01/21	LJW
A	ISSUED FOR REVIEW	97/10/10	LJW

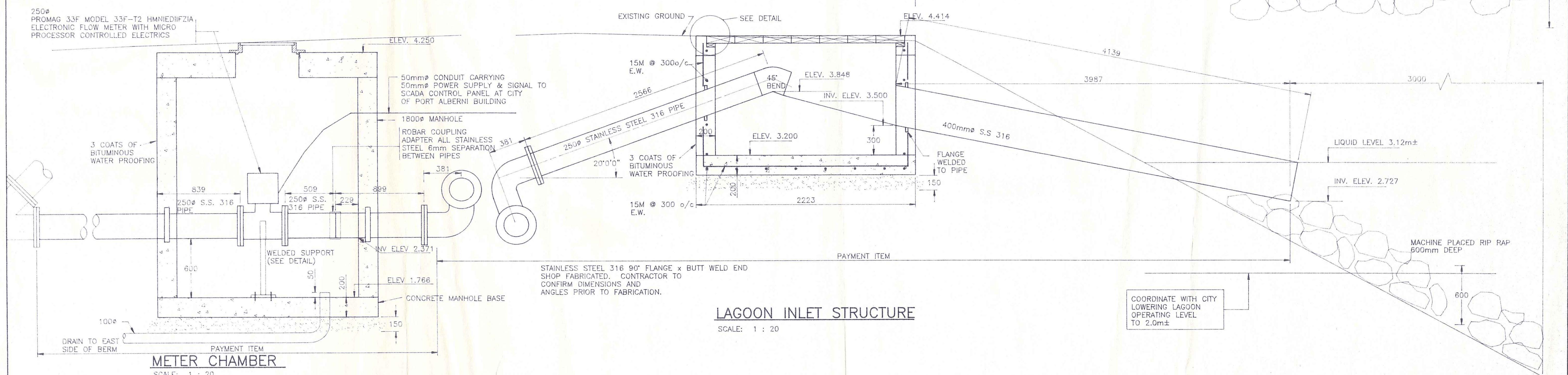
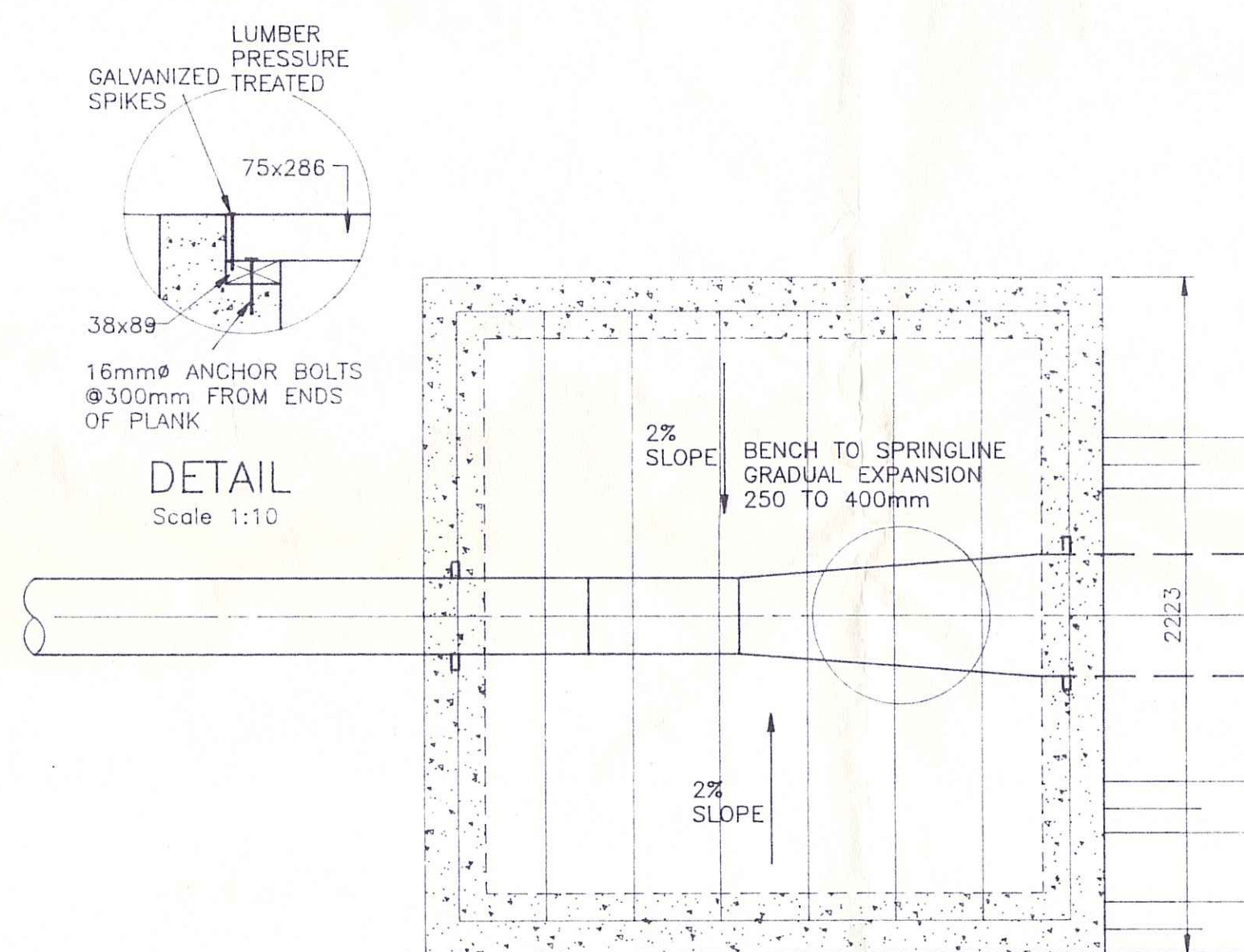
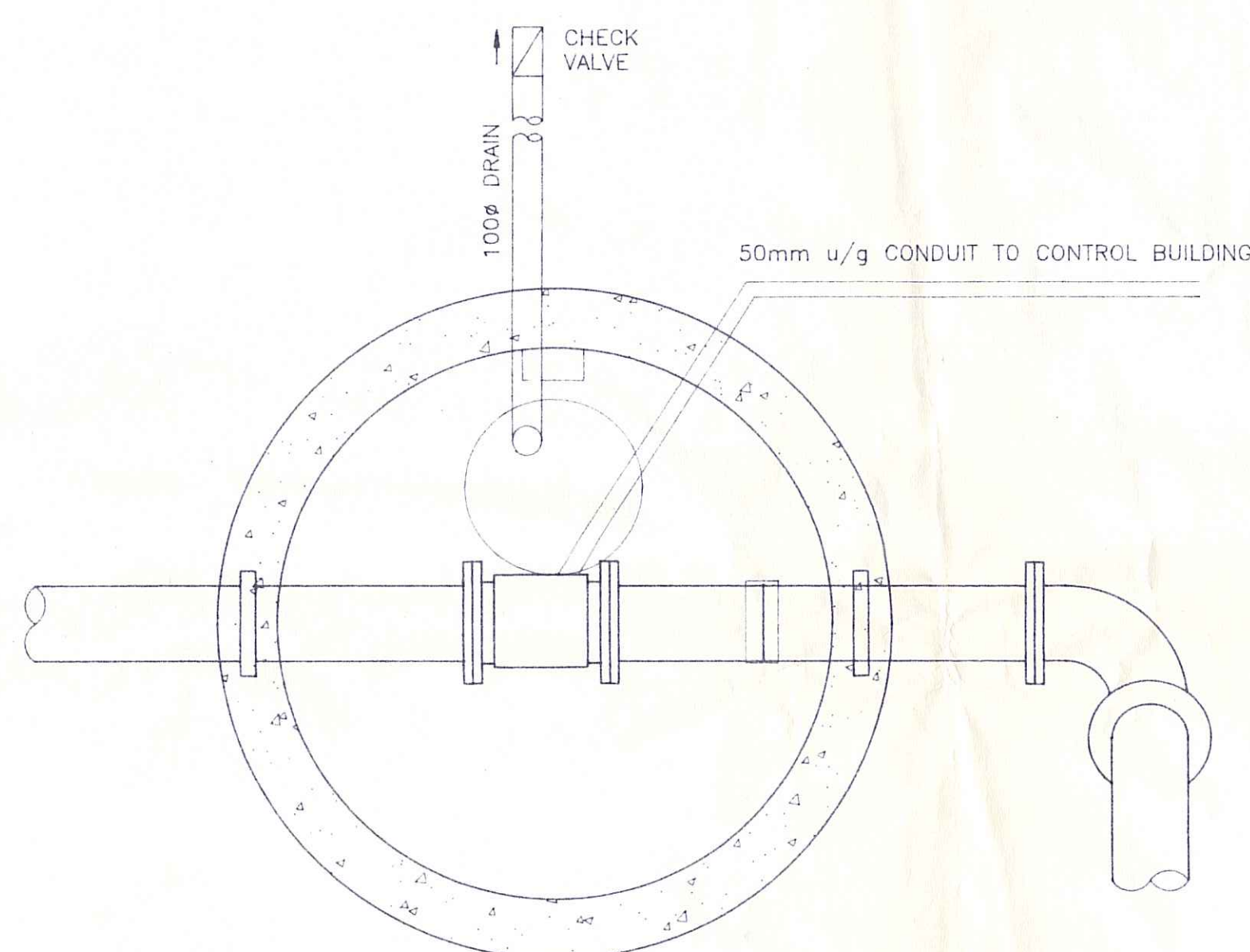
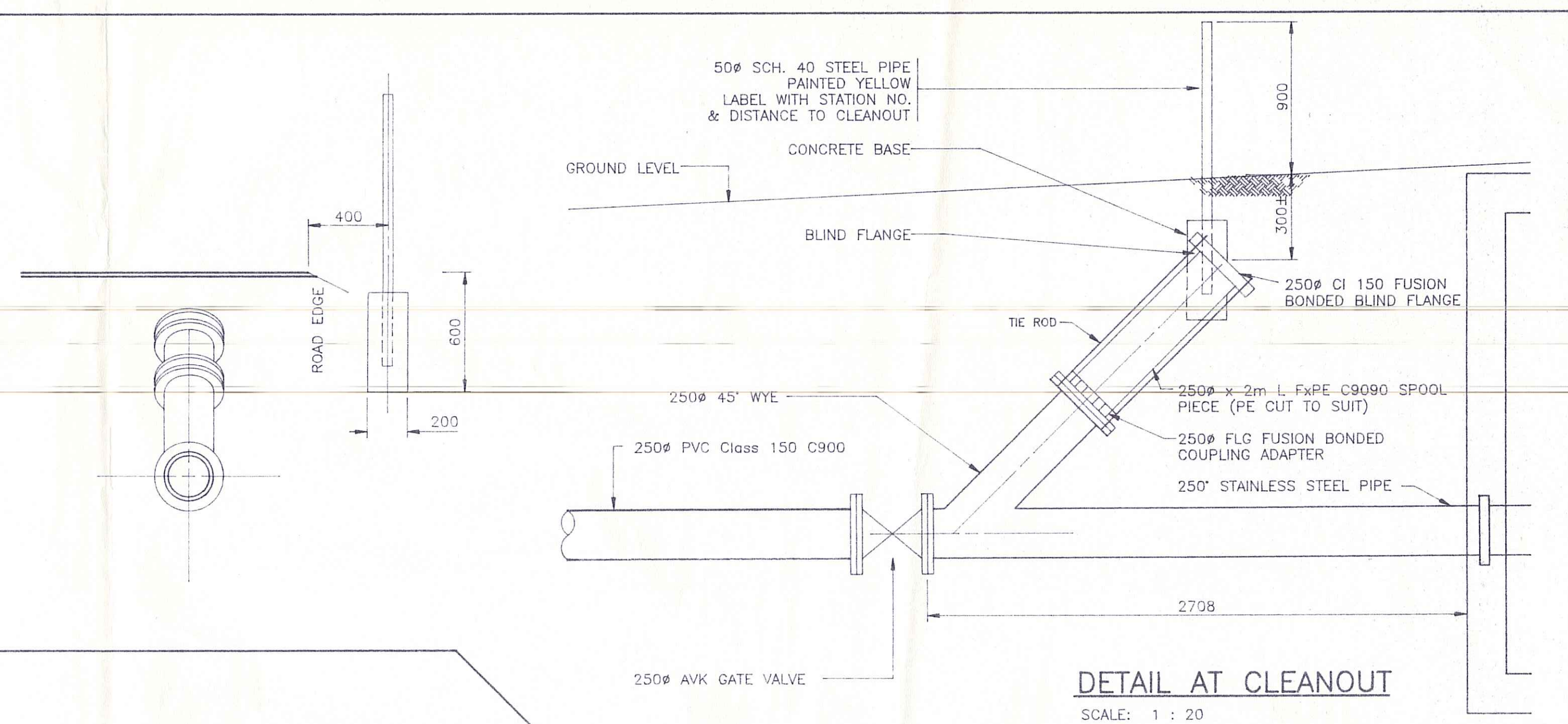
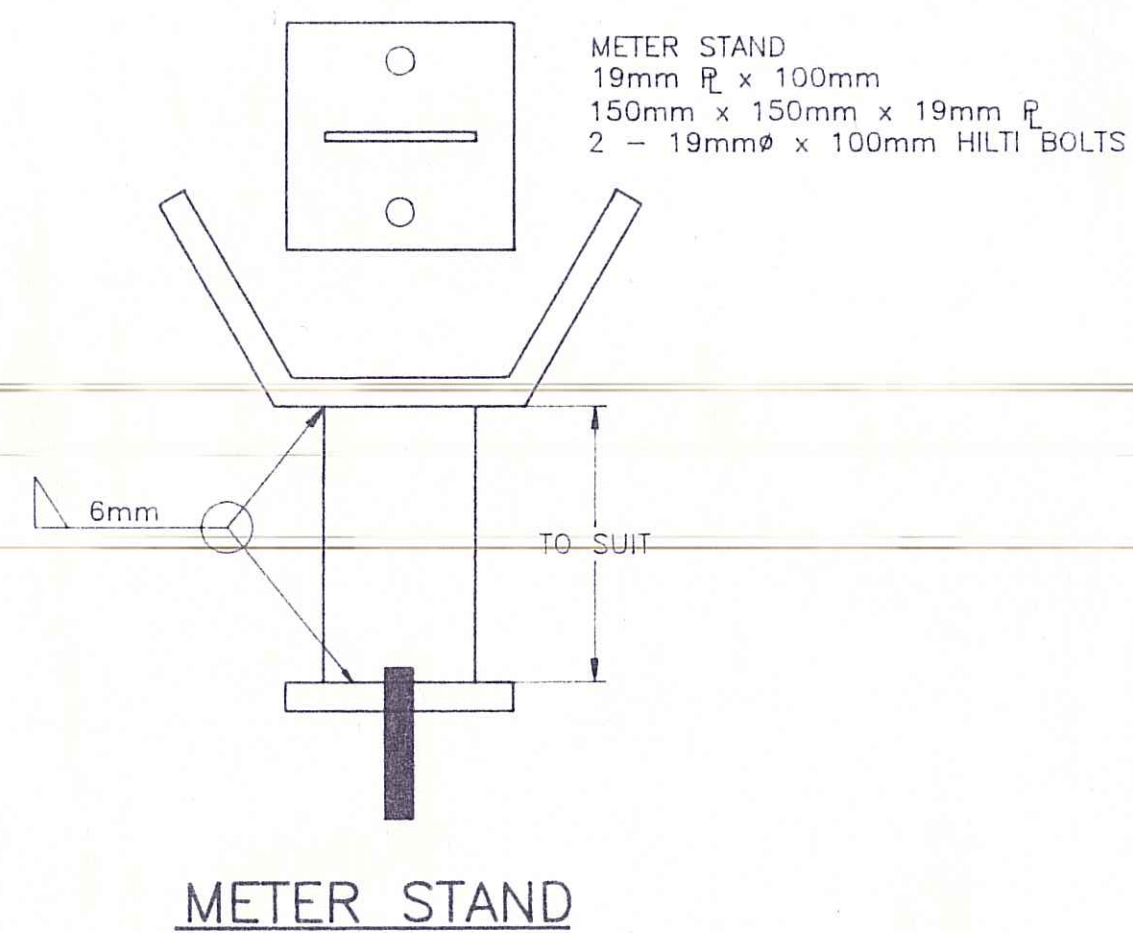
DESIGN	DRAWN	CHECKED	APPROVED
A.M.G.	LJW		

DATE	BY	SCALE	FIELD BOOK No.
		H 1:1000 / V 1:150	

McGILL & ASSOCIATES ENGINEERING LTD.
5130 ARGYLE STREET
PORT ALBERNI, B.C., V8Y 1V2
TELEPHONE: (250) 724-3400

REGIONAL DISTRICT OF ALBERNI CLAYOQUOT
LEACHATE LINE
PLAN & PROFILE 21+20 TO 27+00

SHEET No.	AUG 11 1999
05	
OF 11	REV. E
DRAWING No.	1452-02-05



E	RECORD DRAWING	98/12/16	LJW	DESIGN: AMG
D	ISSUED FOR CONSTRUCTION; ADD STAINLESS TO STEEL NOTE; REVISED INLET STRUCTURE	98/06/22	LJW	DRAWN: KC/LJW
C	ISSUED FOR TENDER	98/05/14	LJW	CHECKED:
B	GENERAL REVISION	98/02/04	LJW	APPROVED:
A	ISSUED FOR REVISION	97/10/10	LJW	DATE: 97/10/03
Rev	REVISION DESCRIPTION	DATE	BY	SCALE: N.T.S.
				FIELD BOOK No.

McGILL & ASSOCIATES
ENGINEERING LTD.
5130 ARGYLE STREET
PORT ALBERNI, B.C., V9Y 1V2
TELEPHONE: (250) 724-3400

REGIONAL DISTRICT OF ALBERNI CLAYOQUOT
LEACHATE PIPELINE
LAGOON INLET DETAILS

SHEET No. AUG 11 1999
10
OF 11 REV. E
DRAWING No. 1452-02-10

DF-850 7020

APPENDIX C - HISTORICAL SLUDGE SURVEY



May 2nd, 2013

City of Port Alberni
Attn: Guy Cicon
Port Alberni

Re: Pond Profiling

Dear Guy,

We would like to thank you for the opportunity to perform a pond profile of the Sewage Lagoon at the City of Port Alberni. Following is our report detailing the estimation and distribution of sludge material present in the lagoon.

The profiling was completed using a 14' inflatable Zodiac boat. Four Newalta employees were present during the sample event. Sampling occurred over two days, retrieving 154 depth measurements. From these 154 measurements, samples were collected to best represent three different sections. These three sections provide insight regarding the settling behavior nearest the inlet and outlet regions of the lagoon. Further analysis of the three sections verified that the density of the material varies slightly between the inlet and outlet.

Again, we would like to thank you for allowing us to provide a pond profile to The City of Port Alberni operations. Please contact the writers at either (403) 806-7905 or (403) 806-7903 with questions or concerns.

Sincerely,

NEWALTA CORPORATION

Jamie Leong, Bsc.
Scientist, On-site Solutions

Allison Rau, Bsc.
Scientist, On-site Solutions

Sewage Lagoon: Port Alberni
Survey Report



Photo 1. Sewage Lagoon, City of Port Alberni. View from the North corner of the lagoon.

Survey and Sample Summary

A survey team of four Newalta employees were at the Port Alberni Sewage Lagoon on April 23rd and 24th to survey the volume and composition of the solids in the lagoon. Personal protective equipment was worn, as well as personal gas monitors to ensure safe atmospheric conditions for work. No harmful gases were detected at the time of the survey.

Sampling was conducted by using a 14' Zodiac boat powered by an electric motor. A tagline was controlled by the shore watch personnel as a secondary safety measure while on the lagoon. Profiling began at the NE corner of the lagoon, near the inlet, and continued in a back-and-forth pattern until the NW corner was reached, near the outlet region. GPS coordinates for all depth measurements and sample points were recorded (Photo 2). GPS data was used to generate a series of diagrams to provide detailed sludge distribution.



Photo 2. An overhead view of the Sewage Lagoon. The points (blue) represent each profile location and associated sludge depth at that point. The aerators are not represented as they are mobile throughout the lagoon along cables.

NEWALTA

A sludge judge was used over the two day sampling event to measure depths and collect samples. This instrument is marked with lines of known distances and is used to determine the depth of sediment at each profile point in the lagoon. To collect the samples, it is trapped in the column by closing a valve. Once the column is filled with sludge, the sample remains in the column until the valve is released. The tool enables the bottom layers of the pond to be probed, providing information of the stratification of the lagoon. By using clear column the sludge and water fractions can be viewed independently and help provide information about the overall lagoon composition. The lagoon was divided into three sections (A, B and C) as mapped in Photo 3. During sampling, it was observed that less dense material existed at the inlet area of the pond (section A), section B followed similar characteristics to section A. Section C of the lagoon was observed with slightly more dense, settled sludge.

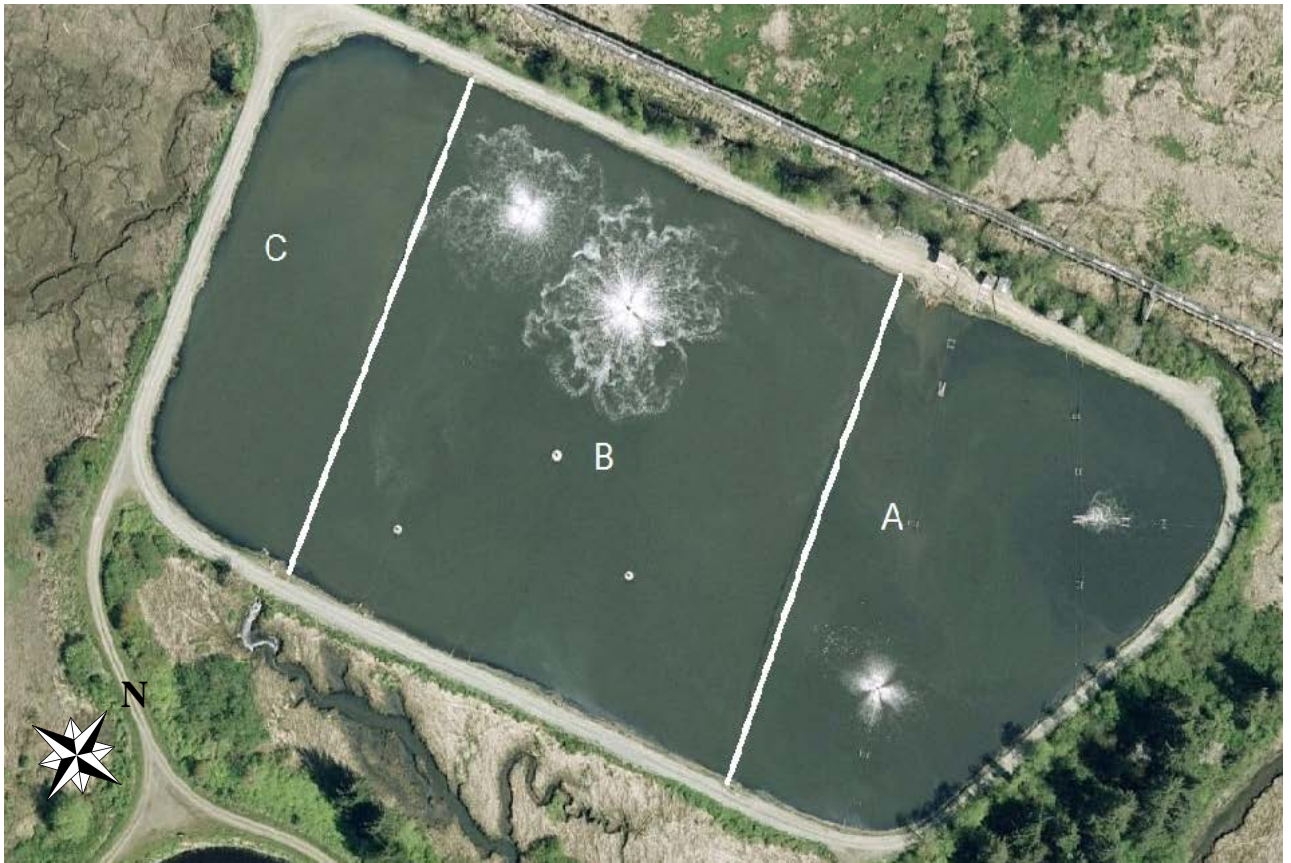
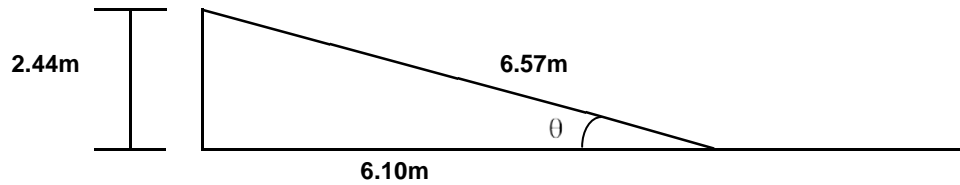


Photo 3. Samples were pulled from 3 different sections (A, B and C) of the lagoon and stored as a composite to give the best representation of the area.



Sections A, B and C are divided by two HDPE (high density polyethylene) weirs. These weirs are in place to slow and inhibit the flow of larger solid materials to the outlet region of the lagoon. As well, there is no aeration present in section C of the lagoon.

At the time of the survey a pocket void of sludge was found in section B, as seen in Figure 2. With limited information of the lagoon history, the reasons for this pit are inconclusive.



$$\tan \theta = (1/2.5)$$

$$\theta = \tan^{-1}(1/2.5)$$

$$\theta = 21.8^\circ$$

$$\sin \theta = (2.44/Y)$$

$$Y = (2.44/\sin(21.8))$$

$$Y = 6.57\text{m}$$

$$\tan \theta = (2.44/X)$$

$$X = (2.44/\tan(21.8))$$

$$X = 6.10\text{m}$$

Figure 3. The diagram represents a side profile of the lagoon as well as all numbers used for the various calculations to determine holding capacity and sludge volume. The toe of the freeboard goes to a depth of 2.44m (as previously discussed with assumptions) and has a horizontal reach of 6.10m into the lagoon with the side profile berm of a slop ratio of 1/2.5 (assumption based).

Sample Results

The sludge material that was extracted during the sampling event was evaluated in Newalta's Calgary lab facility. The samples were analyzed and sections A and B were determined to have a density of $\sim 1.03\text{T/m}^3$ and section C had a slightly higher density of $\sim 1.05\text{T/m}^3$. The density of all 3 sections may be slightly different than what is recorded due to variations in equipment accuracy.

The samples in each segment were composed from a composite from multiple points within each section (Photo 3) in order to obtain a sample representative of the entire area. The %solids for sections A and B were similar. Section C had slightly higher % solids content due to natural flow of the pond over the weirs, settling in section C with the least amount of solid movement by aerators.

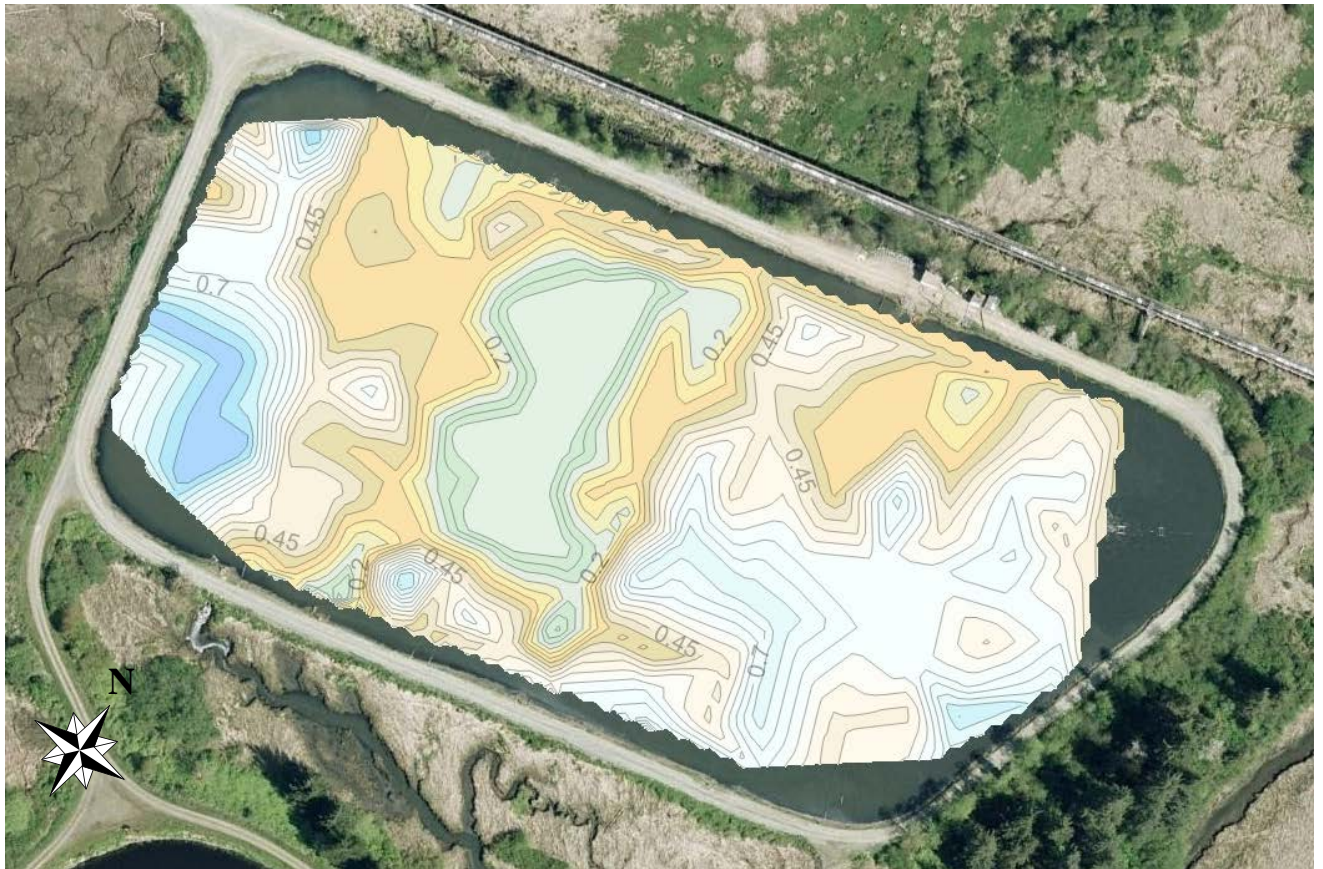
	% Solids	Density (T/m^3)	Volume/Section (m^3)	Volume Sludge/Section (m^3)
Section A	3.47	1.03	31,050	6,640
Section B	2.28	1.03	52,360	6,800
Section C	7.87	1.05	17,150	4,060
Average	4.54	1.04	Total: 100,560	Total: 17,500

Table 1. Table of testing results of the solids material collected during the sampling episode. The data depicts that the percent solids are consistent with the density, with the difference in section C attributed to longer settling time at the outlet region of the pond and no aeration.

Due to inadequate data from the P&ID, assumptions have been made in order to calculate the total lagoon holding volume as well as the sludge volume. It was assumed the total depth was 2.44m (8ft), the side profile of the berm was estimated at a 2.5/1 slope, and the bottom of the lagoon was a flat surface with no contours. From these assumptions, the total operational holding capacity of the Sewage Lagoon is 100, 560m³. Without the appropriate data, the minimum operation holding capacity is unable to be determined.

The lagoon has been calculated to contain a total sludge volume of 17, 500m³ +/- 2625m³ based on average depths for sections A, B and C of 0.54m, 0.33m and 0.64m, respectively. There is a 15% error associated with this estimation due to the angle of incidence when sampling caused by drift from wind and boat movement. The tested sludge had an average percent solid of 4.5% with a density of ~1.04T/m³ (Table 1). This translates to approximately 820 BDT +/- 125 BDT.

Figure 1. Aerial view of the Sewage Lagoon with an over lay of the contour lines determined



from sampling. There cannot be any extrapolations from the 2D topographical because of limited sample data in regions other than profile points.

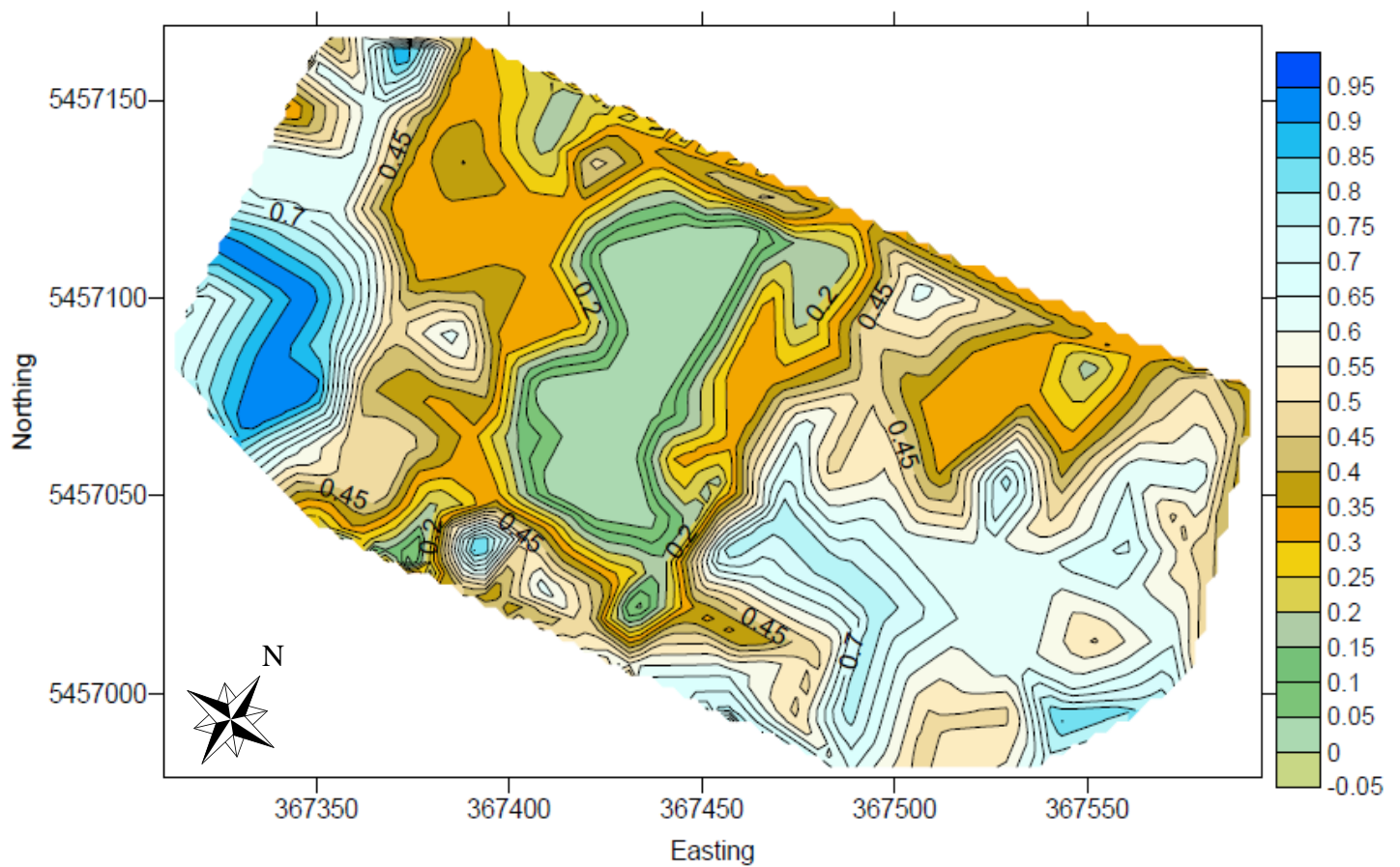


Figure 2. Overhead topographic map of the Sewage Lagoon. This figure represents a close up of the contour lines as seen in Figure 1.

Appendix

Contour Map from the ENE Corner

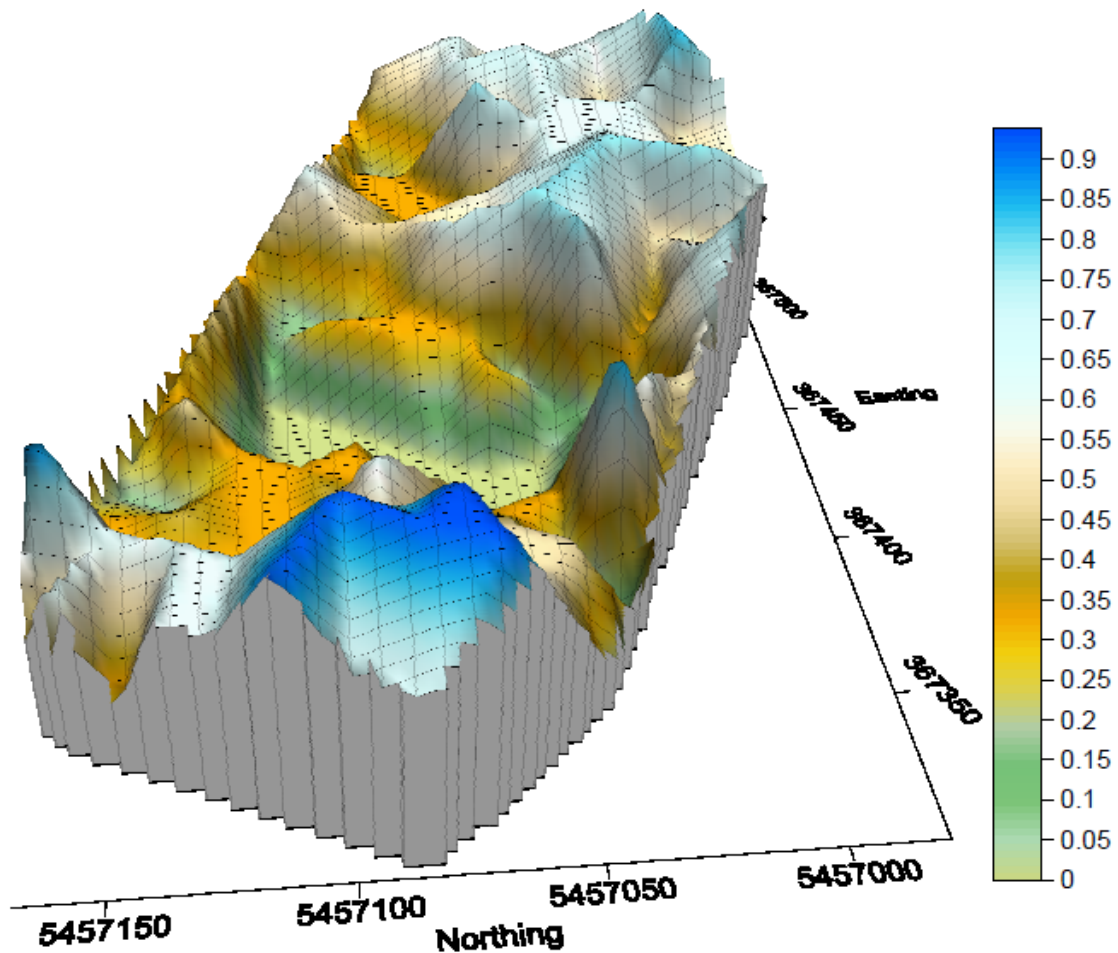


Figure 3. A 3D Contour map of the sediment distribution as seen from the ENE corner. It is shown there is a large region (green) half way in the pond where there are little to no solids present 0.0-0.1m (volume void of sludge).

Contour Map from the WSW Corner

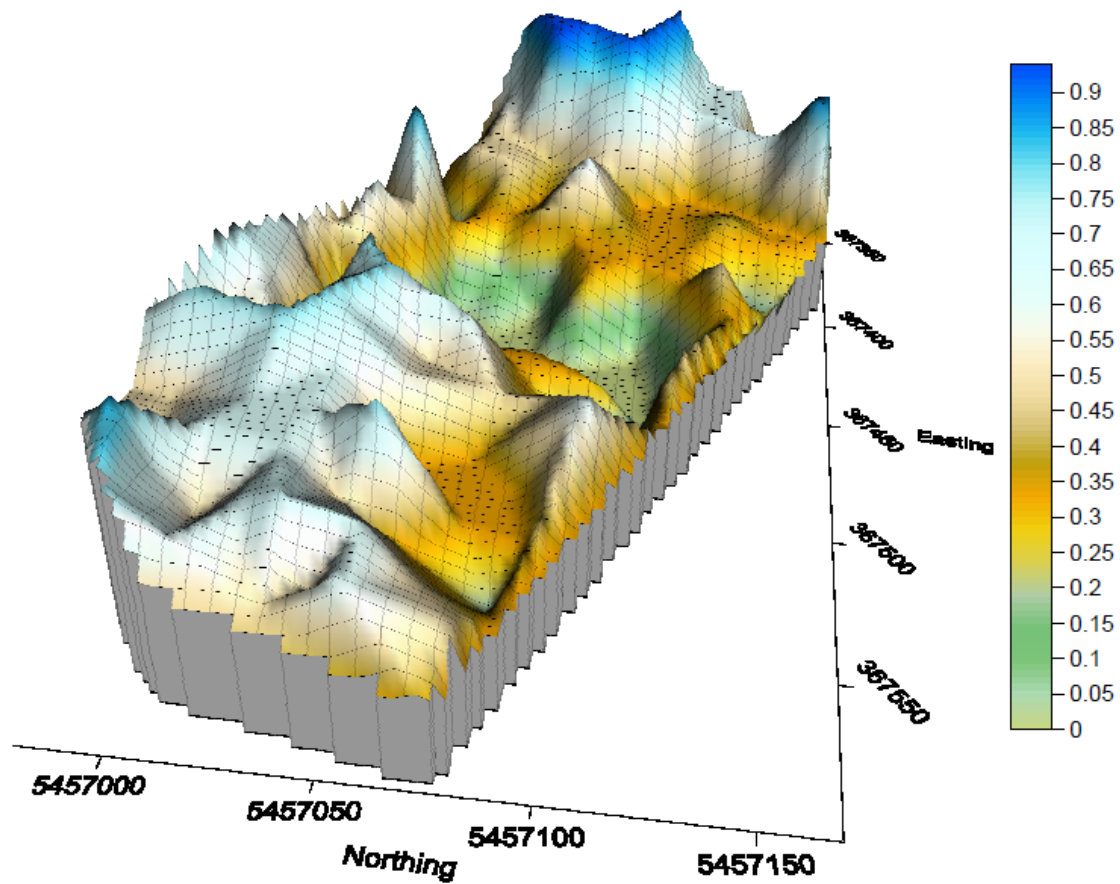


Figure 4. 3D Contour map of the sediment distribution as seen from the WSW Corner. The inlet area can be seen in the NW corner with depth between 0.15-0.35m. The outlet area at the far SE corner with 0.7-0.9m sludge depth.



Tabulated data

Point	Tool	Reading	Sludge Depth (m)
1	SJ	1.00	0.33
2	SJ	1.50	0.49
3	SJ	1.75	0.56
4	SJ	2.00	0.64
5	SJ	1.50	0.49
6	SJ	1.50	0.49
7	SJ	2.50	0.79
8	SJ	2.00	0.64
9	SJ	1.50	0.49
10	SJ	1.00	0.33
11	SJ	1.50	0.49
12	SJ	2.00	0.64
13	SJ	2.25	0.72
14	SJ	2.00	0.64
15	SJ	1.50	0.49
16	SJ	2.00	0.64
17	SJ	2.75	0.87
18	SJ	2.25	0.72
19	SJ	1.75	0.56
20	SJ	1.50	0.49
21	SJ	2.00	0.64
22	SJ	2.00	0.64
23	SJ	1.50	0.49
24	SJ	1.00	0.33
25	SJ	0.50	0.17
26	SJ	1.00	0.33
27	SJ	1.00	0.33
28	SJ	2.50	0.79
29	SJ	2.00	0.64
30	SJ	2.00	0.64
31	SJ	1.50	0.49
32	SJ	1.50	0.49
33	SJ	2.00	0.64
34	SJ	2.50	0.79
35	SJ	2.50	0.79
36	SJ	2.00	0.64
37	SJ	1.00	0.33
38	SJ	1.00	0.33

39	SJ	1.50	0.49
40	SJ	1.00	0.33
41	SJ	1.75	0.56
42	SJ	2.50	0.79
43	SJ	1.50	0.49
44	SJ	1.50	0.49
45	SJ	2.50	0.79
46	SJ	2.00	0.64
47	SJ	1.00	0.33
48	SJ	2.00	0.64
49	SJ	2.50	0.79
50	SJ	1.50	0.49
51	SJ	1.50	0.49
52	SJ	2.00	0.64
53	SJ	1.50	0.49
54	SJ	1.00	0.64
55	SJ	2.50	0.79
56	SJ	1.00	0.33
57	SJ	2.00	0.64
58	SJ	1.00	0.33
59	SJ	0.50	0.17
60	SJ	0.50	0.17
61	SJ	1.00	0.33
62	SJ	1.00	0.33
63	SJ	0.50	0.17
64	SJ	0.50	0.17
65	SJ	0.50	0.17
66	SJ	0.00	0.00
67	SJ	1.50	0.49
68	SJ	1.00	0.33
69	SJ	0.00	0.00
70	SJ	1.00	0.33
71	SJ	1.00	0.33
72	SJ	1.00	0.33
73	SJ	0.50	0.17
74	SJ	1.50	0.49
75	SJ	0.00	0.00
76	SJ	0.00	0.00
77	SJ	0.00	0.00
78	SJ	0.00	0.00

79	SJ	0.00	0.00
80	SJ	0.00	0.00
81	SJ	0.00	0.00
82	SJ	2.00	0.64
83	SJ	1.00	0.33
84	SJ	0.00	0.00
85	SJ	0.00	0.00
86	SJ	0.00	0.00
87	SJ	0.00	0.00
88	SJ	0.00	0.00
89	SJ	0.00	0.00
90	SJ	1.50	0.49
91	SJ	1.00	0.33
92	SJ	1.25	0.41
93	SJ	3.00	0.94
94	SJ	1.00	0.33
95	SJ	0.50	0.17
96	SJ	0.00	0.00
97	SJ	1.00	0.33
98	SJ	0.00	0.00
99	SJ	1.00	0.33
100	SJ	1.00	0.33
101	SJ	1.50	0.49
102	SJ	1.00	0.33
103	SJ	1.00	0.33
104	SJ	1.00	0.33
105	SJ	1.25	0.41
106	SJ	1.00	0.33
107	SJ	1.00	0.33
108	SJ	0.50	0.17
109	SJ	0.00	0.00
110	SJ	0.50	0.17
111	SJ	0.50	0.17
112	SJ	1.00	0.33
113	SJ	1.00	0.33
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115	SJ	2.00	0.64
116	SJ	1.00	0.33
117	SJ	1.50	0.49
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119	SJ	1.00	0.33
120	SJ	0.50	0.17
121	SJ	1.50	0.49
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123	SJ	1.25	0.41
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125	SJ	1.00	0.33
126	SJ	1.00	0.33
127	SJ	1.25	0.41
128	SJ	1.00	0.33
129	SJ	1.00	0.33
130	SJ	1.00	0.33
131	SJ	1.00	0.33
132	SJ	1.00	0.33
133	SJ	1.00	0.33
134	SJ	2.00	0.64
135	SJ	2.50	0.79
136	SJ	2.50	0.79
137	SJ	3.00	0.94
138	SJ	2.00	0.64
139	SJ	2.50	0.79
140	SJ	3.00	0.94
141	SJ	3.00	0.94
142	SJ	3.00	0.94
143	SJ	2.00	0.64
144	SJ	2.00	0.64
145	SJ	2.00	0.64
146	SJ	3.00	0.94
147	SJ	1.00	0.33
148	SJ	2.00	0.64
149	SJ	4.00	0.26
150	SJ	2.00	0.64
151	SJ	2.00	0.64
152	SJ	3.00	0.94
153	SJ	2.00	0.64
154	SJ	2.00	0.64

Table 2. Summary of profiling data. Environmental factors and human error may cause a 0.0 - 0.15m error due to the angle of incidence of the sludge judge (SJ) relative to the horizontal as well as wind direction during the time of sampling. This 0.0 - 0.15m error causes a negative bias in the estimated solid depth at each point surveyed.

Report Transmission Cover Page

Bill To:	Newalta Corporation	Project:		Lot ID:	932518
Report To:	Newalta Corporation	ID:	Port Alberni	Control Number:	A227142
	211, 11 Ave SW	Name:		Date Received:	Apr 29, 2013
	Calgary, AB, Canada	Location:		Date Reported:	May 3, 2013
	T2R 0C6	LSD:		Report Number:	1821716
Attn:	Jamie Leong	P.O.:	4500525313		
Sampled By:		Acct code:			
Company:	Newalta				

Contact & Affiliation	Address	Delivery Commitments
Jong Jay Newalta Corporation-Calgary	211 - 11th Avenue SW Calgary, Alberta T2R 0C6 Phone: (403) 266-6556 Fax: (403) 806-7242 Email: jjay@newalta.com	On [Report Approval] send (COC, Test Report) by Email - Merge Reports
Jamie Leong Newalta Corporation-Calgary	211, 11 Ave SW Calgary, Alberta T2R 0C6 Phone: (403) 875-8121 Fax: Email: jleong@newalta.com	On [Lot Verification] send (COA) by Email - Single Report

Notes To Clients:

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Sample Custody

Bill To: Newalta Corporation	Project:	Lot ID: 932518
Report To: Newalta Corporation	ID: Port Alberni	Control Number: A227142
211, 11 Ave SW	Name:	Date Received: Apr 29, 2013
Calgary, AB, Canada	Location:	Date Reported: May 3, 2013
T2R 0C6	LSD:	Report Number: 1821716
Attn: Jamie Leong	P.O.: 4500525313	
Sampled By:	Acct code:	
Company: Newalta		

Sample Disposal Date: July 02, 2013

All samples will be stored until this date unless other instructions are received. Please indicate other requirements below and return this form to the address or fax number on the top of this page.

☐ Extend Sample Storage Until _____ (MM/DD/YY)

The following charges apply to extended sample storage:

Storage for an additional 30 days	\$ 2.50 per sample
Storage for an additional 60 days	\$ 5.00 per sample
Storage for an additional 90 days	\$ 7.50 per sample

☐ Return Sample, collect, to the address below via:

☐ Greyhound

☐ DHL

☐ Purolator

☐ Other (specify) _____

Name _____

Company _____

Address _____

Phone _____

Fax _____

Signature _____

Analytical Report

Bill To: Newalta Corporation	Project:	Lot ID: 932518
Report To: Newalta Corporation	ID: Port Alberni	Control Number: A227142
211, 11 Ave SW	Name:	Date Received: Apr 29, 2013
Calgary, AB, Canada	Location:	Date Reported: May 3, 2013
T2R 0C6	LSD:	Report Number: 1821716
Attn: Jamie Leong	P.O.: 4500525313	
Sampled By:	Acct code:	
Company: Newalta		

		Reference Number	932518-1	932518-2	932518-3	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	Section A	Section B	Section C	
		Matrix	Liquids	Liquids	Liquids	
Analyte	Units	Results	Results	Results	Nominal Detection Limit	
Aggregate Organic Constituents						
Oil	As Received	% by weight			<0.5	0.5
Oil and Grease	Dried Basis	% by weight			<6.8	0.5
Oil and Grease	Total	mg/L	791	505		1
Oil and Grease	Mineral	mg/L	285	148		1
pH adjustment	required prior to O&G extraction	Yes	Yes			
Leachate Inorganic- SWEP						
Arsenic	SWEP Leachate	mg/L	<0.002	<0.002	<0.002	0.002
Barium	SWEP Leachate	mg/L	<0.05	<0.05	<0.05	0.05
Boron	SWEP Leachate	mg/L	<0.2	<0.2	<0.2	0.2
Cadmium	SWEP Leachate	mg/L	<0.001	<0.001	<0.001	0.001
Chromium	SWEP Leachate	mg/L	0.008	0.007	0.009	0.005
Copper	SWEP Leachate	mg/L	<0.1	<0.1	0.2	0.1
Lead	SWEP Leachate	mg/L	<0.05	<0.05	<0.05	0.05
Mercury	SWEP Leachate	mg/L	<0.01	<0.01	<0.01	0.001
Selenium	SWEP Leachate	mg/L	<0.002	<0.002	<0.002	0.002
Silver	SWEP Leachate	mg/L	<0.005	<0.005	<0.005	0.005
Uranium	SWEP Leachate	mg/L	<0.005	<0.005	<0.005	0.005
Zinc	SWEP Leachate	mg/L	<0.1	<0.1	0.1	0.1
% moisture	SWEP Leachate	%	96.4	97.4	92.6	
Cyanide	SWEP Leachate	mg/L	0.001	0.001	<0.001	0.001
Fluoride	SWEP Leachate	mg/L	<0.5	<0.5	<0.5	0.05
Nitrate and Nitrite	SWEP Leachate	mg/L	<6	<6	<6	
Nitrate	SWEP Leachate	mg/L	<4	<4	<4	
Nitrite	SWEP Leachate	mg/L	<2	<2	<2	
Metals Total						
Calcium	Total	mg/L	369	314	1220	0.2
Iron	Total	ug/L	586000	616000	2340000	50
Magnesium	Total	mg/L	160	179	651	0.1
Manganese	Total	ug/L	10500	10900	53000	5
Potassium	Total	mg/L	28	25	70	0.4
Silicon	Total	mg/L	354	279	805	0.05
Sodium	Total	mg/L	73	64.6	135	0.4
Sulfur	Total	mg/L	265	284	1100	0.3
Mercury	Total	ug/L	88	3.3	338	0.1
Hardness	Total as CaCO3	mg/L	1580	1520	5730	
Aluminum	Total	ug/L	559000	620000	2490000	5

Analytical Report

Bill To: Newalta Corporation	Project:	Lot ID: 932518
Report To: Newalta Corporation	ID: Port Alberni	Control Number: A227142
211, 11 Ave SW	Name:	Date Received: Apr 29, 2013
Calgary, AB, Canada	Location:	Date Reported: May 3, 2013
T2R 0C6	LSD:	Report Number: 1821716
Attn: Jamie Leong	P.O.: 4500525313	
Sampled By:	Acct code:	
Company: Newalta		

		Reference Number	932518-1	932518-2	932518-3	
		Sample Date				
		Sample Time				
		Sample Location				
		Sample Description	Section A	Section B	Section C	
		Matrix	Liquids	Liquids	Liquids	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Metals Total - Continued						
Arsenic	Total	ug/L	210	231	823	0.2
Beryllium	Total	ug/L	6	6.7	24	0.1
Boron	Total	ug/L	400	350	960	2
Cadmium	Total	ug/L	99.9	172	421	0.005
Cobalt	Total	ug/L	246	301	1130	0.1
Copper	Total	ug/L	28200	29000	133000	1
Lead	Total	ug/L	3690	3490	10200	0.1
Lithium	Total	ug/L	210	240	860	1
Molybdenum	Total	ug/L	190	160	600	1
Nickel	Total	ug/L	809	772	2820	0.5
Selenium	Total	ug/L	144	163	701	0.2
Uranium	Total	ug/L	21	24	61	0.5
Vanadium	Total	ug/L	1590	1810	5760	0.1
Zinc	Total	ug/L	33000	31900	134000	1
Microbiological Analysis						
Fecal Coliforms	Membrane Filtration	CFU/100 mL	199000	3400	2100	1
Routine Water						
pH			7.22	7.51	7.39	
Temperature of observed pH		°C	20.4	20.3	20.5	
Salinity						
Specific Gravity	As Received		1.010	1.020	1.016	
Waste Characterization						
Flash Point		°C	>75	>75	>75	
Water Extractable (1:9)						
pH	Salinity	pH	6.8	7.0	7.2	
Mono-Aromatic Hydrocarbons - Soil						
Benzene	Dry Weight	ug/g	<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	ug/g	116	47.8	4.85	0.05
Ethylbenzene	Dry Weight	ug/g	<0.05	0.43	<0.05	0.05
Total Xylenes (m,p,o)	Dry Weight	ug/g	<0.05	<0.05	0.10	0.05
Styrene	Dry Weight	ug/g	<0.05	<0.05	<0.05	0.05
Methyl t-Butyl Ether	Dry Weight	ug/g	<0.05	<0.05	<0.05	0.05
Mono-Aromatic Hydrocarbons - Leachate						
Benzene		mg/L	<0.01	<0.01	<0.01	0.01
Ethylbenzene		mg/L	<0.01	<0.01	<0.01	0.01
Toluene		mg/L	0.12	<0.01	<0.01	0.01

Analytical Report

Bill To:	Newalta Corporation	Project:		Lot ID:	932518
Report To:	Newalta Corporation	ID:	Port Alberni	Control Number:	A227142
	211, 11 Ave SW	Name:		Date Received:	Apr 29, 2013
	Calgary, AB, Canada	Location:		Date Reported:	May 3, 2013
	T2R 0C6	LSD:		Report Number:	1821716
Attn:	Jamie Leong	P.O.:	4500525313		
Sampled By:		Acct code:			
Company:	Newalta				

	Reference Number	932518-1	932518-2	932518-3	
	Sample Date				
	Sample Time				
	Sample Location				
	Sample Description	Section A	Section B	Section C	
	Matrix	Liquids	Liquids	Liquids	
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Mono-Aromatic Hydrocarbons - Leachate - Continued					
Total Xylenes (m,p,o)	mg/L	<0.02	<0.02	<0.02	0.02

Analytical Report


Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Reference Number 932518-3
Sample Date
Sample Time
Sample Location
Sample Description Section C
Matrix Liquids

Analyte	Units	Results	Results	Results	Nominal Detection Limit
Soil % Moisture					
Moisture	Soil % Moisture	%	92.70		

Approved by: 
Randy Neumann, BSc
General Manager

Quality Control

Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Aggregate Organic Constituents

Certified Reference Material	Units	Measured	Target	Lower Limit	Upper Limit	Passed QC
Oil and Grease	mg/L	<1	0	-1	1	yes
Date Acquired: May 01, 2013						
Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Oil	% by weight	<0.5	<0.5	10	0.5	yes
Date Acquired: May 02, 2013						
Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Oil and Grease	mg/L	174	160	20	5	yes
Date Acquired: May 01, 2013						
Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
Oil	% by weight	1.2	0.9	1.9		yes
Date Acquired: May 02, 2013						
Oil and Grease	mg/L	174	162	206		yes
Date Acquired: May 01, 2013						

Leachate Inorganic- SWEP

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Arsenic	ug/L	0.00205507	-0.201	0.201	yes
Barium	ug/L	0.0864288	-1.00	1.00	yes
Boron	ug/L	0.642355	-20.00	20.00	yes
Cadmium	ug/L	0.00850495	-0.0090	0.0090	yes
Chromium	ug/L	0.0816834	-0.501	0.501	yes
Copper	ug/L	0.302429	-1.00	1.00	yes
Lead	ug/L	0.00745101	-0.099	0.099	yes
Mercury	ug/L	0.00235859	-0.990	0.990	yes
Selenium	ug/L	-0.0673244	-0.201	0.201	yes
Silver	ug/L	-0.00216372	-0.099	0.099	yes
Uranium	ug/L	0.0020914	-0.510	0.510	yes
Zinc	ug/L	0.500565	-0.99	0.99	yes
Cyanide	mg/L	0	-0.001	0.001	yes
Fluoride	mg/L	0.000947314	-0.05	0.05	yes
Nitrate - N	mg/L	0	-0.1	0.1	yes
Nitrite - N	mg/L	0	-0.05	0.05	yes
Date Acquired: April 30, 2013					
Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Arsenic	mg/L	0.040	0.036	0.044	yes
Barium	mg/L	0.20	0.18	0.22	yes
Boron	mg/L	0.40	0.36	0.44	yes
Cadmium	mg/L	0.0020	0.0019	0.0023	yes
Chromium	mg/L	0.105	0.089	0.109	yes
Copper	mg/L	0.21	0.17	0.21	yes
Lead	mg/L	0.019	0.018	0.022	yes

Quality Control

Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Leachate Inorganic- SWEP - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Mercury	mg/L	0.003	0.003	0.003	yes
Selenium	mg/L	0.040	0.035	0.043	yes
Silver	mg/L	0.020	0.019	0.023	yes
Uranium	mg/L	0.098	0.088	0.108	yes
Zinc	mg/L	0.21	0.18	0.22	yes
Cyanide	mg/L	0.077	0.068	0.083	yes
Fluoride	mg/L	10.2	9.00	11.00	yes
Nitrate - N	mg/L	10.2	9.0	11.0	yes
Nitrite - N	mg/L	10.1	9.00	11.00	yes

Date Acquired: April 30, 2013

Metals Total

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Calcium	mg/L	0	-0.1	0.1	yes
Iron	mg/L	-0.0114	-0.01	0.02	yes
Magnesium	mg/L	-0.0044	-0.04	0.04	yes
Manganese	mg/L	-0.0027	-0.003	0.003	yes
Potassium	mg/L	0.0108	-0.1	0.2	yes
Silicon	mg/L	0.0034	-0.03	0.04	yes
Sodium	mg/L	-0.0809	-0.1	0.2	yes
Sulfur	mg/L	-0.0605	-0.1	0.2	yes
Mercury	ug/L	0.01	-0.0380	0.0700	yes
Aluminum	ug/L	0.183216	-1	5	yes
Antimony	ug/L	0.122073	-0.2	0.2	yes
Arsenic	ug/L	-0.00394711	-0.2	0.2	yes
Barium	ug/L	0.0460807	-1	1	yes
Beryllium	ug/L	0	-0.1	0.1	yes
Bismuth	ug/L	0.0586879	-0.5	0.5	yes
Boron	ug/L	0.564185	-1	3	yes
Cadmium	ug/L	0.00010651	-0.007	0.012	yes
Chromium	ug/L	0.00705114	-0.7	0.3	yes
Cobalt	ug/L	-0.000730634	-0.1	0.1	yes
Copper	ug/L	0.0269703	-1	1	yes
Lead	ug/L	0.00678541	-0.1	0.1	yes
Lithium	ug/L	-0.00755706	-1	1	yes
Molybdenum	ug/L	0.0612087	-1	1	yes
Nickel	ug/L	-0.0217739	-0.5	0.5	yes
Selenium	ug/L	-0.0408178	-0.2	0.2	yes
Silver	ug/L	0.0252939	-0.02	0.10	yes
Strontium	ug/L	0.0252374	-1	1	yes
Thallium	ug/L	0.00100043	-0.05	0.05	yes
Tin	ug/L	-0.0309003	-1	1	yes

Quality Control

Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Metals Total - Continued

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Titanium	ug/L	-0.0832355	-0.5	0.5	yes
Uranium	ug/L	0.00955428	-0.5	0.5	yes
Vanadium	ug/L	-0.00671449	-0.1	0.1	yes
Zinc	ug/L	0.00806372	-0	1	yes
Zirconium	ug/L	0.0886848	-1	1	yes

Date Acquired: May 02, 2013

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Mercury	mg/L	0.088	0.088	10	0.0003	yes

Date Acquired: May 02, 2013

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Calcium	mg/L	49.2	45.5	52.7	yes
Iron	mg/L	1.94	1.83	2.19	yes
Magnesium	mg/L	18.8	18.14	22.14	yes
Manganese	mg/L	0.500	0.442	0.538	yes
Potassium	mg/L	50.8	45.8	55.8	yes
Silicon	mg/L	2.04	1.81	2.21	yes
Sodium	mg/L	50.8	45.9	56.0	yes
Sulfur	mg/L	9.7	8.9	10.9	yes
Mercury	mg/L	0.0008	0.0006	0.0010	yes
Aluminum	ug/L	293	262	373	yes
Antimony	ug/L	10.6	9.7	12.7	yes
Arsenic	ug/L	10.2	9.6	12.6	yes
Barium	ug/L	59	54	68	yes
Beryllium	ug/L	4.9	4.7	6.6	yes
Bismuth	ug/L	28.0	24.8	34.4	yes
Boron	ug/L	109	102	139	yes
Cadmium	ug/L	0.576	0.473	0.781	yes
Chromium	ug/L	28.9	27.3	35.1	yes
Cobalt	ug/L	5.8	5.2	7.6	yes
Copper	ug/L	56	53	67	yes
Lead	ug/L	5.5	5.2	7.1	yes
Lithium	ug/L	59	53	77	yes
Molybdenum	ug/L	58	53	66	yes
Nickel	ug/L	28.5	26.2	35.2	yes
Selenium	ug/L	9.7	8.5	12.1	yes
Silver	ug/L	5.66	5.39	7.13	yes
Strontium	ug/L	60	54	69	yes
Thallium	ug/L	2.80	2.67	3.69	yes
Tin	ug/L	57	52	64	yes
Titanium	ug/L	28.8	26.6	35.7	yes
Uranium	ug/L	28.6	25.7	36.3	yes
Vanadium	ug/L	5.7	5.1	7.2	yes

Quality Control

Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Zinc	ug/L	53	49	67	yes
Zirconium	ug/L	57	56	68	yes
Date Acquired: May 02, 2013					
Mercury	mg/L	0.0030	0.0026	0.0032	yes
Aluminum	ug/L	1020	883	1085	yes
Antimony	ug/L	40.0	36.8	42.6	yes
Arsenic	ug/L	40.7	37.7	44.7	yes
Barium	ug/L	208	184	212	yes
Beryllium	ug/L	19.4	17.4	22.2	yes
Bismuth	ug/L	104	85.6	104.8	yes
Boron	ug/L	396	343	436	yes
Cadmium	ug/L	2.13	1.915	2.205	yes
Chromium	ug/L	102	90.0	110.0	yes
Cobalt	ug/L	20.6	18.7	22.3	yes
Copper	ug/L	205	185	208	yes
Lead	ug/L	20.1	18.6	21.8	yes
Lithium	ug/L	204	173	222	yes
Molybdenum	ug/L	206	180	220	yes
Nickel	ug/L	102	90.0	110.0	yes
Selenium	ug/L	38.6	36.1	42.9	yes
Silver	ug/L	20.6	18.00	22.00	yes
Strontium	ug/L	206	182	212	yes
Thallium	ug/L	10.2	9.57	11.23	yes
Tin	ug/L	210	197	213	yes
Titanium	ug/L	105	91.5	106.3	yes
Uranium	ug/L	104	86.3	105.3	yes
Vanadium	ug/L	20.4	16.8	20.6	yes
Zinc	ug/L	208	186	219	yes
Date Acquired: May 02, 2013					
Mercury	mg/L	0.0008	0.0007	0.0009	yes
Aluminum	ug/L	304	270	330	yes
Antimony	ug/L	11.6	10.8	13.2	yes
Arsenic	ug/L	11.9	10.8	13.2	yes
Barium	ug/L	60	54	66	yes
Beryllium	ug/L	6.0	5.2	6.5	yes
Bismuth	ug/L	30.0	27.0	33.0	yes
Boron	ug/L	117	108	132	yes
Cadmium	ug/L	0.640	0.501	0.699	yes
Chromium	ug/L	29.7	27.0	33.0	yes
Cobalt	ug/L	6.0	5.4	6.6	yes
Copper	ug/L	61	54	66	yes
Lead	ug/L	5.8	5.4	6.6	yes

Quality Control

Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Lithium	ug/L	59	53	66	yes
Molybdenum	ug/L	60	54	66	yes
Nickel	ug/L	30.3	27.0	33.0	yes
Selenium	ug/L	11.4	10.8	13.2	yes
Silver	ug/L	6.09	5.40	6.60	yes
Strontium	ug/L	60	54	66	yes
Thallium	ug/L	2.95	0.00	6.00	yes
Tin	ug/L	61	54	66	yes
Titanium	ug/L	30.3	27.0	33.0	yes
Uranium	ug/L	29.3	27.0	33.0	yes
Vanadium	ug/L	6.0	5.1	6.3	yes
Zinc	ug/L	61	54	66	yes
Zirconium	ug/L	59	54	66	yes
Date Acquired: May 02, 2013					
Aluminum	ug/L	52	49	57	yes
Antimony	ug/L	1.9	1.8	2.2	yes
Arsenic	ug/L	1.9	1.8	2.3	yes
Barium	ug/L	10	9	11	yes
Beryllium	ug/L	0.9	0.8	1.1	yes
Bismuth	ug/L	4.9	4.6	5.7	yes
Boron	ug/L	20	17	23	yes
Cadmium	ug/L	0.101	0.083	0.114	yes
Chromium	ug/L	4.8	4.6	5.4	yes
Cobalt	ug/L	1	0.9	1.1	yes
Copper	ug/L	10	9	11	yes
Lead	ug/L	1	0.9	1.1	yes
Lithium	ug/L	10	9	11	yes
Molybdenum	ug/L	10	9	11	yes
Nickel	ug/L	4.6	4.5	5.5	yes
Selenium	ug/L	2.0	1.6	2.2	yes
Silver	ug/L	0.96	0.90	1.10	yes
Strontium	ug/L	10	10	11	yes
Thallium	ug/L	0.49	0.48	0.57	yes
Tin	ug/L	10	9	11	yes
Titanium	ug/L	5.0	4.5	5.4	yes
Uranium	ug/L	4.7	4.7	5.7	yes
Vanadium	ug/L	0.9	0.8	1.1	yes
Zinc	ug/L	10	9	11	yes
Zirconium	ug/L	10	10	11	yes
Date Acquired: May 02, 2013					
Calcium	mg/L	240	230.0	257.6	yes
Iron	mg/L	9.28	9.07	10.15	yes

Quality Control

Bill To: Newalta Corporation
Report To: Newalta Corporation
211, 11 Ave SW
Calgary, AB, Canada
T2R 0C6
Attn: Jamie Leong
Sampled By:
Company: Newalta

Project:
ID: Port Alberni
Name:
Location:
LSD:
P.O.: 4500525313
Acct code:

Lot ID: **932518**
Control Number: A227142
Date Received: Apr 29, 2013
Date Reported: May 3, 2013
Report Number: 1821716

Metals Total - Continued

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Magnesium	mg/L	97.4	92.78	104.72	yes
Manganese	mg/L	2.41	2.260	2.560	yes
Potassium	mg/L	249	232.2	259.9	yes
Silicon	mg/L	10.0	9.48	10.74	yes
Sodium	mg/L	247	226.8	267.4	yes
Sulfur	mg/L	148	136.5	166.3	yes
Date Acquired: May 02, 2013					
Calcium	mg/L	49.6	45.0	55.0	yes
Iron	mg/L	1.94	1.80	2.20	yes
Magnesium	mg/L	19.3	17.99	22.01	yes
Manganese	mg/L	0.503	0.449	0.551	yes
Potassium	mg/L	50.7	45.0	55.0	yes
Silicon	mg/L	2.06	1.92	2.22	yes
Sodium	mg/L	51.0	45.0	55.0	yes
Sulfur	mg/L	9.7	9.0	11.0	yes
Date Acquired: May 02, 2013					
Calcium	mg/L	4.9	4.6	5.6	yes
Iron	mg/L	0.18	0.18	0.22	yes
Magnesium	mg/L	1.90	1.84	2.18	yes
Manganese	mg/L	0.047	0.046	0.056	yes
Potassium	mg/L	5.1	4.5	5.5	yes
Silicon	mg/L	0.20	0.18	0.22	yes
Sodium	mg/L	5.2	4.7	5.5	yes
Sulfur	mg/L	2.8	2.8	3.2	yes
Date Acquired: May 02, 2013					

Routine Water

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		7.96	7.96	0		yes
Date Acquired: May 02, 2013						
Control Sample	Units	Measured	Lower Limit	Upper Limit		Passed QC
pH		9.20	9.05	9.25		yes
Date Acquired: May 02, 2013						
pH		6.90	6.78	6.96		yes
Date Acquired: May 02, 2013						

Salinity

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Specific Gravity		1.689	1.590	1.770	yes
Date Acquired: May 01, 2013					

Quality Control

Bill To: Newalta Corporation	Project:	Lot ID: 932518
Report To: Newalta Corporation	ID: Port Alberni	Control Number: A227142
211, 11 Ave SW	Name:	Date Received: Apr 29, 2013
Calgary, AB, Canada	Location:	Date Reported: May 3, 2013
T2R 0C6	LSD:	Report Number: 1821716
Attn: Jamie Leong	P.O.: 4500525313	
Sampled By:	Acct code:	
Company: Newalta		

Waste Characterization

Control Sample	Units	Measured	Lower Limit	Upper Limit	Passed QC
Flash Point	°C	55	51.8	56.2	yes
Date Acquired: May 01, 2013					

Water Extractable (1:9)

Blanks		Units	Measured	Lower Limit	Upper Limit	Passed QC	
pH		pH	6.93	4.4	7.7	yes	
Date Acquired: April 30, 2013							
Client Sample Replicates		Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
pH		pH	6.8	6.8	10	0.1	yes
Date Acquired: April 30, 2013							
Control Sample		Units	Measured	Lower Limit	Upper Limit	Passed QC	
pH		pH	7.8	7.1	8.1	yes	
Date Acquired: April 30, 2013							

Mono-Aromatic Hydrocarbons - Soil

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC	
Benzene	ng	0	-0.02	0.02	yes	
Toluene	ng	0	-0.05	0.05	yes	
Ethylbenzene	ng	0	-0.05	0.05	yes	
o-Xylene	ng	0	-0.05	0.05	yes	
m,p-Xylene	ng	0	-0.05	0.05	yes	
Total Xylenes (m,p,o)	ng	0	-0.05	0.05	yes	
Styrene	ng	0	-0.05	0.05	yes	
Methyl t-Butyl Ether	ng	0	-0.05	0.05	yes	
Date Acquired: May 01, 2013						
Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC	
Benzene	ng	121.03	75	125	yes	
Toluene	ng	120.32	75	125	yes	
Ethylbenzene	ng	122.01	75	125	yes	
o-Xylene	ng	115.01	75	125	yes	
m,p-Xylene	ng	122.05	75	125	yes	
Total Xylenes (m,p,o)	ng	119.70	75	125	yes	
Styrene	ng	119.73	75	125	yes	
Methyl t-Butyl Ether	ng	114.81	75	125	yes	
Date Acquired: May 01, 2013						
Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Benzene	ug/g	<0.02	<0.02	60	0.10	yes
Toluene	ug/g	116	124	60	0.10	yes
Ethylbenzene	ug/g	<0.05	<0.05	60	0.10	yes
o-Xylene	ug/g	<0.05	<0.05	60	0.10	yes
m,p-Xylene	ug/g	<0.05	<0.05	60	0.10	yes

Quality Control

Bill To: Newalta Corporation	Project:	Lot ID: 932518
Report To: Newalta Corporation	ID: Port Alberni	Control Number: A227142
211, 11 Ave SW	Name:	Date Received: Apr 29, 2013
Calgary, AB, Canada	Location:	Date Reported: May 3, 2013
T2R 0C6	LSD:	Report Number: 1821716
Attn: Jamie Leong	P.O.: 4500525313	
Sampled By:	Acct code:	
Company: Newalta		

Mono-Aromatic Hydrocarbons - Soil -

Continued

Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Total Xylenes (m,p,o)	ug/g	<0.05	<0.05	60	0.10	yes
Styrene	ug/g	<0.05	<0.05	60	0.10	yes
Methyl t-Butyl Ether	ug/g	<0.05	<0.05	60	0.10	yes

Date Acquired: May 01, 2013

Matrix Spike	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	ug/g	104	75	125	yes
Toluene	ug/g	107	75	125	yes
Ethylbenzene	ug/g	105	75	125	yes
o-Xylene	ug/g	105	75	125	yes
m,p-Xylene	ug/g	109	75	125	yes
Total Xylenes (m,p,o)	ug/g	108	75	125	yes
Styrene	ug/g	105	75	125	yes
Methyl t-Butyl Ether	ug/g	98	75	125	yes

Date Acquired: May 01, 2013

Soil % Moisture

Client Sample Replicates	Units	Replicate 1	Replicate 2	% RSD Criteria	Absolute Criteria	Passed QC
Moisture	%	92.70	92.80	10		yes

Date Acquired: May 02, 2013

Mono-Aromatic Hydrocarbons - Leachate

Blanks	Units	Measured	Lower Limit	Upper Limit	Passed QC
Benzene	ng	0	-9.99	9.99	yes
Ethylbenzene	ng	0	-9.99	9.99	yes
m,p-Xylene	ng	0	-9.99	9.99	yes
o-Xylene	ng	0	-9.99	9.99	yes
Toluene	ng	0	-9.99	9.99	yes

Date Acquired: May 01, 2013

Calibration Check	Units	% Recovery	Lower Limit	Upper Limit	Passed QC
Benzene	ng	98.35	85	115	yes
Ethylbenzene	ng	98.68	85	115	yes
m,p-Xylene	ng	100.64	85	115	yes
o-Xylene	ng	88.48	85	115	yes
Toluene	ng	98.34	85	115	yes

Date Acquired: May 01, 2013

Methodology and Notes

Bill To: Newalta Corporation	Project:	Lot ID: 932518
Report To: Newalta Corporation	ID: Port Alberni	Control Number: A227142
211, 11 Ave SW	Name:	Date Received: Apr 29, 2013
Calgary, AB, Canada	Location:	Date Reported: May 3, 2013
T2R 0C6	LSD:	Report Number: 1821716
Attn: Jamie Leong	P.O.: 4500525313	
Sampled By:	Acct code:	
Company: Newalta		

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
1:9 water extraction for oily waste and soil	APHA	* pH - Electrometric Method, 4500-H+ B	30-Apr-13	Exova Edmonton
Alkalinity, pH, and EC in water	APHA	* pH - Electrometric Method, 4500-H+ B	02-May-13	Exova Edmonton
BTEX-VPH - Soil	BCELM	* Volatile Hydrocarbons in Solids by GC/FID, VH Solids	01-May-13	Exova Surrey
Coliforms - Membrane Filtration	APHA	Fecal Coliform Membrane Filter Procedure, 9222 D	30-Apr-13	Exova Surrey
Flash Point (Closed cup) in Waters	ASTM	Flash Point by Pensky-Martens Closed Cup Tester - Procedure B, D 93-02b	01-May-13	Exova Edmonton
Leachate Inorganic (Modified SWEP) ICP-MS	BC Waste Management Act	* Modified Leachate Extraction Procedure, BC Reg 63/88	30-Apr-13	Exova Edmonton
Leachate Organic (TCLP-BTEX)	US EPA	* Toxicity Characteristic Leaching Procedure, SW-846, EPA 1311	01-May-13	Exova Edmonton
Metals ICP-MS (Total) in water	APHA/USEPA	* Metals By Inductively Coupled Plasma/Mass Spectrometry, APHA 3125 B / USEPA 200.8	02-May-13	Exova Edmonton
Metals Trace (Total) in water	APHA	Hardness by Calculation, 2340 B	02-May-13	Exova Edmonton
Metals Trace (Total) in water	APHA	* Inductively Coupled Plasma (ICP) Method, 3120 B	02-May-13	Exova Edmonton
Oil and Grease - Special Waste (SWOG)	B.C.M.O.E	* Determination of Waste Oil Content in Solids and Liquids for Hazardous Waste Regulations - PBM, SWOG	02-May-13	Exova Fort St. John
Oil and Grease in water (Surrey)	BCELM	* Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	01-May-13	Exova Surrey
Specific Gravity as Received in Sump Solids	Carter	* Soil Density and Porosity, 57.1	01-May-13	Exova Edmonton

* Reference Method Modified

References

APHA	Standard Methods for the Examination of Water and Wastewater
ASTM	Annual Book of ASTM Standards
B.C.M.O.E	B.C. Ministry of Environment
BC Waste	Waste Management Act, Special Waste Regulation BC
BCELM	B.C. Environmental Laboratory Manual
D50	Directive 50: Drilling Waste Management
US EPA	US Environmental Protection Agency Test Methods

Methodology and Notes

Bill To:	Newalta Corporation	Project:		Lot ID:	932518
Report To:	Newalta Corporation	ID:	Port Alberni	Control Number:	A227142
	211, 11 Ave SW	Name:		Date Received:	Apr 29, 2013
	Calgary, AB, Canada	Location:		Date Reported:	May 3, 2013
	T2R 0C6	LSD:		Report Number:	1821716
Attn:	Jamie Leong	P.O.:	4500525313		
Sampled By:		Acct code:			
Company:	Newalta				

Comments:

Please direct any inquiries regarding this report to our Client Services group.

Results relate only to samples as submitted.

The test report shall not be reproduced except in full, without the written approval of the laboratory.

LOT: 932518

COC

Control Number

A227142

9325/8

Environmental Sample Information Sheet

Proper completion of this form is required in order to proceed with analysis

See reverse for your nearest Exova location and proper sampling protocol

Billing Address:		Copy of Report:		Copy of Invoice:		To:	
Company: Newalta		QA/QC Report <input checked="" type="checkbox"/>		Company: Newalta		Send invoice to this	
Address: 211-11th Ave SW				Address: 211-11th Ave SW		address for approval <input type="checkbox"/>	
Calgary AB				T2R 0C6			
T2R 0C6							
Attention: Jamie Leong		Report Result:		Attention: Jong Jay		Report Result:	
Phone: 403 806 7905		e-mail <input checked="" type="checkbox"/>		Phone: 403 806 7109		e-mail <input checked="" type="checkbox"/>	
Fax:		Results Online <input type="checkbox"/>		Fax:		Results Online <input type="checkbox"/>	
Cell:		Fax <input type="checkbox"/>		Cell:		Fax <input type="checkbox"/>	
e-mail: JLeong@Newalta.com		Mail <input type="checkbox"/>		e-mail: JJay@Newalta.com		Mail <input type="checkbox"/>	

Information to be included on Report and Invoice Project ID: <u>Port Alberni</u> Project Name: _____ Project Location: _____ Legal Location: _____ PO#: <u>4500525313</u> Proj. Acct. Code: _____ Agreement ID: _____	PRIORITY Please contact laboratory prior to submitting any RUSH samples. Upon filling out this section, client accepts that surcharges will be applied to this analysis. If not all samples require RUSH, please indicate in special instructions.	Sample Custody (Please Print) Sampled by: _____ Company _____ Signature _____ I authorize Exova to proceed with the work indicated on this form: Date: _____ Initial: _____ Received by: <u>[Signature]</u> Sample Temp. <u>15.1C</u> Waybill #: _____ Date _____ Company _____ Time <u>APR 25 11:42</u>
Date Required: <u>A.S.A.P</u> Signature: <u>[Signature]</u>		

Special Instructions / Comments		Number of Containers	
Please indicate which regulations you are required to meet: <input type="checkbox"/> Health Canada Drinking Water Quality <input type="checkbox"/> Alberta Tier 1 <input type="checkbox"/> Other:	Class II BC Landfill		
	Bulk density of Solids		
	Leachate Inorganic Metals (ICP)		
	Moisture		
	pH		
	Total Sulphur (Clerc)		

[illegible]

NOTE: All hazardous samples must be labeled according to WHMIS guidelines.

Page _____ of _____