



Pêches et Océans  
Canada

Fisheries and Oceans  
Canada

## **SPECIFICATIONS**

# **LAX KW'ALAAMS, BC PORT SIMPSON DREDGING 2020**

FISHERIES AND OCEANS CANADA  
SMALL CRAFT HARBOURS – PACIFIC REGION

400 – 701 West Georgia Street  
Vancouver, British Columbia  
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## **Section 01 11 00 – Summary of Work**

### **Part 1 General**

#### **1.1 NATURE OF THE WORK**

- .1 In general, work consists of removal of no more than 6,800 m<sup>3</sup> of sediment accumulated within the harbour entrance channel and disposal of the sediment at the approved disposal at sea site.
- .2 Contractor must provide personnel with appropriate experience in dredging sediments.
- .3 Contractor to supply any materials required to complete the work (no Owner supplied materials).

#### **1.2 SITE LOCATION**

- .1 The Port Simpson Harbour (the Site) is located at the north end of Shashaak Street, Lax Kw'alaams, British Columbia.

#### **1.3 COMMENCEMENT AND COMPLETION**

- .1 Site work is to be completed between December 15, 2020 and February 15, 2021 during the least-risk fisheries work window. Site Work should begin as soon as possible following award.
- .2 Contractor to provide a minimum of 14-days notice to Departmental Representative prior to site mobilization.
- .3 All work including clean-up and demobilization must be completed by February 15, 2021.

#### **1.4 DESCRIPTION OF WORK ITEMS**

- .1 Mobilization/Demobilization

Mobilization / demobilization shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Moving all crew, equipment, and materials on and off the site.
  - .2 Site clean-up after completion of the work.
  - .3 Any necessary works not identified in other items.
- .2 Site Supervisor
    - .1 Contractor to provide a site supervisor. Duties include, but are not limited to the following:

- .1 Provide overall direction and coordination of the work.
  - .2 Execute construction safety, conduct planning and implementing construction procedures, manage equipment, operators and crew and liaise with the Departmental Representative.
  - .3 Respond effectively to spills or other incidents.
  - .4 Be professional, respectful and communicate effectively with all parties involved in the project.
- .3 Silt Curtain
- Supply, install and maintain full height silt curtains to protect adjacent eelgrass beds and perform other tasks necessary to meet requirements specified in Section 01 35 43 (Environmental Procedures). Silt curtain locations shown on the drawings are for example only. It is the responsibility of the Contractor to provide the necessary silt curtains to meet requirements specified in Section 01 35 43 (Environmental Procedures).
- .4 Dredging
- Removal of up to 6,800 cubic metres of dredgeate from the dredge area identified on the drawings and in compliance with Disposal at Sea permit 4543-2-03744.
- .5 Transport and disposal
- .1 Transportation and disposal at sea of up to 6,800 cubic meters of dredged material to the approved Port Simpson Disposal Site as per Disposal at Sea permit 4543-2-03744 (within a 250-metre radius of 54.58254° N, 130.44228° W (NAD83)).
  - .2 Includes all handling, loading, hauling, tracking, and final disposal as specified in Section 35 21 50 (Dredged Material Disposal).

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not used.

## **Part 3 Execution**

### **3.1 3.1 NOT USED**

- .1 Not used.

END OF SECTION

## Section 01 13 00 – General Instructions

### Part 1 General

#### 1.1 DEFINITIONS

- .1 **Contractor:** The party accepted by the Owner with whom a formal contract is entered to complete the work of this project.
- .2 **Engineer/Departmental Representative:** Employee(s) that represents the Owner who act as the Engineer and Technical Authority for the project.
- .3 **Harbour Authority:** Port Simpson Harbour Authority, Cannery St in Lax Kw'alaams, British Columbia.
- .4 **Owner:** Small Craft Harbours Branch of Fisheries and Oceans Canada, 410-701 W Georgia St, Vancouver, BC, V6E 2Y3

#### 1.2 NOTIFICATION

- .1 The Contractor shall give the Departmental Representative minimum fourteen (14) calendar days notice prior to mobilization to site.
- .2 The Department Representative will submit the following notices and reports:
  - .1 Submission of the Contractor's Dredged Material Disposal Plan to ECCC under Disposal at Sea permit 4543-2-03744. Contractor to provide to the Department Representative a Dredged Material Disposal Plan at least fourteen (14) calendar days in advance of start of work in order to prevent delays.
  - .2 Notice of start of work to ECCC under Disposal at Sea permit 4543-2-03744, to be provided at least 48 hours prior to loading and disposal activities commence. Contractor to provide to the Department Representative a Dredged Material Disposal Plan at least fourteen (14) calendar days in advance of start of work in order to prevent delays.
  - .3 Notice of start of work to Fisheries and Oceans Canada, at least 10 working days prior to start of work.
  - .4 Notice of start of work to the Harbour Authority.
  - .5 Notice of start of work to Transport Canada.
  - .6 Project-related notifications to First Nations
  - .7 Notice of completion, including written report, to ECCC under Disposal at Sea permit 4543-2-03744 containing dredge disposal tracking information within 30 days of project completion.

Notice to mariners and any other required notifications to carry out the work are the responsibility of the Contractor.

### **1.3 HOURS OF WORK**

- .1 Normal work hours are between 0700 hrs to 1700 hrs Monday through Friday not including statutory holidays.
- .2 Contractor may request to work outside the above-mentioned normal work hours. Submit written request to Departmental Representative to work outside of the normal work hours a minimum of forty (48) hours in advance.

### **1.4 SCHEDULING**

- .1 Submit to the Departmental Representative within fourteen (14) calendar days after award of the Contract, the schedule of work including time periods during which each operation involved in work will be undertaken. At time of submission of schedule, meet with the Departmental Representative to review schedule.
- .2 Adhere to schedule and take immediate action to correct any slippage by effectively altering existing dredging operations or mobilizing other equipment. Notify the Departmental Representative of corrective action to be taken.

### **1.5 CONSTRUCTION WORK SCHEDULE**

- .1 The Contractor shall work whatever shifts while abiding to the noise-by-law required in order to ensure the work meets regulatory windows and is completed by the completion date of the contract.
- .2 The Contractor shall normally perform all work within daylight hours, except in instances where the Contractor has requested and received approval for shift changes from the Departmental Representative.
- .3 Within fourteen (14) calendar days following Contract Award the Contractor shall supply a week by week schedule of proposed activities related to the contract.
- .4 The Contractor must notify the Departmental Representative immediately whenever a variation from the construction schedule is expected to occur.
- .5 Time lost by the Contractor due to stoppage on account of adverse weather conditions may be allowed, at the discretion of the Departmental Representative, as an extension of time for the completion of the work over and above the date of completion specified in the contract agreement.

### **1.6 MEASUREMENT AND PAYMENT**

- .1 Before submitting the first progress claim, submit a breakdown of the Contract lump sum prices in detail as requested by Departmental Representative, aggregating to the Contract price.
- .2 Measurement and payment for work completed to Departmental Representative's satisfaction will be made as stipulated in the relevant technical Section of the Specification for that work item and the Unit Price Table.

## **1.7 HEALTH AND SAFETY**

- .1 Specified in Section 01 35 29.06

## **1.8 ENVIRONMENTAL PROCEDURES**

- .1 Specified in Section 01 35 43

## **1.9 REGULATORY REQUIREMENTS**

- .1 The Contractor must, at their own expense, procure all permits, certificates and licenses required of them by law for the execution of his work under this contract except for the following.
  - .1 Disposal at Sea permit 4543-2-03744 for loading and disposal of dredge material has been secured by the Department Representative. Permit is available online at: <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/permits/disposal-at-sea-4543-2-03744.html>. Contractor to use the latest correspondence between the Department Representative and ECCC in order to avoid using outdated information (e.g. dredge boundaries). The Contractor will be required to comply with approval requirements.
  - .2 Fisheries Act Letter of Advice or Authorization for dredging the channel. An application has been submitted by the Department Representative and the approvals will be provided to the Contractor once received. The Contractor will be required to comply with approval requirements.
  - .3 Scientific Collection Permit from DFO for the salvaging of marine invertebrates will be applied for by the Department Representative. These permits will allow for salvaging of invertebrates by the Department Representative. Salvages will not be the responsibility of the Contractor.
- .2 The Contractor shall comply with all Federal, Provincial or Municipal laws, ordinances or rules and regulations relating to the performance of his work and in force during the duration of this contract.
- .3 All work to be done in accordance with Work Safe BC regulations.
- .4 The Contractor shall comply with Federal and Provincial laws, orders and regulations concerning the control and abatement of water and air pollution.
- .5 The Contractor shall comply with the requirements of any local or other Noise By-Laws.

## **1.10 EXECUTION REQUIREMENTS**

- .1 The Contractor is expected to familiarize themselves with the Lax Kw'alaams (Port Simpson) Work Site, facilities and amenities within.
- .2 The Contractor's representative on site shall be completely familiar with the method of work to be employed. Such personnel shall remain on site for the duration of the work.

- .3 The Contractor shall protect all finished work from injury, defacement, unauthorized entry, or trespass until such time as the work described in the contract documents is substantially complete.
- .4 The Contractor will conduct the works in a manner that prevents harmful alteration, disruption or destruction to eelgrass. Known eelgrass bed locations are provided on the project drawings and will be re-confirmed by the Department Representative immediately prior to the start of work. The silt curtains must be installed outside of eelgrass beds in order to comply with the Fisheries Act. The silt curtains also must be installed and maintained in order to protect eelgrass from dredging conducted under this project. The Contractor will be responsible for installing and maintaining the silt curtain.
- .5 The site shall be left in a safe condition at the completion of each workday.

#### **1.11 INTERFERENCE WITH OPERATION**

- .1 The Contractor shall obey all navigation regulations and conduct operations so as to interfere as little as possible with the use of berthing spaces, fairways and passages.
- .2 The Contractor must maintain minimum 10m wide channel access for vessel travel in and out of the harbour at all times for the duration of the project.
- .3 The Contractor shall develop a construction plan that minimizes disruption to harbour operations.
- .4 During the course of construction and clean-up, do not dispose of surplus, waste or demolished materials in navigable waters.
- .5 The Contractor shall, upon instruction of the Departmental Representative, promptly remove any of the Contractor's equipment located outside the specified work area and obstructing any harbour operation.

#### **1.12 CONSTRUCTION AREA**

- .1 The Contractor shall not enter on nor occupy with men, tools, equipment or material, any ground outside the property of the Harbour Authority without the written consent of the party owning such ground. Other Contractors or employees or representatives of the Department may, for all necessary purposes, enter upon the work and premises used by the Contractor, and the Contractor shall conduct his work so as not to impede unnecessarily any work being done by others nor adjacent to the site.
- .2 The Contractor shall confine their operations on the site to those areas actually required for the work and approved by the Departmental Representative.

#### **1.13 PROTECTION OF EXISTING STRUCTURES**

- .1 Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractor's expense to the satisfaction of the Engineer.

#### **1.14 TEMPORARY SERVICES**

- .1 Contractor shall make his own arrangements for supply of water and electricity onsite, if required.
- .2 The Contractor shall supply for his own use; sanitary, first aid, and all other temporary services and facilities required for the work.

#### **1.15 PROGRESS REPORT**

- .1 The Contractor shall keep a daily record of progress of the work available for inspection by the Departmental Representative.
- .2 The daily record shall include particulars of weather conditions, number of men working, equipment working, and work performed.
- .3 The Contractor must track all work completed pursuant to Disposal at Sea permit 4543-2-03744, including the location of the loading and disposal site(s) used, the quantity of matter disposed of at the disposal site(s) and the dates on which disposal activities occurred.

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not Used.

### **Part 3 Execution**

#### **3.1 NOT USED**

- .1 Not Used.

END OF SECTION

## **Section 01 35 29.06 – Health and Safety**

### **Part 1 General**

#### **1.1 DESCRIPTION**

- .1 Health and safety considerations are required to ensure that Small Craft Harbours/DFO shows due diligence towards health and safety on construction sites.

#### **1.2 MEASUREMENT AND PAYMENT**

- .1 Health and Safety Requirements are considered incidental to the work and will not be measured separately. No separate payment will be made under this Section.

#### **1.3 REFERENCES**

- .1 . Government of Canada:
  - .1 Canada Labour Code – Part II
  - .2 Canada Occupational Health and Safety Regulations.
- .2 National Building Code of Canada (NBC):
  - .1 Part 8, Safety Measures at Construction and Demolition Sites.
- .3 Province of British Columbia:
  - .1 Workers Compensation Act. Part 3 Occupational Health and Safety.
  - .2 Occupational Health and Safety Regulation
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS): .1 Material Safety Data Sheets (MSDS).

#### **1.4 SUBMITTALS**

- .1 Submit site-specific Health and Safety Plan within fourteen (14) calendar days following Contract Award. The Health and Safety Plan must at least include:
  - .1 Results of site-specific safety hazard assessment.
  - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
  - .3 Safe work plan.
  - .4 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
  - .5 Strategies for managing COVID-19, including preventing spread to workers and the community.

- .2 The Engineer review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .3 Submit copies of incident and accident reports if requested.

## **1.5 WORKERS COMPENSATION BOARD COVERAGE**

- .1 Comply fully with the Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the completion of the work.
- .2 Maintain Workers' Compensation Board coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

## **1.6 COMPLIANCE WITH REGULATIONS**

- .1 PSPC may terminate the Contract without liability to PSPC where Contractor, in the opinion of PSPC, refuses to comply with a requirement of the Workers' Compensation Act or the Occupational Health and Safety Regulations.
- .2 It is Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.

## **1.7 RESPONSIBILITY**

- .1 Assume responsibility as the Prime Contractor under this Contract.
- .2 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.
- .3 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 Plan.
- .4 Report all safety and environmental incident to the Department Representative as soon as it happened.

## **1.8 BARRICATION**

- .1 Provide safety barricades around Lax Kw'amaals (Port Simpson) Work Site as required to provide a safe working environment for workers and protection for pedestrian traffic.
- .2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the Lax Kw'amaals (Port Simpson) Work Site.
  - .1 Provide appropriate means by use of barricades, fences, and warning signs as required.
  - .2 Secure site at nighttime as deemed necessary to protect site against entry.

## **1.9 REGULATORY REQUIREMENTS**

- .1 Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at the Lax Kw'alaams (Port Simpson) Work Site.
- .2 In event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will advise on the course of action to be followed.

## **1.10 FILING OF NOTICE**

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Provide copies of all notices to Departmental Representative.

## **1.11 SAFETY ASSESSMENT**

- .1 Perform site specific safety hazard assessment related to project.
- .2 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site.
- .3 Schedule and administer Health and Safety meeting prior to commencement of Work.

## **1.12 UNFORSEEN HAZARDS**

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

## **1.13 POSTING OF DOCUMENTS**

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

## **1.14 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by the Engineer.
- .2 Provide the Engineer with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 The Engineer may stop Work if non-compliance of health and safety regulations is not corrected.

## **1.15 PERSONNEL HEALTH, SAFETY, AND HYGIENE**

- .1 Establish levels of protection for each work area based on planned activity and location of activity.
- .2 Personal Protective Equipment (PPE):
  - .1 Ensure all site personnel are furnished with appropriate PPE.
  - .2 Ensure that safety equipment and protective clothing is kept clean and maintained.
  - .3 Wearing of Personnel Floatation Device (PFD) when working over or near the water is mandatory.
  - .4 Ensure appropriate respiratory protection during work activities.
- .3 Implement heat stress or cold stress monitoring program.
- .4 Locate and maintain emergency and first aid equipment in appropriate location onsite including first aid kit.
- .5 Identify, supply and implement appropriate dedicated communication devices for Site and post emergency numbers near dedicated devices.
- .6 Ensure personnel use of "buddy" system and develop hand signal system appropriate for site activities.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

## **Part 3 Execution**

### **3.1 NOT USED**

- .1 Not Used.

END OF SECTION

## Section 01 35 43 – Environmental Procedures

### Part 1 General

#### 1.1 DESCRIPTION

- .1 This Section describes environmental procedures that are required for the Contract. Contractor shall be responsible for adhering to these special procedures while completing all work under this Contract.
- .2 Environmental degradation arising from construction activities shall be prevented, abated, controlled, and minimized by complying with all applicable federal, provincial, and local laws and regulations concerning environmental pollution control and abatement, as well as the specific requirements in the Project Permits.
- .3 Contractor shall comply with all permit conditions. Although provincial laws and municipal by-laws generally do not apply on federal lands, Contractor will respect provincial laws and municipal bylaws and rules at the Site.
- .4 Contractor is responsible for environmental protection during all construction activities at all locations it performs work.

#### 1.2 MEASUREMENT AND PAYMENT

- .1 Environmental Procedures are considered incidental to the work and will not be measured separately. No separate payment will be made under this Section.

#### 1.3 SUBMITTALS

- .1 **Environmental Protection Plan:** Contractor shall submit an Environmental Protection Plan that outlines the methods and measures to address requirements of these tender documents and applicable legislation. The Environmental Protection Plan shall describe how the Contractor intends to complete the work in compliance with the project's various regulatory requirements. The Contractor to submit an Environmental Protection Plan to the Department Representative within 14 days of award of Contract.
- .2 **Displacement Calibration Curve:** The contractor shall provide the Department Representative a calibration curve for the proposed disposal scows in order to demonstrate how daily volumes of dredge material will be calculated. Calibration curve to be submitted to the Department Representative prior to the first disposal event.
- .3 **Dredged Material Disposal Plan:** Contractor to provide Dredged Material Disposal Plan containing information required by Environment and Climate Change Canada (ECCC) under Disposal at Sea permit 4543-2-03744.
  - .1 The plan shall include, but not be limited to, procedures to accurately measure or estimate quantities of dredged material disposed of at the disposal site(s), vessel tracking, and a schedule for use of the disposal site(s).

- .2 The contractor should also provide name or number of ship, platform or structure used to carry out the loading and/or disposal, name of the contractor including corporate and on-site contact information, and expected period of loading and disposal activities.
- .3 Modifications to the plan shall be made only with the written approval.
- .4 Plan must be submitted at least fourteen (14) calendar days in advance of the work.
- .4 **Disposal Tracking Sheets:** The Contractor to prepare Disposal Tracking Sheets, which must track all work completed pursuant to Disposal at Sea permit 4543-2-03744, including the location of the loading and disposal site(s) used, the quantity of matter disposed of at the disposal site(s) and the dates on which disposal activities occurred. Disposal Tracking Sheets are to be submitted to the Department Representative within twenty-four (24) hours of each disposal event.
- .5 **Silt Curtain Design:** The Contractor will be responsible for the installation and maintenance of silt curtains. The Contractors silt curtain design must demonstrate how the silt curtain will protect adjacent eelgrass beds during dredging. The silt curtain must be full height, the bottom of the silt curtain cannot move into the eelgrass bed, and the bottom of the silt curtain must remain in contact with the seabed. Contractor to submit their proposed silt curtain design as part of their bid.

#### 1.4 ENVIRONMENTAL RESPONSIBILITY

- .1 Contractor shall demonstrate in the performance of the work that it is environmentally responsible by complying with environmental legislation, regulations, and authorizations.
- .2 Follow all Departmental Representative instructions and policies, practices, and procedures established by Departmental Representative with respect to the environment that are communicated by Departmental Representative to Contractor from time to time.
- .3 Be observant for, and immediately notifying Departmental Representative of, any environmental problems that develop at the Lax Kw'alaams (Port Simpson) Work Site.
- .4 Take all reasonable and necessary measures in the performance of the work to avoid causing negative impacts to the environment. Where negative impacts occur, Contractor shall immediately advise Departmental Representative and shall be solely liable to undertake all reasonable and necessary measures to minimize the effect of such negative impacts and restoring the site to pre-impact conditions.
- .5 Maintain key pollution control systems in working condition throughout the project and undertake all works such that there are no unauthorized discharges of liquids or solids to the marine environment, or of gas to the atmosphere.

- .6 Maintain a neat work area free of unnecessary debris, tools, equipment, or materials; dispose of sewage, refuse, and chemical wastes in compliance with the Best Management Practices and applicable federal, provincial, and municipal or local legislation, regulations, or laws; and remove all tools, equipment, supplies, and wastes from the site upon completion of the work.
- .7 Ensure that workers and supervisory staff are knowledgeable with the provisions of the proposed Spill Emergency Response Plan and are adequately trained to implement the measures contained therein. If a spill occurs, the Department Representative must be notified immediately, and the Contractor must take immediate action to clean up the spill.
- .8 If there is a risk to a marine mammal from direct contact, temporarily suspend works until the individual has left the area or has not been sighted for 30 minutes.
- .9 The Contractor shall implement their Environmental Protection Plan to minimize sedimentation of the waterbody during all phases of the work, undertaking or activity. Particular attention should be given to preventing the migration of sediments or sediment laden water into marine vegetation outside of the dredge footprint.
- .10 Adjust, modify and maintain the silt curtain to prevent harmful alteration, disruption or destruction of eelgrass or other fish habitat located outside the approved dredge area. Damage to the eelgrass beds or fish habitat outside the dredge cut may be a violation under the Fisheries Act. If harmful alteration, disruption or destruction of fish habitat occurs that is not approved, works must stop and it must be reported immediately to the Department Representatives so that they can notify DFO and determine next steps.
- .11 Adjust the silt curtains to avoid death of fish outside the dredge area. Death of fish outside the dredge cut is a violation under the Fisheries Act. If death to fish occurs, works must stop and the incident must be reported immediately to the Department Representative so that they can notify DFO and determine next steps.
- .12 Contractor must keep a copy of all relevant permits within equipment in order to facilitate inspection if an audit by a regulatory body occurs.

## **1.5 ENVIRONMENTAL MONITOR**

- .1 The Contractor is not required to supply an environmental monitor. The Owner will retain an environmental monitor directly.
- .2 The environmental monitor will be onsite full-time for the duration of in-water works.
- .3 The environmental monitor will conduct an inspection of the Contractor's silt curtain. Dredging can only proceed after the environmental monitor's inspection demonstrates the silt curtain is installed correctly.
- .4 The environmental monitor will collect water quality data during dredging. Testing will likely occur every two hours during the works. The Contractor to provide a boat and operator to assist the environmental monitor with collection of water quality data.

- .5 **Water Quality Criteria:** Unless otherwise approved by DFO, turbidity shall not exceed 20 NTU above background outside of the dredge footprint where marine vegetation (e.g. eelgrass) is present.
- .6 If a Water Quality Exceedance occur, the Contractor will be required to stop work and either wait for the turbidity to drop to below the Water Quality Criteria or adjust the silt curtain in order to maintain compliance with this water quality criteria.
- .7 The environmental monitor will conduct a marine salvage prior to the first day of dredging. The Contractor may not begin dredging until after the salvage is complete.
- .8 The environmental monitor will confirm the location of existing eelgrass beds prior to the installation of the silt curtain. The Contractor may not install the silt curtain until this is confirmed.
- .9 The environmental monitor will conduct audits of the Contractor's volume calculations, including barge displacement measurements. The Contractor to assist with these inspections by providing access where required.

## 1.6 SILT CURTAIN

- .1 The Contractor must deploy silt curtains during dredging activities to prevent impacts to marine vegetation located outside the dredge footprint.
  - .1 The silt curtain must be full height. Silt curtains that only span a portion of the water column at high tide will be deemed non-compliant.
  - .2 The Contractor must propose locations for the silt curtains. Water quality measurements will be the determining factor for evaluating success of the silt curtain location.
  - .3 The bottom of the silt curtain must be prevented from moving into the eelgrass beds, as that action could result in damage to fish habitat and result in a violation under the Fisheries Act. Either the silt curtain must be located far enough away from the eelgrass beds that they cannot damage them, or, held in place to prevent the bottom from moving.
  - .4 The bottom of the silt curtain must remain in contact with the seabed. Silt curtains that do not meet this requirement will be deemed non-compliant.
- .2 The Contractor will be responsible for maintaining and adjusting the silt curtain to conduct the works and prevent impacts to sensitive habitats outside the dredge footprint (e.g. eelgrass beds).
- .3 The silt curtain must be located between the dredge area and the eelgrass bed without disturbing the eelgrass bed.
- .4 The silt curtain will be removed by the Contractor upon project completion and provide to the Department Representative so that they may be re-used on future projects.

- .5 The silt curtain will be maintained by the Contractor during the works. If it is not functioning, works will be stopped until it can adequately contain any plume generated by the works that causes an exceedance at marine vegetation located outside the dredge footprint.
- .6 If the Contractors silt curtain design is not able to meet Water Quality Criteria on a regular basis, the Contractor will be required to install additional silt curtains in order to meet Water Quality Criteria.

## **1.7 FIRES**

- .1 Fires and burning of rubbish on Site is not permitted.

## **1.8 SPILL OR RELEASE OF DELETERIOUS SUBSTANCES**

- .1 The Contractor will take all necessary measures to prevent the release of a deleterious substance, as defined under the *Fisheries Act*, into the water at the Work Site and during transport to and unloading at the disposal site.
- .2 The Contractor will develop a spill response plan as part of their Environmental Protection Plan; the plan will also address machinery and equipment fuelling and servicing and spill response supplies to be kept on-Site, as well as, roles and responsibilities and reporting procedures for spills.
- .3 A spill containment kit will be fully stocked, accessible onsite and available in each piece of equipment.
- .4 Contractor shall immediately contain and assess the spill, provide appropriate notifications, and take the necessary steps to prevent further discharge. Contractor is responsible for immediate cleanup of the spill and restoration of the area to the satisfaction of Departmental Representative and other regulatory agencies, where involved.
- .5 All workers shall be fully aware of the spill prevention and response procedures including notification of Departmental Representative. The Contractor shall provide a copy of their spill response plan for review prior to conducting the works.
- .6 Departmental Representative shall be immediately informed of all spills that occur at the Lax Kw'alaams (Port Simpson) Work Site.
- .7 Further information on dangerous goods emergency cleanup and precautions including a list of companies performing this work can be obtained from the Transport Canada 24-hour number (613) 996-6666 collect.
- .8 Spill kits will be kept at the Lax Kw'alaams (Port Simpson) Work Site at all times.
- .9 The application of paints, corrosion protective coatings, wood preservatives or any other potentially deleterious substance should occur away from water wherever possible to ensure no accidental release of deleterious chemicals by runoff or overspray.

- .10 Equipment (e.g., excavators, marine derricks) used in and around water will be kept clean and in good working condition (e.g., free of leaks, excess oil, and grease). Minimum daily inspections of heavy equipment (e.g. excavators) must be conducted by the Contractor and documented.
- .11 Hydraulic machinery will use environmentally friendly hydraulic fluids (i.e., non-toxic to aquatic life, biodegradable).
- .12 Equipment washing, refuelling, and servicing will be conducted away from the water (i.e., at least 30 m away from the high-water mark), unless a refuelling plan is in place that includes use of a containment tray to collect spilled fuel.

## **1.9 NOISE CONTROL**

- .1 All construction equipment shall be operated with exhaust systems in good repair to minimize noise.
- .2 Ensure that noise control devices (i.e. mufflers and silencers) on construction equipment are properly maintained.

## **1.10 DUST AND PARTICULATE CONTROL**

- .1 Execute work by methods to minimize raising dust from construction operations.
- .2 Prevent dust from spreading to neighboring properties.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.

## **1.11 MARINE MAMMALS**

- .1 Unless otherwise indicated in the DFO approvals, if there is a risk to a marine mammal(s) from direct contact, works will be temporarily suspended until the marine mammal(s) has left the area or has not been sighted for 30 minutes.

## **1.12 HISTORICAL/ARCHAEOLOGICAL CONTROL**

- .1 Contractor must follow chance-find procedures during dredging.
- .2 In the event that archaeological resources are found or suspected to be present, works must stop and the Department Representative must be notified in order to identify next steps.
- .3 If human remains are found, the Contractor shall notify the Department Representative immediately.

## **1.13 NON-COMPLIANCE**

- .1 The Departmental Representative will notify the Contractor, in writing, of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.

- .2 The Contractor shall inform the Departmental Representative of proposed corrective action after receipt of such notice and take such action for approval by the Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

## **Part 3 Execution**

### **3.1 NOT USED**

- .1 Not Used.

END OF SECTION

## Section 35 20 23 – Dredging

### Part 1 General

#### 1.1 DESCRIPTION

This section describes the details regarding harbour dredging of the area shown in the project drawings for the Lax Kw'alaams (Port Simpson) Work Site.

#### 1.2 MEASUREMENT AND PAYMENT

- .1 A cost for mobilization and demobilization shall be provided.
- .2 A cost for installation and maintenance of the silt curtain shall be provided.
- .3 A cost for a site supervisor shall be provided.
- .4 A unit cost for dredging and disposal shall be provided. This shall include all personnel hours and man hours of equipment and related materials and supplies required to perform the works. Basis of payment will be per cubic metre dredged above an elevation of -3.0m CD, within the dredge area. Dredging down to -3.3m CD will be permitted, however, payment will not be provided for dredging additional sediment deeper than -3.0m CD and will be at the contractor's expense. It is preferable to minimize over dredging.
- .5 Interim payments for dredge and disposal activities may be made based on eligible dredge volumes determined by barge displacement.
- .6 Upon evaluation of post dredge survey, any material volumes below the allowable over dredge will not be eligible for payment.

#### 1.3 DEFINITIONS

- .1 Obstructions: material other than sand and silt, having individual volumes of 1.5 m<sup>3</sup> or more.
- .2 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials associated with site operation.
- .3 Grade: plane above which material is to be dredged.
- .4 Sub-grade: plane parallel to and 500 mm below grade.
- .5 Chart Datum (CD): permanently established plane from which soundings or tide heights are referenced, usually Lowest Normal Tide (L.N.T.).
- .6 Lowest Normal Tide (L.N.T.): plane so low that tide will seldom fall below it.

#### 1.4 SUBMITTALS

- .1 Within fourteen (14) calendar days following Contract Award, the Contractor will provide the following submittals to the Departmental Representative for approval:

- .1 Proposed methods of dredging and transportation of material to disposal site. Methods to include sequencing and positioning/location of barges considering restrictions with adjacent eelgrass habitat.
- .2 Environmental Protection Plan, including sediment control plan, with methods and measures addressing requirements of these tender documents and applicable legislation.
- .3 Health and safety plan.
- .4 Environmental Protection Plan, including spill response plan.
- .5 Dredge and Excavation Material Disposal Tracking sheet.

## **1.5 DREDGED MATERIAL DISPOSAL**

- .1 Specified in Section 35 21 50

## **1.6 LOCATION**

- .1 The location of the dredge boundary is provided on the contract drawing. The Departmental Representative will specify priority dredge areas after contract award.

## **1.7 INTERFERENCE TO NAVIGATION**

- .1 Be familiar with vessel movements and fishery activities in area affected by dredging operations. Plan and execute work in manner that will not interfere with fishing operations, harbour operations, construction activities at wharf sites, or access to wharves by land or water.
- .2 The Contractor must maintain minimum 10m wide channel access for vessel travel in and out of the harbour at all times for the duration of the project.
- .3 Contractor is required to provide the required notices to the Department Representative.
- .4 The Contractor is required to complete the Notices to Mariners.

## **1.8 DATUM, WATER GAUGES AND TARGETS**

- .1 Elevations used in this specification and contract drawings are in metres referred to Chart Datum derived from Canadian Hydrographic Services.
- .2 Areas to be dredged are to be referenced to vertical benchmarks for each location of dredging as indicated.

## **Part 2 Products**

### **2.1 DREDGING EQUIPMENT**

- .1 Contractor is to determine required equipment necessary to dredge material specified and to dispose of dredged material at the proposed and approved locations. Land-based equipment is not permitted.
- .2 Mark floating equipment with lights in accordance with International Rules of Road and maintain radio watch on board.

## **Part 3 Execution**

### **3.1 GENERAL**

- .1 Contractor to delineate dredge areas as shown in the drawings. Departmental Representative to confirm location prior to works commencing.
- .2 The dredge area is shown in the contract drawings. The average dredge depth will be 1.2 m but will vary in thickness from less than 0.5 m to 3.5 m. The existing seabed in the dredge cut ranges from -3.5 m to 0 m CD, and the existing elevation of the side slopes are over +1.0 m CD. The side slopes will take up to 10 m, in addition to the 25 m base width. The length of the dredge cut will be 160 m from outside the harbour to the inner harbour. The width in the inner harbour to accommodate access to the various berths will be up to 63 m wide. The design grade of the dredge area is to -3.0m CD, and the maximum over dredge is 0.3m CD.
- .3 Extents of the eelgrass are shown in the contract drawings. The Departmental Representative will re-confirm the extent of eelgrass habitat prior to commencing dredge works.
- .4 Sediment within the dredge areas will be removed via clamshell or equivalent. Remove sediment above specified grade depths, within limits indicated. Sediment removed from below subgrade depth or outside specified area or side slope is not part of the work. Double handling or cast-over of sediment on the foreshore will not be permitted by DFO.
- .5 Contractor to determine suitable side slopes to avoid damaging or undermining adjacent eelgrass beds. If the eelgrass beds are disturbed or impacted by the dredge works, side slopes or sediment control devices, the Contractor will be required to stop work and could result in a Fisheries Act violation.
- .6 Obstructions to dredging may be present along the eastern perimeter of the indicated dredge area. Dredging of these areas is to be conducted until either the design depth is reached, or until bed rock is exposed. Blasting or drilling of bedrock, if encountered, is not a requirement of the work.
- .7 Barges loaded with sediment will not be allowed to dewater into an eelgrass bed or adjacent foreshore; only clean water will be allowed to be directed back into the marine environment. Barges must have walls or similar containment feature to prevent overflow of water unless it can be demonstrated the overflow water is

clean. The contractor must include in their Environmental Protection Plan how they intend to meet this requirement.

- .8 Every reasonable effort shall be made to minimize overflow or spillage from the barges.
- .9 Spuds will not be permitted to be placed within the eelgrass bed.
- .10 Grounding of barges on the foreshore is not permitted.
- .11 Contractor will be responsible for accuracy of work. Provide and maintain electronic position fixing and distance measuring equipment, GPS, laser transits and such other equipment as normally required for accurate dredging control.
- .12 Establish and maintain tide boards in order that proper depth of dredging can be determined. Locate gauges or tide boards so as to be clearly visible.
- .13 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 work.
- .14 Dredging should be conducted during favourable weather conditions and avoid periods of heavy rainfall (e.g. in excess of 25mm/24 hour period).
- .15 Operators shall ensure that the bucket is completely emptied into the scow before swinging the bucket back over the water.
- .16 Scheduling of dredging activities will take into account tides and currents.
- .17 Once works start, they shall continue to completion as soon as possible.

### **3.2 SWEEPING**

- .1 Sweep clean the dredged areas on completion of dredging to confirm that grade depth has been achieved.
- .2 If, as result of incomplete work, additional verification of depths by sounding or sweeping becomes necessary, additional costs involved shall be paid by Contractor.

### **3.3 SURVEYS**

- .1 The Department Representative will secure the services of a 3<sup>rd</sup> party surveyor to conduct a pre-dredge and post-dredge survey of the dredge area for the purposes of confirming quantities for payment and identifying dredge locations.
- .2 Other surveys required by the Contractor to complete the work will be the responsibility of the Contractor and shall be included in their unit price bid.

### **3.4 CO-OPERATION AND ASSISTANCE TO ENGINEER**

- .1 Co-operate with the Departmental Representative on inspection of work and provide assistance as requested.

- .2 On request of the Departmental Representative, furnish use of such boats, equipment, labour and materials forming ordinary and usual part of dredging as may be reasonably necessary to inspect and supervise work.

END OF SECTION

## Section 35 21 50 – Dredged Material Disposal

### Part 1 General

#### 1.1 DESCRIPTION

- .1 A Disposal at Sea permit has been issued for the dredging works at the Lax Kw'amaals (Port Simpson) Work Site (i.e. permit number 4543-2-03744).
- .2 Sediment is approved to be disposed of at the Port Simpson Disposal Site, within a 250-metre radius of 54.58254N, 130.44228W (NAD83).

#### 1.2 MEASUREMENT AND PAYMENT

- .1 Transport and disposal of Dredge Material shown in the contract drawings will be paid as a unit cost per cubic metre as described in Section 35 20 23. The price includes all handling, loading, hauling, unloading, interim storage, and final placement.

#### 1.3 TRANSPORTATION OF SEDIMENT

- .1 The Contractor is responsible for transporting the dredge material to the disposal site. The transportation and handling of the dredged material should be compliant with, but not limited to safety and environmental requirements under all associated permits and approvals.
- .2 All dredge materials and dredge debris must be transported from the Lax Kw'amaals (Port Simpson) Work site using waterborne equipment (i.e., barges).
- .3 Inspect each barge load of dredge material and dredge debris prior to transport from the Lax Kw'amaals (Port Simpson) Work Site to the disposal at sea site, is seaworthy, and has no observable stability issues such as evidenced by barge listing. Documentation of such inspection must be provided to the Departmental Representative prior to that barge leaving the Lax Kw'amaals (Port Simpson) Work Site.
- .4 Vessels shall be marked in accordance with the *Collision Regulation* administered by Transport Canada.
- .5 Transportation of sediment to the disposal at sea site must only be undertaken during suitable conditions to minimize chances of spillage.
- .6 The most direct navigational route shall be taken.

#### 1.4 DREDGED MATERIAL DISPOSAL

- .1 The Contractor becomes the owner of, and is responsible for, any soil, sediment, debris, effluent, or other material once it is removed, dredged or excavated with the exception of material that may be valued for their historical, archaeological, architectural and paleontological significance as determined by the Archaeological Monitor.

- .2 Metals, wood and recyclable materials, if any, removed during the dredging activities must be diverted to appropriate recycling facilities.
- .3 Disposal area has been identified on the Disposal at Sea permit. Sediment dredged from the Lax Kw'amaals (Port Simpson) Work Site must be disposed of within the specified disposal site boundaries.
- .4 Comply with applicable municipal zoning, bylaws and other applicable requirements.
- .5 Be designed, constructed and operated to prevent any pollution from being caused by the facility outside the area of the facility from waste placed in or on land within the facility.
- .6 Dispose material as soon as practical and every reasonable effort shall be made to minimize disposal time.

## **Part 2 Products**

### **2.1 NOT USED**

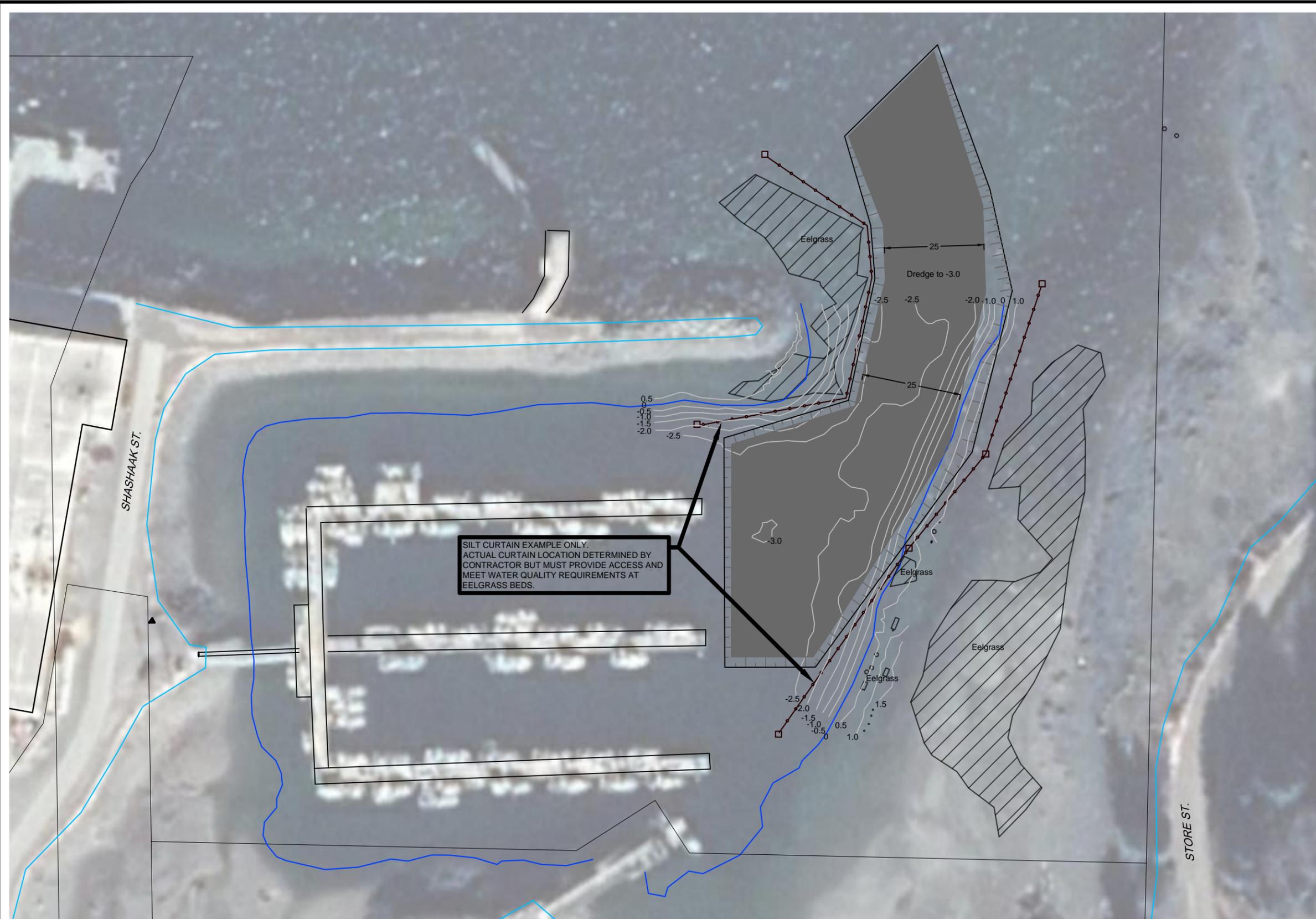
- .1 Not used

## **Part 3 Execution**

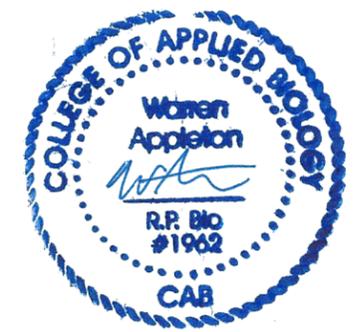
### **3.1 NOT USED**

- .1 Not used.

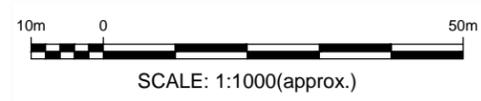
END OF SECTION



- LEGEND**
- Lot Lines
  - Low Water Mark
  - High Water Mark
  - Contour (m, CD)
  - Eelgrass
  - Dredge to -3.0 CD
  - Dredge Side Slope
  - Silt Curtain Example



**NOTES:**  
 1. THIS DRAWING IS FOR GENERAL INFORMATION ONLY.  
 LOT BOUNDARIES AND FEATURES ARE APPROXIMATE.  
 2. DATE OF AERIAL PHOTO IS 2020.



Port Simpson SCH Lax Kw'alaams, B C Small Craft Harbours		
REVISION No. 0	DATE Oct 2020	PROJECT No. 15794-100

**Figure 1**  
 General Arrangement Plan

